Nova Scotia
Value-Added Wood Products Industry

Sector Export Strategy

Final Report

July 1, 2003

Prepared for

nscc
education that **works for you**

Enterprise Cape Breton Corporation | Société d'expansion du Cap-Breton
Canada

Atlantic Canada Opportunities Agency

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I. GLOSSARY OF TERMS

Branding
As used in this report, branding refers to a perception or image created by the purposeful promotion of an identifiable name and/or trademark that is attached to a product and that is recognizable by the general buying public. Successful branding motivates consumers to consider the products caring that brand.

Certified Wood Products or (CWP)
As used in this report, Certified Wood Products are value-added wood products made from lumber that is from trees that have been harvested in an environmentally, economically, and socially responsible manner. It also suggests a maximum yield and responsible utilization of these materials. It does **not** refer to any specific or existing standard or method of verifying this process. However, it does suggest that the process has been verified and "certified" by an independent party.

Global
Global is used throughout this report to include "local and around the world".

SWPI
Secondary (or Value Added) **W**ood **P**roducts **I**ndustry. Any industry that adds value to primary wood products that is generally defined as beyond the manufacturing of lumber.

Secondary Wood Products
Secondary Wood Products are products made from lumber after value has been added by expending labor and other resources to raise the value of a product or service. For the purpose of this report, this term is interchangeable with **Value-Added** wood products.

Value-Added
Expending labor and other resources to raise the value of a product or service. In the wood products industry this means producing a product from lumber. For example – moldings, wood windows, furniture, wood toys. For the purpose of this report, this term is interchangeable with **Secondary Wood Products**.

NSCC
The Nova Scotia Community College – Marconi Campus, Cape Breton

NSSWPI
The Nova Scotia Secondary (or Value Added) Wood Products Industry. Any industry that adds value to primary wood products that is generally defined as beyond the manufacturing of lumber in the province of Nova Scotia.

WPG
The Wood Products Group (or Association) membership consisting of companies from the value-added wood products industry from New Brunswick, Nova Scotia, Newfoundland, and Prince Edward Island as well as some from primary processing companies.

II. INTRODUCTION

Purpose of Project

The purpose of this project was to focus on the opportunities and challenges facing the upper tiers of the value-added wood products industry in Nova Scotia and to develop a strategy to maximize the benefits of its forest resources, and to increase opportunities for sustainable economic development in rural communities throughout the province. The emphasis was to be on strategies to promote export opportunities.
(Excerpt from RFP#2002-19)

In keeping with this purpose published in the RFP for this project, the results of our work is presented here to provide guidelines (or a blueprint) for the Province of Nova Scotia and the Nova Scotia Secondary (or Value-Added) Wood Products Industry to give clear direction for the development and long-term viability and sustainability of the industry. The protection of existing jobs and the creation of new jobs in the value-added sector of the wood products industry in Nova Scotia through export development within the industry is one of the main objectives of this study.

Our Mission

In these times of rapid change in the secondary wood products industry, the only way to survive - and indeed prosper - will be to employ breakthrough thinking with enlightened vision and creativity.

This report reflects the results of our efforts in light of our project mission statement below.

> Project Mission Statement
>
> "We will conduct a detailed study of the secondary (value-added) wood products industry in the province of Nova Scotia and develop a comprehensive plan that will promote its sustainable growth and viability as a vital contributor to the provincial economy.
>
> We will apply creative and innovative thinking – global in scope – in developing the most effective strategies for the industry."

New Vision

We began this project with the confidence that we would find the proper mix of strategies that could propel the NSSWPI forward. That confidence was well placed.

This project has resulted in a very strong vision cast for the Nova Scotia Secondary Wood Products Industry. This vision – stated below – can be realized with widespread cooperation within the industry and through the implementation of the strategies presented later in this report.

Vision for the NSSWPI

The Nova Scotia Secondary Wood Products Industry will be recognized internationally as a premiere rapid response supplier of environmentally friendly wood products of excellent workmanship and high quality.

The Nova Scotia (Atlantic Canada) brand will represent world-class secondary wood products and service excellence.

This vision is unique to Nova Scotia because of its global geographic positioning and its current positive image. The long-term viability of the sector is an achievable goal. Nova Scotia can develop its own identity and reputation of excellence much like the Udine, Italy cluster is now recognized as the chair capital of the world.

We would like to sincerely thank the hundreds of individuals we interacted with during the process of conducting the research for this project and during the formulation of the strategies contained in this report. Without their honest and diverse input, this project could not have been completed. We especially want to recognize the assistance of the Nova Scotia Community College, the department of Natural Resources, and the Wood Products Group. No input – positive or negative – was ignored! We valued all information equally as we attempted to formulate the building blocks for a strategic plan for the industry. The industry members' interest in the future of the industry and their and willingness to participate was the single most important factor in the successful completion of this project.

Project funding was provided by ACOA and ECBC through the Atlantic Trade and Investment Partnership (ATIP). The ATIP project focuses on developing a coordinated approach to helping business take advantage of export and growth opportunities

III. SCOPE & METHODOLOGY

SCOPE

This project was conducted during the period between March – June, 2003. During this time all research was conducted and strategy formulation completed. The following outline of the project scope and the methodology used are not all-inclusive but serve as a summary.

We first met with the Nova Scotia Community College (Marconi Campus), ECBC, and ACOA as well as other stakeholders to cast a clear vision of the intended purpose and focus of this project summarized in Section II above.

Industry Diversity
The NSSWPI is comprised of many small diverse manufacturers of value-added products. One of the challenges of this project was to arrive at strategic initiatives that would transcend this diversity and be of benefit to all.

The following is a summary of *some* of the major value-added product categories represented in Nova Scotia. (Source: Nova Scotia Department of Finance, Nova Scotia Manufacturers – 1998)

- Architectural Millwork
- Bentwood
- Boats
- Buildings, Prefabricated
- Carvings/ Sculpture
- Caskets
- Clocks
- Commercial Cabinets
- Crates, wooden
- Crafts, wood
- Custom Cabinets
- Doors
- Fencing
- Flooring
- Furniture, Chairs
- Furniture, Custom
- Furniture, Household
- Furniture, Office
- Furniture, Outdoor
- Furniture, Parts
- Furniture Reproductions
- Kitchen Cabinets
- Kitchen accessories
- Millwork
- Mouldings
- Picture Frames
- Siding
- Toys
- Turnings
- Windows
- Woodenware

It was our objective to obtain as much valuable input for this project as possible. We felt it very important to interact with a large, diverse population of stakeholders throughout Nova Scotia. We traveled throughout the province in an attempt to obtain an understanding of the social and economic environment by region.

We met with over a hundred stakeholders representing industry, associations, provincial and federal government agencies, provincial and local economic development agencies, educational institutions, environmental advocates, and others in order to obtain their perspective on the issues facing the NSSWPI.

We also made an attempt to identify any special needs by industry sector. During this process we visited over 20 Nova Scotia value-added wood manufacturers representing a variety of sectors.

Global Issues

The issues facing the NSSWPI are global in scope. We have, therefore, incorporated our international experience in the secondary wood products industry in the execution of this project and have interwoven the global implications into our strategic planning. We feel strongly that the issue of rapid globalization in the secondary wood products industry is the paramount threat to the long-term viability of the industry in Nova Scotia.

Prior Research

Many research projects have been conducted during the past decade directly or indirectly involving the value-added wood products industry in Nova Scotia and Atlantic Canada. We reviewed much of this prior research in the early phase of this project. We used all of this as a framework for further study and analysis. An attempt was made to NOT duplicate previous studies. However, an objective review of conclusions and recommendations was made and exceptions noted in this report in general terms.

Analysis of NSSWPI

We have completed our own in-depth analysis of the Nova Scotia Secondary Wood Products Industry. We looked at the strengths, weaknesses, opportunities, and threats (SWOT) as we traveled the province and summarize the findings in section V of this report.

Markets

We have evaluated the NSSWPI regional, national, and global market opportunities and the competition for these markets.

Trends

The project included the identification and evaluation of relevant regional, national, and global trends within the value-added wood products industry. The areas of interest include:

- Markets – current and future
- Sales and Marketing
- Manufacturing Methodologies
- Education and Training
- Employee recruitment and retention
- Globalization

Other Initiatives

An analysis of the initiatives undertaken in other regions to strengthen sectors within the value-added wood products industry was conducted in an effort to identify any relevant programs that might serve as a guide for Nova Scotia.

METHODOLOGY

We utilized both primary and secondary research in the development of the recommendations and strategies included in this report. As mentioned above, we took advantage of previous work in the wood products industry in Nova Scotia including published statistical data from Nova Scotia Natural Resources and Economic Development.

Secondary Research

We reviewed many of the most recent studies conducted in Nova Scotia and Atlantic Canada as part of our research. We have footnoted any direct references within this report. The reports reviewed are listed below. We conducted additional secondary research in an effort to incorporate global issues and trends into our strategy formulation.

- The Economic Impact of the Forest Industry on the Nova Scotia Economy [2000]
- The Forest Industry in the Nova Scotia Economy [2003]
- Nova Scotia Wood Supply 1996-2070
- WMC/CFB Situational Analysis of the Advanced Wood Products Mfg. Industry [2002]
- Review and Recommendations on the Valuation, Allocation and Sale of Crown Timber Resources in Nova Scotia [2000]
- Cape Breton Industry Targeting Assessment [2003]
- Nova Scotia's Western Valley Hardwood opportunities
- ACOA Value-Added Wood Products Study (O'Halloran Campbell) [2003]
- The Atlantic Canada Advantage: A Comparison of Business Costs …. Abstract
- Adding Value to Wood Products in Atlantic Canada; A Stakeholders View … [2001]
- The GPI Atlantic (The Nova Scotia Genuine Progress Index Forest Accounts) [2001]
- The Wood Industry in Atlantic Canada: A Focus on Value-Added [1998]
- Nova Scotia Forest Inventory [2001]
- Registry of Buyers (Forest Products) [2002]
- Atlantic Canada Business Environment Profile [2003]
- Nova Scotia Business Climate Index [2002]

Primary Research

As is evident throughout this report, we relied heavily on personal contact and discussions as the preferred method of primary research. Two-way dialogue was the best way for us to gain meaningful input from the diverse group of stakeholders we interviewed and to assist us in formulating the strategies herein.

Symposium

On April 11, 2003 we held a symposium in Truro. Invitations were sent to stakeholders all over Atlantic Canada. This forum was used to solicit input from anyone interested in the value-added (secondary) wood products industry – focusing on Nova Scotia. The symposium was well attended by a variety of stakeholders throughout the region. Mid-way through this project, several major issues had surfaced. The symposium format was structured in three phases to cover these and other issues.

First, the consultant presented a global overview of the value-added wood products industry and the critical ingredients for a company to successfully compete. The second session gave the participants the opportunity to form their own discussion groups. Each of the three groups developed and prioritized their own issues, suggestions, and solutions to challenges. Again, these were recorded and considered when formulating strategies contained herein and are summarized in Chapter VI.

Finally, the NSCC held a two-way discussion of education and training issues in the province.

The symposium was a tremendous success and achieved an effective exchange of ideas between stakeholders across a broad spectrum of the industry

IV. GLOBAL ANALYSIS & TRENDS

1. Globalization

The value-added wood products industry – especially furniture manufacturing – is undergoing an unprecedented surge in globalization. The figures for the past ten years show a trend of increasing international trade across much of the secondary wood products spectrum that is phenomenal to say the least.

We expect this trend to continue during this decade as larger US, Canadian, and European manufacturers continue to outsource globally in an effort to meet competition with lower-cost quality products. There are powerful global social and economic forces in play that will not permit a reversal of this trend.

Poor countries around the world are struggling to pull themselves out of extreme poverty and provide their populations with an ever-increasing standard of living. Foreign governments of underdeveloped and developing countries are focusing on creating wealth within their own borders. Indeed, even the US, through USAID (United States Agency for International Development), as well as The World Bank, and the UN are all assisting in the development of industrial sectors within these poor countries so that they can export products to lucrative markets such as Europe and the United States and bring in foreign currency.

Woodworking is one of the oldest handcrafts in the world with paintings in ancient Egyptian tombs dating back to 2500 B.C. depicting woodworkers using sand to smooth the surface of wood. History has shown that in developing countries industrialization usually begins with a labor pool drawn from the fields and farmlands where the poor have been used to working with their hands.

Woodworking - and specifically furniture manufacturing – has been and will continue to be one of the first industrial sectors to emerge in many third-world countries. Globalization will be an integral part of the value-added wood products industry during good economic times and even during times of recession such as being experienced at this time (2001-2003).

This all translates into a very competitive environment for the Canadian value-added wood products industry and specifically the industry in Nova Scotia. As more companies in developing countries vie for a share of lucrative global markets – Nova Scotia will find it more difficult to compete.

2. Global (off shore) Competition

Competition to the Canadian and the NSSWPI

The U.S. furniture market is a good benchmark to observe with regard to the globalization of the value-added wood products industry. This market reflects the trends in Europe and other mature consumer markets for value-added wood products.

As Figure IV-1 below shows, the trade deficit for the US furniture manufacturing industry began widening during the last decade. During the early part of the last decade, US Exports showed signs of growth with respect to imports. However, by 1994 this trend had evaporated and reversed as developing countries began to enter the US market with better quality, low cost furniture and as Canada and other suppliers began aggressively expanding lower cost exports to the lucrative US.

Total U.S. Furniture Imports vs. Exports ($ million) (2)

	2000	1998	1996	1994	1992	1990
Imports	10,370	6,870	4,969	4,050	2,884	2,854
Exports	1,352	1,165	1,005	1,007	923	598

Figure IV-1

The total amount of furniture exports to the US have grown at an increased rate during the past few years – a trend that is likely to continue during the next five years. (See chart – Figure IV-2 at right) This illustrates one market opportunity for a growing NSSWPI.

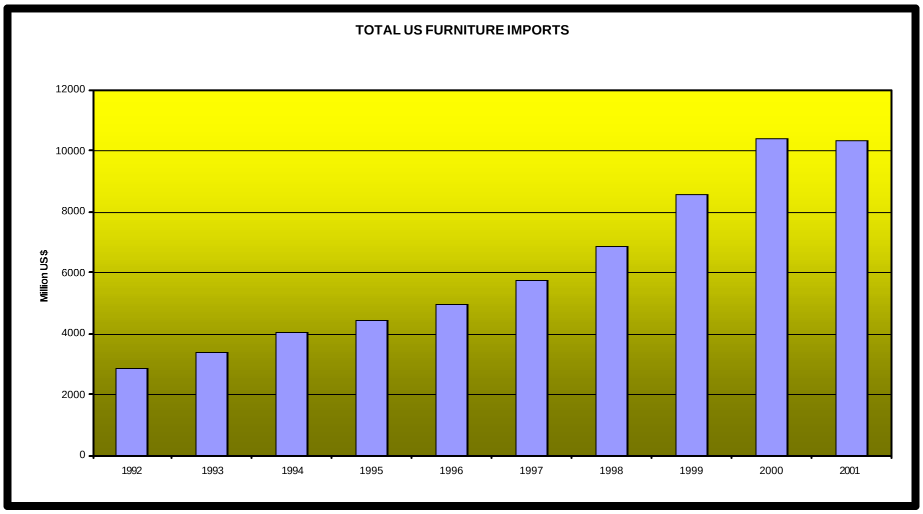


Figure IV-2 (Source: U.S. Department of Commerce)

During 2002 40% of all furniture consumed in the United States was made abroad- up from 33% the previous year (2). An analysis of Figure IV-3 below shows how the major source of those imports has shifted from Taiwan in the early '90s to Canada in the mid 1990s and then to China. China overtook Canada as the #1 exporter of furniture to the US as Chinese furniture and wood component imports narrowly past product shipments entering the United States from Canada for the year 2001.

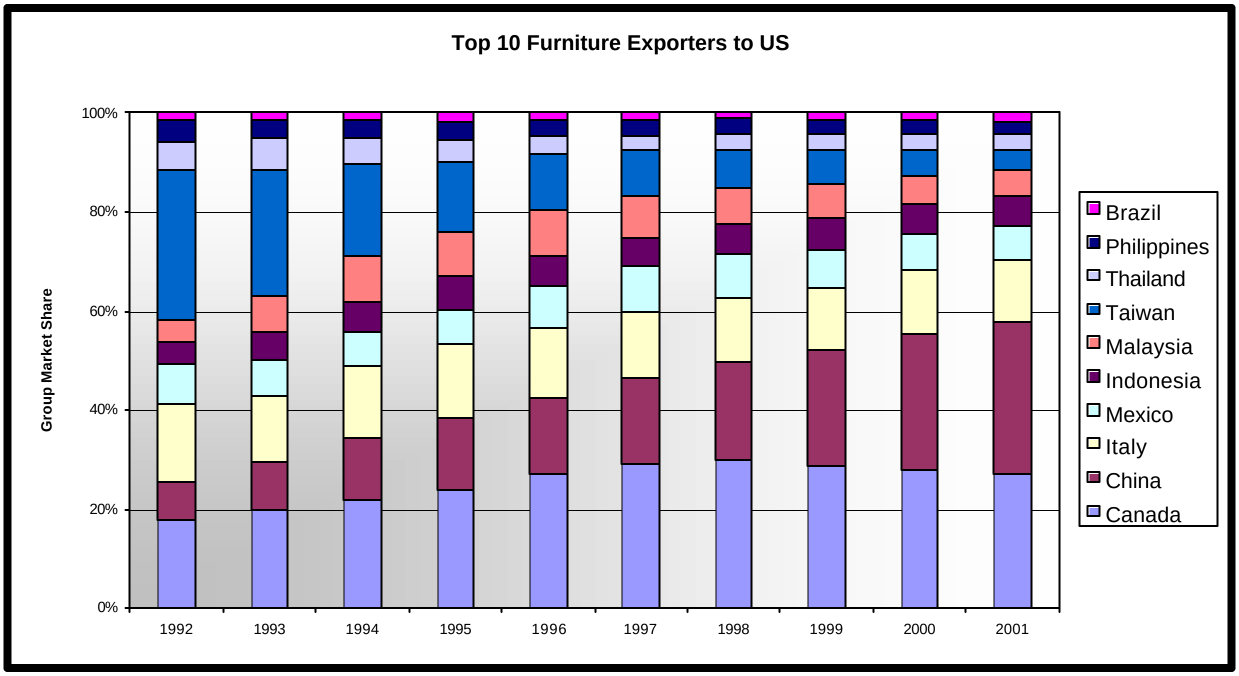


Figure IV-3 (Source: U.S. Department of Commerce)

The United States imported $2.817 billion worth of wood furniture from China during 2001. This, when compared to $2.487 billion worth from Canada, puts China at the top of the exporter list to the US furniture market. Combined, the two countries accounted for almost 50% of U.S. furniture and component imports, according to data released by the U.S. Department of Commerce in March 2002.

The U.S. - Canadian Furniture Trade has seen parity ten years ago turn into four times as much exported to the U.S. as imported into Canada from the U.S. due to a favorable exchange rate and aggressive marketing.

However, exports to this important market peaked in 2000 as competitive pressures from China and elsewhere began to erode the dominant market share that Canada had enjoyed.

Meanwhile, the U.S. enjoyed minimal growth at best into the Canadian marketplace.

See Figure IV-4 at right.

Fig. IV-4
U.S.-Canadian Furniture Trade
(in U.S. $millions)

	U.S. Imports from Canada	U.S. Exports to Canada
1989	365	107
1990	359	331
1991	346	406
1992	412	463
1993	562	449
1994	754	428
1995	899	478
1996	1,160	394
1997	1,460	463
1998	1,785	492
1999	2,173	482
2000	2,557	557
2001	2,487	531
2002*	1,849	383

* January-September
Source: U.S. Dept. of Commerce, Int. Trade Bureau – (2)

There is no dispute - China has emerged as the leading low-cost producer of wood products in the world and is taking market share from US manufacturers as well as Canada and other exporting countries in the value-added wood products market. Italy holds firm to the high-end leather upholstery market as well as other high styled furniture import niches – at least for now.

Trend to Value-Added

Countries such as Indonesia are mandating that any wood products that are to be exported must be value-added. This reflects good economic planning on their part to maximize the revenue from the products exported by incorporating as many value-added activities as possible. One of these of course is labor – low cost labor by US standards.

Thus, the predominant strategy of developing countries in Asia - as well as those in South and Central America and all over the globe - is to export value-added wood products rather than primary products such as logs, lumber, or wood chips as is prominent in Nova Scotia. Some of these products may be machined furniture parts but many more will be finished furniture or other upper tier value-added items.

China

As stated above, China has emerged as the low-cost producer of choice not only for furniture but also for many other products. During the past five years their market share has been growing rapidly. There are many reasons for this and those listed below are but a few.

- China has an abundance of cheap labor and is shifting over 30,000 workers *each day* from the public sector to the private sector. (3) This is a tremendous number of people eager to find work.
- These workers are quick to acquire the skills of the woodworking business.
- There are reported to be over 50,000 furniture factories in China (4)
- There are 6 million students studying engineering in China (3)
- An increasing number of Chinese manufacturers are incorporating modern manufacturing technologies in large new automated factories including the latest machinery and operating systems in every phase of the manufacturing process from cutting lumber to finishing and packaging.
- The Chinese are increasingly responsive to customer requirements and demands.
- They are utilizing existing distribution channels in the United States – primarily by selling directly to manufactures who have their own established and proven customer base.
- Some have begun selling directly to retailers.

China's U.S. market share of value-added wood products has reached impressive levels as indicated in the following chart. Notably, over ¼ of all bedroom furniture consumed in the U.S. during the year 2000 was made in China.

Figure IV-4
China's Share of U.S. Import Market (2)

2000	Millions $	Share
Bedroom	434	25.7%
Upholstered	156	11.6%
Chairs	230	23.0%
Kitchen	29	16.0%
Office	87	12.2%
Furniture Parts	102	16.0%
Cabinets	13	2.7%
Chair parts	40	32.3%
Other	1,431	34.1%

A common mistake many observers of the global value-added wood products industry make is that they believe that because China is a "low-cost" producer, they make only inexpensive furniture that is sold into the low-end market and further believe that these wood products are of inferior quality. This is a serious error that could cause a false sense of security for Nova Scotia manufacturers.

Many manufacturers around the world are under the mistaken impression that quality and price are synonymous. A universally accepted definition of quality is that a quality product meets the expectations of the customer. Thus, the buyer of a Saturn automobile can be completely satisfied with the quality even though the price paid was relatively low. On the other hand, the owner of a BMW can have a "lemon" of poor quality.

In the secondary wood products industry it is also important to note that quality is not represented by the amount of <u>work</u> that goes into the product but rather the <u>workmanship</u> employed.

China can be a low-cost producer at any price point! They have skilled employees, modern equipment and technology, and can produce very high quality products with a lower selling price because their overall manufacturing costs are less. This is true in companies in most developing countries that have the means and are willing to make the necessary investments. Furniture manufacturers in Canada, the U.S., and Europe are having high-end furniture manufactured for them in overseas factories to their high quality standards and then selling under their brand.

It has been estimated that even if US manufacturers cut their labor costs by 95%, they could still not lower costs to the level of Chinese furniture delivered to into that country. The same goes for Canadian manufacturers.

Effects on the Nova Scotia furniture industry

This rapid globalization has begun to have a negative impact on the Canadian Secondary Wood Products Industry. While the Canadian industry still enjoys a strong competitive position, it is rapidly being diminished from lower cost Asian competition.

Nova Scotia manufacturers will have to develop competitive strategies other than lower costs in order to remain viable for the long-term.

<u>3. Global Markets</u>

When looking at today's marketplace for value-added wood products, we seldom think truly "global".

- **Local**
  Some small Nova Scotia manufactures have found the local market to be their niche. This market, however, is insufficient to support any but the smallest who have limited manufacturing capacity and marketing resources. The local market is not immune to imports if the consumer has reason to buy comparable product elsewhere. Thus, even the smallest manufacturers will have to learn to become more competitive in order to survive imports.

- **Regional**
  Some Nova Scotia manufactures are successfully marketing on a regional basis into other provinces and into the Northeastern U.S. market. The regional markets offer potential for small manufacturers who are currently relying on local markets and want to expand. The regional marketers can begin looking to the broader U.S. and European marketplace.

- **International**
  There are markets for secondary wood products around the globe. Innovative manufacturers of consumer products have found markets in Europe, the Middle East, Russia, Asia, Central and South America, and Mexico. Several Nova Scotia manufacturers are shipping to international markets – mainly England, Germany, and the U.S.

  Developing countries around the globe are in various stages of economic growth. With the passage of time, each of these countries will see a middle class emerge - eager, willing, and capable of buying goods manufactured locally as well as those imported into their country from abroad.

  China, with a population of 1.3 billion, will see the emergence of a huge middle-class eager to buy "western products" during the first 25 years of this century. Even now, 10 million couples get married each year and set up households.

  Globalization (two-way trade) offers opportunities now and in the future for Nova Scotia manufacturers. The key is for manufacturers in the various sectors to find niches that give them a competitive advantage.

4. Global 'Green' Trend

The "Green" Issue
During the past forty years or so, there has been a slow but steadily growing environmental awareness around the world. From keeping our highways and byways clean of litter to protecting the environment from excessive greenhouse gases – we have all become more aware of what we are doing and how it affects our environment.

The "Green" issues are global by their very nature. Mankind has come to the realization that environmental concerns in one region of the world can have a profound affect on regions on another continent.

This issue has become a global trend and offers Nova Scotia manufacturers tremendous opportunities given the Sustainable Forestry Policy adopted by the Coalition of Nova Scotia Forest Interests in 1996.

One common example we have used is the broad based support of the hospitality industry and hotel guests for such programs as "Project Planet" that discourage the daily changing and cleaning of bed linens and towels. From London to New York to San Francisco to Seoul to Cairo, this has become a standard choice given guests in even the nicest hotels. The typical logo above reminds the guests that they are helping keep the earth "green". Of course one of the advantages in the hospitality industry of embracing "green" is that it saves the hotels money.

Waste reduction and recycling have become a part of our daily routines and serves as a final example that there is a general and diverse acceptance of a variety of "green" movements.

Everyone is not in favor of "certification" and it is not a trend "sweeping the globe". However, while this movement is in its infancy - the following global overview serves to highlight its unmistakable forward momentum.

European Consumer Initiatives –
Many EU buyers of Nova Scotia secondary wood products have indicated they will require some type of 'certification' by the year 2005. In addition, our research has shown that Belgium, Denmark, France, Germany, Sweden, and Spain all have movements and/or policies at government or local levels that are emphasizing the use of certified wood products.

South American Competitive Producer Initiatives –
Bolivia, Brazil, Columbia, and Ecuador all have modern forest management legislation enacted to assure sustainable use of the forest resources in each country. Many of these forests are certified by FSC - SmartWood.

Asian Competitive Producer Initiatives –
Indonesia (with 10% of the world's tropical forests) and Malaysia have been systematically managing their forests and have a National Forest Policy supporting sustainability of their forest resources. They have done this in response to the outcry from the world consumers of wood products.

US initiatives –

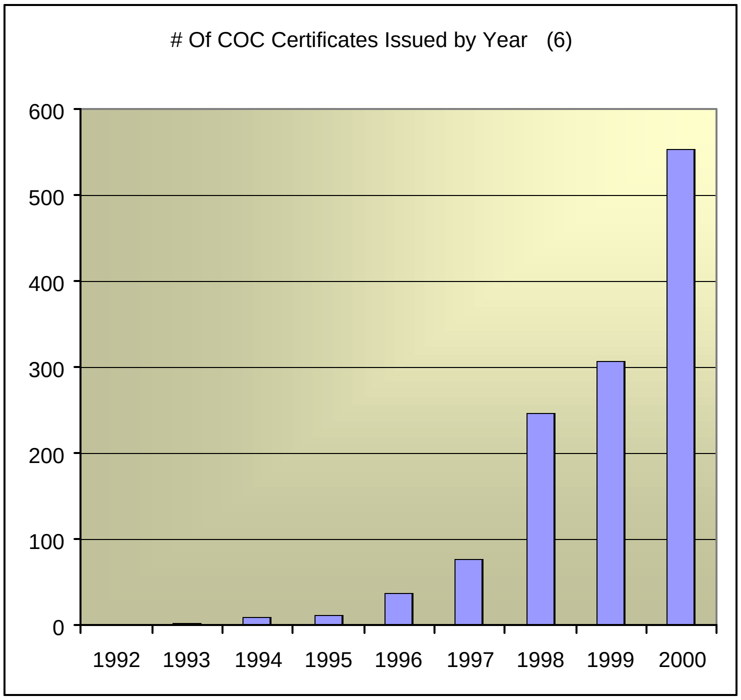
- **The Home Depot:** August 26, 1999 – The world's largest home improvement retailer, pledged to stop selling wood products from environmentally sensitive areas by the end of 2002 and give preference to certified wood. This applies to primary and secondary wood products sold in their stores.
- **Lowe's Home Centers, Inc:** August 2000 – The nations second-largest home improvement retailer made similar commitment and preference to certified wood sources.
- **Anderson Corporation**: This manufacturer of value-added wood products including windows and doors announced in September 2000 that it would not source wood from endangered forests and that it will give preference to certified wood supplies for its secondary wood products.
- **Centex Homes:** This national leader in home building in the US announced on March 28, 2000 that it intends to eliminate the use of wood originating from endangered forests in its home building operations.

Summary – the trend to "Green"
For value-added wood products to be certified, a chain-of-custody must be maintained from the sustainably managed forest to the manufacturer of the product – be it lumber, wood doors, or furniture. When a company owns concessions for timber on certified forests, the task is relatively easy. As long as they use only their own lumber from their own certified forests,

documenting and certifying that all the lumber used in their products came from that source is relatively easy.

However, when the manufacturer obtains lumber from many suppliers in many regions, the task is more difficult.

Since the province of Nova Scotia has a sustainable forest management policy, it should be easier for manufacturers in the province using lumber produced from provincial forests to be "certified".



We have used the following quote many times to express our own assessment of the future of "Green" value-added wood products:

"The issue is not whether demand for sustainable forest products will develop, but rather how fast and in which markets sustainable forestry will become an important variable." (5)

The chart at the right illustrates the momentum in the number of COCs (Chain of Custody Certificates) issued in recent years.

5. Future Manufacturing & Marketing Trends

Export Marketing – Companies that export value-added wood products will increasingly forward integrate into the distribution channel to get closer to the consumer. History has demonstrated that whether it is flowers from Columbia or automobiles from Japan, the closer an overseas manufacturer gets to the customer the more profitable and secure the market becomes.

Most exporters of value-added wood products to the US are currently selling to other manufacturers or to wholesalers. Some are attempting to go directly to the retailer or end-user. This is a trend that Nova Scotia manufactures should watch closely and learn from.

An example is a millwork manufacturer in Bolivia. This company is vertically integrated with its own certified forests, sawmills, and value-added factories to manufacture doors, flooring, moldings, and other products. The company currently sells to the building supply trade through distributors and agents in the US. They have found weaknesses in this distribution chain in some large markets. They have now opened their own processing and distribution company and are in a position to sell directly to national homebuilders in those markets.

Strategic Alliances – Many manufacturers will form strategic alliances with overseas companies as opposed to just using them as suppliers. A strategic alliance benefits both parties in a long-term profitable partnership. Two examples of bold initiatives that were used during the year 2001 are briefly mentioned below. These (while large in scope as compared to what may be available in Nova Scotia) represent different strategies and serve to further identify major globalization trends in the industry.

- **Ethan-Allan**

A good example of a true strategic alliance is that that has occurred between Ethan-Allan and Makor – the largest furniture manufacturer in China.

Ethan-Allan has a very strong distribution channel with its own manufacturing facilities in the U.S. and retail stores throughout the U.S. and abroad. Heretofore, their products were manufactured largely in their own plants in this country. With the rapid globalization of the furniture industry and the competitive pressures of imports, the company had to find a way to remain competitive.

Rather than just look for a way to outsource products at a lower cost as many manufacturers have done, Ethan-Allan has combined its sales and marketing might with the largest low-cost furniture manufacturer in China – Makor. That manufacturer is capable of manufacturing the same quality furniture made in Nova Scotia plants at a much lower cost. Thus, they strengthen the competitive position of Ethan-Allan in the U.S. market.

Meanwhile, China has a huge emerging middle class that will be eager to purchase furniture (see: International, page 15). Ethan-Allan will open retail stores in China to market their products to this market and also to lend their marketing expertise to Makor. The more Ethan-Allan furniture is sold in China, the more production through the Makor plants.

In this scenario, both companies derive long-term benefits from their “strategic partnership”.

- **Lacquer Craft (China)**

During the summer of 2001, China-based Lacquer Craft bought the Universal Furniture division from Lifestyle Furnishings International – the third largest US furniture manufacturer with 2000 sales estimated to be $2 billion. (1)

This Chinese furniture manufacturer (a leading Asian manufacturer of dining room and occasional furniture with operations in Dong Guan City and Canton, China) will likely close most or all of the U.S. factories and manufacturer the Universal products in their plants in China. Universal already has brand recognition in the U.S. marketplace and a well-established distribution channel with a retail dealer network selling their casegoods products all over the country. In essence, this overseas manufacturer has purchased the brand and sales and marketing expertise of Universal to obtain immediate and sustainable sales in the U.S. market.

This strategy also illustrates the importance of branding to the success of one company who has chosen to enter the U.S. furniture market – noteworthy to those in Nova Scotia who desire to export to this market.

Off Shore Investment – While most large manufacturers of value-added wood products will form global strategic alliances as mentioned above, others will invest in overseas ventures and move their manufacturing overseas to capitalize on the lower labor and overhead costs in those manufacturing facilities and/or to manufacture products closer to the marketplace. Some will invest heavily in state-of-the-art technology and technical assistance in these plants. In addition, they will position themselves to enter that market as it develops. Nova Scotia can position itself to capitalize on this trend.

Brand Identity and Marketing – Manufacturers of consumer goods – such as furniture - will continue to promote brand identity in an attempt to gain market share as well as maintain loyalty of existing customers. The American Furniture Manufacturers Association is undertaking a 50-60 million dollar marketing campaign to lure consumers into spending more of their disposable income on furniture. Individual manufacturers will continue to promote their brands to capitalize on this movement.

Export to Emerging Markets – As mentioned above, there are middle-class consumer populations emerging around the globe in developing countries. This trend will continue and will offer opportunities for Nova Scotia companies that decide to pursue them.

Mega Factories in China – Very large furniture factories and woodworking industrial parks will spring up in China similar to the Dalian Huafeng factory in Zhuanghe City, Dalian, China that boasts projected shipments of 5,000 containers per month from their factory complex. These factories will dominate the large volume producers around the globe.

Niche Manufacturing – Most of the large manufactures will maintain some of their well equipped manufacturing plants in the US and Canada to fill the needs of niche markets that demand low-volume and semi-custom products and/or require quick turnaround from order to delivery.

Niche markets will also be served by smaller efficiently run and smartly focused lean manufacturers. Small value-added manufacturers – like those in Nova Scotia – will shift their emphasis to meet these unique market requirements. Entrepreneurs will form new wood products companies to fill specific niche requirements that large or offshore companies cannot serve as efficiently. Successful manufacturers will find innovative and creative ways to differentiate their products from those of their competition. It will no longer be acceptable to be the mega supplier of all things to all customers!

Employee Recruitment and Retention – While developing countries do not have difficulty in filling woodworking jobs due to the huge demand for jobs for the unemployed, mature value-added wood product sectors in developed countries are finding it more difficult to recruit and retain workers. This is due to the perception that the industry is an old, outdated, dirty and dangerous industry. Rather than enter this sector, young people opt to try computer science or other 'high-tech' industries when in fact the secondary wood products industry is full of high-tech processes from CNC work centers that do the work of several older machines to robots that spray finish on furniture.

Education and Training – Every successful value-added wood products cluster has had strong support in education and training. This is evidenced in Canada, Italy, and throughout the United States. Emerging clusters in Romania and elsewhere in Eastern Europe, Cebu, Philippines, and China are aggressively establishing state-of-the-art education and training centers to promote the industry and train managers and machine operators. In addition, many will provide testing facilities to help manufacturers design and produce products suitable for the global marketplace. This trend will continue as clusters try to compete in an industry that has turned global in the last decade.

Shorter Lead Times – The traditional distribution channels in the furniture and other value-added wood products industries included large inventories of product in producer and retail warehouses in order to compensate for the lengthy manufacturing cycle times associated with the industry. This is no longer acceptable. Customers want immediate delivery and sellers do not want to loose them by offering unacceptable lead times and do not want to be forced to keep large inventories to avoid this. Therefore they are demanding four or five-week lead times at the longest. Many producers are now offering one to two-week lead times. Even a large China manufacturer is promising five-week lead times. The trend will be toward shorter and shorter manufacturing cycle times in all sectors of the SWPI.

Lean Manufacturing – Mature clusters - and companies within – are scrambling to become competitive with the low cost producers in Asia and Eastern Europe. They have recognized that lower costs and shorter lead times are essential for survival. Lean manufacturing is the means to this end and many companies and broad manufacturing sectors are embracing this as a strategy for survival. Thus, a tremendous global surge in education and training in the principals of lean manufacturing is underway. The Australian government just completed lean manufacturing training and technical assistance in the SWPI in all six states.

Outsourcing – Small manufacturers will outsource parts and finished goods from smaller manufacturers overseas to compete with the larger companies who have gone offshore. Supplying these companies that choose to outsource will offer opportunities to Nova Scotia manufacturers.

Overseas competition will accelerate the need for domestic outsourcing, as smaller companies look for ways to facilitate small orders quickly – something that most foreign manufacturers will be unable to do. More secondary wood products companies will become assemblers – much as the automobile industry – relying on strong, agile supply chains to support them.

Those manufacturers in the NSSWPI who have the capabilities, can capitalize on this trend to specialize in supplying products or parts with quick turnaround.

Source Footnotes:
(1) Furniture Today
(2) Wood & Wood Products
(3) Wellington Management
(4) Furnitureworld.com
(5) Jenkins, Michael and E.T. Smith, The Business of Sustainable Forestry
(6) Forest Stewart Council
(7) Natverket WWF Skog 2000. www.wwf.se
(8) Dixon, Audry. Beauty and the Beasts. Timber and Wood Products International. 3 July 1999
(9) Forestworld.com
(10) American Furniture Manufactures Association

V. NOVA SCOTIA SWPI – SWOT ANALYSIS

1. Industry Status

In order to fulfill the mission and goals of this study, we needed to clearly understand the Nova Scotia business environment and its value-added wood products industry - its strengths, weaknesses, opportunities, and threats. Any strategic initiative to strengthen an individual company or an industry sector (as is the case here) must look critically at these factors. This analysis – due to the diverse nature of the industry – must be a general evaluation of the industry as a whole.

Strengths

- **Halifax Port** – One of the powerful advantages that Nova Scotia has over other Canadian Provinces is a deep-water port with easy access to European markets and emerging markets in the Middle East and elsewhere. There is a continual flow of containers through the port and the accessibility to any marketplace on the globe.

- **Business Climate** – Nova Scotia has a good business climate as compared with other Atlantic Canada provinces as well as several other Canadian provinces. The overall ranking of the Business Climate Index (12) places Nova Scotia ahead of the other provinces of Atlantic Canada behind Alberta, Ontario, and British Columbia – in 4th place. The province ranks 5th in Development Capacity, 3rd in Tax & Fiscal Environment, 3rd in Economic Performance, and 2nd in Atlantic Canada in the strength of the business sector. Nova Scotia has the 4th lowest manufacturing wage structure behind Newfoundland, Prince Edward Island, and Manitoba. Another positive indication for the potential of new investments in the NSSWPI is the Business Immigration index where Nova Scotia is second only to British Columbia. Finally, Nova Scotia ranks 2nd in a favorable corporate tax rate per GDP. (12)

- **Small Companies** – Some have suggested that because the NSSWPI is small in size as compared to those in many other provinces and because the industry is composed primarily of small companies, it begins in a very weak position. We disagree and feel that taken in the correct context of today's global environment this is a positive attribute of the sector and thus a source of strength. Small companies can be more flexible and responsive to changing market conditions, provide shorter lead times, as well as be change agents themselves. In today's competitive environment, this is very important.

  One or two individuals who possess entrepreneurial skills generally start small companies. These few individuals are likely to decide to expand given the opportunity.

  In addition, small companies (with vision and innovation) can become the growth engines of the sector providing increased demand for a host of support industries including hardwood sawmills, kiln drying facilities, finishing materials, cartons, etc.

- **Successful Industry Leaders** – There are a few large and very successful businesses in the sector. A few are on the cutting edge of innovative product development in their sector. Others have a clear vision of what is needed to assure the future of the industry. Success is contagious and if an effort is made to learn from these successful industry leaders, the whole NSSWPI will be strengthened.

- **WPG -** Many companies have seen the advantage of close collaboration among this diverse industry and have joined the Wood Products Group. The membership consists of firms from the primary and secondary wood products industry. The association has regular meetings with an exchange of ideas and technology – some of the time through plant tours of members. This industry association has proven its value to the sector and as a strength of the NSSWPI. The WPG plays a vital role in the strategies in Chapter VIII and recommendations in Chapter IX.

- **Location –** There are several reasons why Nova Scotia's location is a strength of the sector.

    - The fact that the NSSWPI is located near the prized northern hardwood forest is a strength and as long as the industry tries to utilize species from these forestlands, they (and their neighbors in Canada and the U.S.) will have a unique marketing opportunity to those who prize the species.

    - The location of the industry near the Northeastern U.S. market (NY, PA, NJ, ME, MA, NH, CT, VT, RI) places it in close proximity to a $13 billion (retail) regional furniture market alone. The kitchen cabinet market as well as commercial markets in retail store fixtures and the hospitality industry offer tremendous market opportunities for Nova Scotia producers. In addition, the United States Northeast Coastal region down to Washington, D.C. represents a US 250 million dollar <u>wood</u> office furniture market opportunity. (11)

    - Often overlooked is the proximity of Nova Scotia to the rest of the US market. The province is closer to the market than any other producer except in Mexico or other Canadian provinces. Being close to these markets also offers opportunities for the NSSWPI to be more responsive to the shifting demands than those in Eastern Europe, Asia, or South America.

    - The proximity of Nova Scotia to Western Europe is an important factor to consider as strength to the sector in its efforts to increase exports. While not as close as the U.S., Europe is the second largest consuming market and is easily accessed by container freight from Halifax to Western European ports.

- **Favorable Exchange Rate –** Canada has enjoyed a favorable exchange rate during recent years that has served as a growth engine into the U.S. market. How long this will last remains to be seen but is a strength of the sector.

- **Positive Nova Scotia Image -** Nova Scotia is noted by North Americans as a great place to visit or to vacation. The province has a positive, even romantic image among tourists who are generally affluent and thus potential consumers of Nova Scotia Secondary Wood Products. This image is a strength of the NSSWPI if used in a branding strategy.

- **Stakeholder Support -** The NSSWPI has several strong advocates in the public agencies such as ACOA, ECBC, Natural Resources, and the Nova Scotia Community College that understand the importance of the industry to the Nova Scotia economy. This continuing support is a decided strength of the industry because it will perpetuate the development efforts of the industry.

Weaknesses

- **Lack of Vision –** There is a lack of vision within the NSSWPI. With only a few exceptions, none of those interviewed expressed a positive outlook for the industry. Without a positive vision for an individual company or the industry as a whole, there is no mission – no reason for growth – only daily existence. This is very serious and adversely affects the industry and those within. There is the perception that the industry is drifting and the age-old saying – ***"If you don't know where you are going, any road will get you there"*** – applies to most in the NSSWPI.

  Many secondary wood products companies in Nova Scotia will close in the next few years because they did not have a vision for the future of their company and/or remained unfocused on their core competency.

  Likewise, the NSSWPI will largely disappear within five years if a new vision is not cast and all efforts are made to adopt bold strategies. The industry must develop a positive vision and work together diligently to bring it to fruition. This is a key to a successful future for the sector.

- **Education and Training –** Specific education and training for the upper tier value-added wood products industry is seriously limited in the province of Nova Scotia at this time. The only programs available are offered by the Nova Scotia Community College system in Pictou and on Cape Breton Island at the Marconi Campus where there has been an attempt to offer training in the furniture and other higher tier sectors of the industry. However, this program is inadequate in its current state to provide the assistance necessary to develop a viable cluster that can become a world-class supplier in the global marketplace. There is an obvious absence of education and training for top and middle management in global sales and marketing methods and in manufacturing technologies in the province. There is no education in the field of manufacturing (or industrial) engineering.

  The program located in Campbellton, New Brunswick is better structured but is too remote to satisfy the needs of a vibrant and growing Nova Scotia industry cluster and lacks any focus on manufacturing management. A further indication of a lack of emphasis on technical training is the fact that Nova Scotia ranks 8^{th} in the Canadian Provinces in Science/Engineering graduates. (12)

  This area of weakness is the most critically deficient area observed in this SWOT analysis!

- **Lack of Depth in Diversity -** The value-added wood products industry in Nova Scotia does not have a lot depth in its diversity mentioned in Chapter II. The sector consists of a weak, loose cluster without a provincial 'champion' to lead the industry forward.

- **Inefficient Plant Facilities –** While there are some fine exceptions, many value-added factory facilities are old and outdated and necessitate unnecessary materials handling due to their rambling and obsolete layouts. This and other non value-added activities add to production costs and thus to diminished competitiveness. In addition some of these plant's construction and lighting do not promote quality workmanship.

- **Old Machinery and Technology –** While there are solid signs of upgrading to CNC equipment, the older plants in Nova Scotia generally have older machinery and equipment with the newer ones having a mixture. The older machinery is not a negative if used properly – such as in a work cell. However, much of this machinery is used as the primary equipment for the plant and is a constraint to growth and productivity improvement. Generally, there is a low awareness of current technology and manufacturing methodologies such as cellular manufacturing.

- **Absence of Lean** - Very few manufacturers know what Lean Manufacturing or Continuous Improvement mean – much less how to embark on these programs in a time when they are necessary to compete globally. The purposeful elimination of all waste is generally lacking throughout the industry. This in itself results in higher costs and longer lead times – both serious impediments to a viable export program. Every factory we visited would benefit from a formal Continuous Improvement program that included Lean Manufacturing.

- **Industrial Engineering –** Since most of the manufacturers in the NSSWPI are small, they do not have the resources to hire a full-time industrial engineer to assist them in any efforts to improve manufacturing efficiency and quality control. Thus, much in these areas (such as lean manufacturing) is left undone.

- **Strategic Planning -** Many company owners do not have a strategic plan and cannot tell where they want to be three years from now. They are bogged down with day-to-day operations. They admit they do not know how to go about developing such a plan. By contrast, those who have a strategic vision and plan are growing.

- **Export Marketing –** While some companies have effective marketing programs, the majority of the owners and managers of the NSSSWPI manufacturers lack adequate skills in this vital area to meet today's market demands. Many admit their programs are ineffective or totally dependent on an agent. Again, since most companies are small in size, they do not have a trained individual dedicated to marketing their products.

- **Employee Recruitment and Retention –** While there are exceptions, most companies in the NSSWPI are experiencing difficulty in recruiting labor into their factories. In addition, constant employee turnover is a challenge for many. The inability to attract and maintain an effective workforce is a detriment to the NSSWPI as it competes with other industries for good employees eager and willing to learn.

- **Pessimistic Sector Outlook –** Real or perceived, there is an overall negative view of the potential for growth within the NSSWPI by its members. This is based largely on the perception that there are no raw material resources available in the Province and therefore no room for growth. While there is a definite limit to the material available from the forests in Nova Scotia, (see: **Threats** below) there is little or no innovative thinking to maximize the material that is available nor to examine alternatives. In addition, many companies are undercapitalized and unprepared for growth and feel they cannot get the capital needed for growth into export markets.

  A pessimistic view of the future of the NSSWPI by its members is a weakness within the industry that is stymieing innovation and creativity in looking to the future.

Opportunities

- **Strengths –** Every area of strength listed above represents an opportunity for the NSSWPI to leverage for the benefit of the industry as a whole. In addition, each individual company must look at these and combine them with their own unique strengths to forge a stronger vision and mission for their company.

- **Weaknesses –** Every weakness in the sector or in individual companies represents an opportunity for positive change. Every value-added manufacturer of wood products should continually look within for opportunities for improvement in areas of weakness. The Wood Products Group, The Nova Scotia Community College, and the Province of Nova Scotia should act as change agents for the industry and strive to help eliminate common areas of weakness. The recommendations of this study address all of the weaknesses mentioned above.

- **Education and Training –** The Marconi Campus of the Nova Scotia Community College has envisioned and developed an excellent new program to support the NSSWPI. Without such a program as is under consideration now, it is our opinion the sector has little or no chance to expand into a viable exporting industry within the province. This opportunity is exciting and must be capitalized on and is included in the strategies and recommendations chapters of this report.

  [Note: To ensure objectivity, the consultant specifically delayed discussions about and investigation into proposed plans at the Marconi campus until late in the project after existing programs were investigated and our conclusions and judgments were made with regard to the needs in this vital support segment for the industry. Only then did we analyze the plans for future programs in Nova Scotia including those at the Pictou and Marconi campuses of the NSCC.]

- **WPG –** The Wood Products Group is in the unique position to serve as an agent for continuous improvement in the industry. Their successes to date should serve to motivate an ever-increasing effort to strengthen the industry. The strength in numbers cannot be overstated in implementing the strategies within this report. Without a clear unified voice, the NSSWPI will not be able to implement the recommendations within this report. However, the NSSWPI needs its own cluster group to foster growth and innovation within Nova Scotia.

- **Globalization –** The NSSWPI can capitalize on the rapid globalization of the industry by looking for ways to offer an attractive alternative to imported goods in the U.S. and Europe as well as in Canada. The creative elimination of weaknesses and the exploitation of their strengths and opportunities - can help manufacturers carve niches in the marketplace. Each manufacturer needs to look at what it can do better than those currently exporting to the potential markets mentioned in this report.

- **Cluster Strategic Alliances –** Nova Scotia manufacturers need to look at forming strategic alliances within their ranks to compliment each other. There are many markets that require more resources than any single NSSWPI manufacturer can provide. By collaboration of several companies, a broader choice of markets will open. Strategic partnerships with foreign manufacturers should be considered if that best serves the long-term vision and goals of a company.

- **Expanded Markets –** The manufacturers of value-added wood products in Nova Scotia can expand their markets if they look beyond the arbitrary boundaries they have set in their vision and sales and marketing efforts.

- **Unique Products –** The industry is positioned to produce unique products by leveraging its strengths including the reputation for being a high quality producer of hard maple wood products. Red (or soft) Maple and White Pine are underutilized species in Nova Scotia and offer opportunities for creative product development. Creativity is the key to innovative product development and can be implemented by educated and informed producers in the NSSWPI.

Threats

- **Lower Cost Imports –** The trend to lower cost imports in the U.S. and European markets represents a serious threat to the future of the NSSWPI. To ignore this threat or to take no proactive action to counter it will result in rapidly diminishing sales at best.

- **Inaction –** For the industry to take no action to remove the negatives – perceived or real - and capitalize on the positives will result in the rapid erosion of the NSSWPI and the resulting loss of jobs. To ignore the recommendations herein will preclude any significant growth in the NSSWPI.

- **Provincial Focus on Primary Manufacturing –** The growth of the NSSWPI has been hindered by the past policies of the province with regard to the use of Crown Land and this policy now threatens any significant growth in the sector. It has been pointed out in earlier studies that the NSSWPI generates higher revenues and provides more jobs per ton of wood fiber than the primary sector but his has failed to drive any change initiatives to promote higher value-added conversion of wood resources.

- **Inadequate Education and Training –** Nova Scotia does not currently have a center for training and innovation nor for technical assistance for its value-added wood products industry other than the programs offered through the Nova Scotia Community College system as pointed out in the **Weakness** and **Opportunities** sections above. This issue has been mentioned in all but the strength area of our SWOT analysis due to its critical nature. Left as is, this issue will be the greatest threat to a viable exporting NSSWPI that can contribute to increased employment and GDP in the province!

  It has been correctly reported that: "Atlantic Canada is an academic hotbed. With 19 universities and 27 community colleges, the region has more post secondary institutions per capita than anywhere else in Canada. Canada is recognized as one of the most progressive countries in the world when it comes to education." However, the NSSWPI of today has been left out in these efforts.

- **Limited Natural Resources –** Contrary to the results of some SWOT analysis conducted and reported in previous Nova Scotia studies, we believe the forests have reached their limit in sustainable harvest levels for both softwoods and hardwoods. Our conclusion is based on lengthy discussions with the Natural Resources department of Nova Scotia and other stakeholders in the primary and secondary sectors of the industry and a review of available data. We therefore place natural resource availability as a threat instead of a strength of the NSSWPI due to these discussions and the uncertainty of the limited quantitative and qualitative data available and the vague conclusions drawn (even though the industry can likely survive with utilization of raw material from outside the province).

- **Limited East to West roads from Cape Breton –** the movement of raw materials and containers for export in and out of Cape Breton is hampered by deficient roadways (Routes 4 and 105 and part of 104) connecting the eastern tip of Cape Breton to the 104 – 102 corridor to the Halifax port. The quick and efficient movement of raw materials and finished goods within the province is important to promote low costs and shorter times from order to shipment of finished goods in the NSSWPI and therefore to make cluster development more viable.

Source Footnotes:
(11) BIFMA International
(12) Nova Scotia Office of Economic Development, Business Climate Index
(13) ACOA Atlantic Canada Business Environment Profile - 2003

VI. SYMPOSIUM SUMMARY

Symposium Summary

The following is a summary of comments and suggestions complied from transcripts of the symposium "Embracing the Challenge; Global Success in the Wood Products Industry" held on the Truro Campus of the NSCC on Friday, April 11, 2003. The day was productive with a good exchange of ideas and helpful discussions of the issues the participants felt important influences on the future of the NSSWPI. It was obvious that when a group of stakeholders gets together, a sense of optimism emerges.

The discussion questions and a summary of comments follow:

1. Are imports a threat? If so, how do we deal (compete) with them?

Consensus - Yes

Comments:

- Exports from China into NSSWPI markets is hurting sales
- Imports are a definite source of competition
- Lack of Capital and Knowledge hinder growth for Nova Scotia Firms
- Need more synergy within the sector – working together
- Need more networking opportunities
- Need to start competing collectively instead of against each other
- Need market research
- Partner with other industry members
- Keep costs down
- Better use of agents and distributors
- Develop market niches
- Unique product development needed
- Attend more trade shows

2. Can we become exporters? If so, how?

Consensus - Yes

Comments:

- We need better management of our Hardwood forests
- Cutting hardwoods too soon
- Need to be more innovative at the primary level
- Animosity in the supply chain is hurting us
- Not enough steady wood supply for the NSSWPI
- Good source of raw materials needed
- Better access to Nova Scotia raw materials (hardwood lumber)
- Sawmills not getting RM in timely manner
- Kiln capacity in Nova Scotia is limited for hardwoods
- We need better access to capital; Banks are not interested in loans to small rural operations
- Better transportation to the U.S.

- Too much material (logs and lumber) leaves Nova Scotia
- Only two hardwood grades in Nova Scotia
- Primary producers hurting NSSWPI by poor logging and sawing practices (hardwood)
- The government needs to recognize the resource (NSSWPI) and potential
- Cheaper to ship to EU
- Expensive to ship from Cape Breton to port
- Need access to more raw materials to increase exports
- Need better transportation infrastructure
- Lack of rail transportation
- Trucking damage is too high
- Lack of access to premium product
  - Stop exporting logs

3. Is the issue of "Branding" of importance to the NSSWPI?

Consensus - Yes, it can be.

Comments:
- More important in the U.S. market
- Need more focus on 'Canadian' not regional
- 'Made in Canada' or 'Atlantic Canada' brand needed

4. What kinds of technical assistance programs or research would benefit the NSSWPI?

Comments:
- Product design and development
- More cross usage of materials – integration of advanced and alternative materials
- Targeted marketing
- Niche market research – i.e.: Ireland, Nigeria
- CNC technology
- Product design
- Independent consultants
- Market research – customer requirements
- Processing hardwoods
- Technical sales assistance

5. What education & training programs are needed to benefit the NSSWPI?

Comments:

- We need skilled labor – people who know how to operate equipment
- Need marketing skills
- Training in new CNC technology
- Lack of skilled labor
  - Need machine operators (not cabinetmakers)
- Need training programs that meet the needs of employees
- Educate and train machine operators
- Machine mechanics and maintenance

6. How will the "certified forest" issue affect the future of the NSSWPI? [Strategic marketing, not the process]

Comments:

- Need to enforce sustainable forestry
- This is a major issue that government can impact
- EU will require certification in 2005
- Not worth the cost to small landowners
- No public concern in Canada nor the U.S. – yet
- High-End markets may require
- Consumers not willing to pay more for certified products
- This is user driven – how much demand?
- Huge costs – can we afford it?

7. How can the government help the NSSWPI?

Comments:

- More policies to promote value-added manufacturing
  - Raw materials
  - Crown land use
- Improve resource inventory

VII. INDUSTRY SUPPORT STRUCTURES

1. Canada - Education, Research, and Training

The current educational, research, and training opportunities available to the industry in Canada and Nova Scotia are important to the competitive positing of the NSSWPI and to its future. A brief overview is presented to look at the current level of this support in various areas.

Nova Scotia

- **Nova Scotia Community College**
  - Pictou Campus – Carpentry and Cabinetmaking
    This program serves the home carpentry and cabinetmaking trades providing the basic skills required by workers in these fields.
  - Marconi Campus – Furniture and Woodworking Technology
    This program focus is on higher value-added sectors in woodworking including cabinetry and furniture manufacturing. The program has more extensive training resources applicable to the higher tiers of the value-added wood products industry.

Other Provinces

Details of these selected programs are not included since they are commonly known in the Canadian value-added community bus serve as a reference to the programs available elsewhere in Canada.

• University of New Brunswick –	Wood Products Minor
• New Brunswick Community College –	Woodworking Center of Excellence
• University Laval -=	Wood Science
• Algonquin College	Furniture Technician
• Conestoga College	Woodworking Technology / Technician
• George Brown College	Furniture Technician – Production & Design
• Humber College	Industrial Woodworking Technician
• Ontario College of Art & Design	Industrial Design
• Ontario Ministry of Training	Industrial Woodworker Apprenticeship Program
• Sheridan College	Furniture Program
• Red River College	Wood Products Manufacturing Technology
• Southern Alberta Institute of Technology	Wood Products Manufacturing
• Northern Alberta Institute of Technology	Wood Products Engineering Technology
• BC Wood Value-Added Development Centre	BC Wood Training Program
• British Columbia Institute of Technology	Wood Products Manufacturing
• Camosun College	Fine Furniture
• Centre for Advanced Wood Processing – UBC	Continuing Education Program
• College of New Caledonia	Bachelor of Design (Industrial Design Major)
• Emily Carr Institute of Art & Design	Wood Products Design
• Kootenay School of the Arts	Wood Products Manufacturing Technology
• Selkirk College	Wood Processing Technology

(14)

2. Other Educational & Institutional Support to Value-Added Industry

The following incomplete inventory highlights a few of these leading programs found in some of the states in the U.S. that have had vibrant value-added wood products clusters over the years. [Some programs have peaked since imports began replacing local jobs during the past five years.]

NOTE: These programs are still active and presented to illustrate what other governments and educational institutions have done to assist in education and technical support for their secondary wood products industries outside of Canada.

California - Palomar College: With an annual enrollment of 2,000 students in over 50 different classes, the Palomar College Cabinet and Furniture Technology program claims to be the most comprehensive woodworking curriculum in the nation.

Georgia – Advanced Wood Products Lab: The Georgia Institute of Technology (Georgia Tech) College of Architecture has opened its Advanced Wood Products Lab. The lab was opened in 2000 with $2 million in assistance of SCM Group – woodworking machinery manufacturers.

Kentucky – Eastern Kentucky University: Kentucky has several programs, but the Department of Technology at this university is the most comprehensive. The program uses special courses to supplement those in quality control and other manufacturing disciplines to create a secondary wood products option as a 4-year degree.

Massachusetts – Mount Wachusett Community College: The community college created the Forest & Wood Products Institute in 1996 as an outgrowth of their State Legislature's Special Commission on Forest Management Practices. The commission was charged with seeking ways to better utilize the "low-valued" wood currently found in large abundance in the Commonwealth's forests.

Mississippi – Mississippi State University: The state of Mississippi (second only to North Carolina in furniture production in the U.S.) is one of the best examples of how a government entity can recognize the secondary wood products industry needs in their state and react with a strong program. The state has become a center for upholstered furniture manufacturing – especially motion furniture.

North Carolina – Appalachian State University: The ASU Walker College of Business has structured a new and innovative international exchange study with Fudong University in China where students from the US and China will travel to the other country to study the furniture industry. The goal is to train graduates in international management skills to assist in the globalization of the furniture industry. Study tours for industry executives are planned for 2002.

North Carolina – Catawba Valley Community College: This community college, located in western North Carolina in the center of the furniture manufacturing center of the state, started a program focused on the furniture industry in 1960. The center serves to train employees of furniture companies after hours to raise their skills as well as new students to the industry. In addition, the college has extensive testing equipment for use in research.

North Carolina – North Carolina State University: **This** university has had a program (Furniture Manufacturing and Management) dedicated to the furniture industry since the early 1950s offering a four-year degree from the School of Industrial Engineering.

Virginia – Virginia Polytechnic and State University (Va. Tech.): The Department of Wood Science at this University is recognized as one of the best in the country.

3. Udine, Italy

This center of furniture manufacturing in Northeastern Italy is considered one of the strongest and most advanced clusters in the world and is included in this inventory. The region has reached this status by having a strong interdependent supply chain and an excellent support structure over the years. The cluster is determined to compete with lower cost producers in Asia and relies heavily on technology as a way to cut costs. There are two support institutions in the immediate local area of Udine:

- Furniture Technology Center – This center is equipped with the latest in equipment and trains students in its use and maintenance. In addition the center provides training in the technology required to compete in today's global environment including areas of finishing, packaging, machining, and production management.
- CATAS Product Testing Lab – CATAS is the biggest Italian institute for research and development in the wood and furniture field. This state of the art testing lab provides the industry with testing services to ensure manufacturers meet the standards of their global customers. Deficiencies are found prior to manufacturing the products for export shipment. It is located in the center of the Udine cluster to provide close support.

Source Footnotes:

(14) Wood Manufacturing Council, Situational Analysis of the Advanced Wood Products Manufacturing Industry

VIII. CONCLUSIONS & STRATEGIES

Globalization and Competition

The secondary wood products industry will continue to undergo rapid globalization. The depressed state of the world economies (especially those in the U.S. and European consumer markets) has reduced the growth in demand and indeed in the total demand for value-added wood products. However, this serves only to temporally produce a smaller market in which all global manufacturers must compete.

This situation does not diminish the threat of imports. To the contrary, a smaller market with aggressive players vying for a greater share of that limited market exposes weaker clusters to a real danger of a loss in market share.

As the economy in the United States begins to improve and consumption of value-added wood products increases, increased numbers of manufactures from Vietnam, India, Brazil, Chile, Romania, Bosnia, and Russia – to name just a few – will attempt to enter the lucrative markets that Canada has had for the past 10 years.

U.S. domestic secondary wood products manufacturers are looking overseas in greater numbers to find lower cost products to provide to their customers – generally retail channels of distribution. While they are able, for example, to buy finished furniture for a much lower cost, these companies must add a substantial margin to these products. Thus, the cost to the retailer is elevated at least 30 to 40% above import costs. Nevertheless, the trend of shifting manufacturing capacity to overseas factories will continue for the foreseeable future and will affect every sector of the NSSWPI.

Strategically, this provides a competitive opportunity for Nova Scotia manufacturers to go directly to the retail markets in the U.S. to eliminate the 'middleman' or the manufacturer who has become – in essence – a distributor of imported products. The trend is already underway for Asian manufacturers to sell directly to large companies directly such as Pottery Barn, Rooms-To-Go, and The Bombay Company.

Foreign manufacturers will continue to come to the US to market their products directly to buyers. These will include wholesalers, retail stores, and specifiers – including decorators. U.S. companies will invest in overseas factories, and foreign manufacturers will buy U.S. companies to capitalize on their brand recognition and established distribution chains.

This will have direct and indirect effects on the NSSWPI.

- Parts manufacturers (to European and U.S. markets) will be hurt due to the fact that their high volume customers will increasingly outsource overseas where the cost is perceived to be less.

- Furniture manufactures will find market share going to competition selling like or similar products at a lower price. The furniture and cabinet designs typically made by Nova Scotia manufacturers are generally easy to copy and very simple to manufacture.

- Other value-added products manufacturers such as flooring, millwork, moldings, and cabinets as well as small and crafts producers of culinary supplies and toys will all feel the effects of globalization if they have not already.

Marketing

If it is to increase its export shipments, the NSSWPI needs to become proactive immediately and meet the clear and present threat of imports head-on. Any business lost due to inaction will be very difficult to replace - as any new business would have to come from new customers who are now buying other products from other sources.

Unique marketing strategies must play heavily in any plan to maintain the viability of the NSSWPI. Quality brand identification will become more important as manufacturers try to differentiate themselves from imported goods from all over the world. The trend in the industry toward brand awareness mentioned earlier in this report supports this projection.

New and innovative marketing initiatives are needed by individual companies as well as the collective industry in order to retain and gain new customers. Most will need education and training to learn how to market effectively.

According to Applied Research & Consulting, LLC in its marketing research for the American Furniture Manufacturers Association: "As a tangible representation of one's personality and preferences, furniture concretizes and magnifies the self. The self-analysis engendered by furniture choices raises the stakes of an individual's involvement with the category. … This combination of psychological and practical barriers results in a complex, and often lengthy, 'justification process.' *Furniture purchases, especially large pieces, are rarely made on impulse. They are planned, researched, and weighed carefully*." (Italics added for emphasis)

Many homeowners who purchase new furniture - and other wood products - agonize over the process more than they do in purchasing automobiles. Many value-added wood products will remain in the household for decades and some will be handed down from generation to generation. The easier a manufacturer makes the decision-making process for the consumer, the better chance for success.

The follow is a list of consumer's reasons for buying furniture according to Consultive Furniture Marketing of High Point, NC and should represent the foundation of any marketing strategy for consumer wood products. When asked what they considered in their decision to buy household furniture they gave the following reasons in order of frequency:

1.	Like the appearance / feel	63%
2.	Has the desired features	63%
3.	Functionality, meets a need	62%
4.	Good quality product	48%
5.	Represents a value	44%
6.	Reputation / Reliability (Factory & Store)	32%
7.	Pricing	31%

Every manufacturer of furniture or other value-added wood products around the globe can produce similar or identical products. However, to the degree that they meet the requirements above will determine their success in each market. While the items will vary in importance from market to market, these are the basic considerations when a consumer makes a decision. (While we use furniture as an example, we believe this list applies to virtually all value-added wood products.)

It is important that Nova Scotia manufacturers do the following:

1. Produce a product that meets the customers' expectations for appearance and feel. This requires through market research and a resulting knowledge of each particular market and its requirements. It then behooves the company to design and manufacture their products to not only meet these requirements but to exceed them wherever possible.

2. Design products that incorporate the features desired in each market. Here again, this will vary from market to market. Many companies who desire to export try to export their standard products. Many times the features incorporated are not important in the target market or are perceived as a negative attribute by those consumers.

3. Every product must have a function – to meet a need of the consumer. Nova Scotia manufacturers must fulfill these functions and needs in creative ways that surpass those of their global competition. This is accomplished through product innovation and superior quality.

4. Unsurpassed quality should be the goal of every NSSWPI producer. Remember, quality is not related to price. Every product at every price-point carries consumer expectations with regard to all of the other six items listed. Knowing and meeting those expectations guarantees a quality product that is acceptable and the formula for success.

5. Customers must perceive a Nova Scotia value-added wood product as a good value. Value is designed into a product and then executed through efficient manufacturing processes. Again, all of the other six elements here must be part of the value equation. Value could be defined as the acceptable mix of these elements.

6. The reputation and reliability of the factory and retailer cannot be overlooked in the formula for success. This is where branding of the product and its origin can become an important differentiating factor for the consumer. Canadian products do not carry the image of 'imports' like those from Asia in the U.S. consumer's mindset. Generally, product from Canada is almost perceived as domestic by U.S. consumers. Thus, the 'Canada Brand' is more positive than a 'China Brand' in the U.S. market and customers may perceive Nova Scotia secondary wood products as being more 'locally produced'.

7. Pricing is always important in the marketplace. While the Canadian/U.S. exchange rate is positive in this regard for the NSSWPI, global competitive pressures mandate manufacturers and suppliers become innovative product designers and lean enterprises where all waste is eliminated from their businesses. This combination of strategies will help offset the lower labor and overhead costs of overseas competition.

Branding

We have already indicated in this report that branding is important in the value-added wood products market – especially in the upper tier product categories such as furniture in the U.S. We believe that for any cluster to become successful, brand identity is very important.

Every effort needs to be made by the province of Nova Scotia, the industry associations, as well as individual firms in the NSSWPI to create a compelling reason for buying Nova Scotia Secondary Wood Products.

We believe that a unified branding program – well executed – will serve as the catalyst that turns buyers around the globe to Nova Scotia products.

While a formal and extensive survey was not conducted, we confirmed that Nova Scotia is a recognizable term and raises very positive (even romantic) images in mind of the person who hears the name. The NSSWPI should further explore this perception and capitalize on it by leveraging the positive experiences that many have after visiting the province as tourists and friends of tourists. 'Nova Scotia' is unique only to Nova Scotia and therefore offers unique and powerful marketing opportunities.

'Green' Branding

Our experience and research shows that the U.S. consumer will increasingly choose to buy wood products that can demonstrate that they have been manufactured from wood that came from responsibly managed woodlands. One credible independent study that supports this is summarized below.

National Home Center News Survey:
The results of a market research study by Chicago-based Leo J. Shapiro and Associates for the National Home Center News [National Home Center News, August 6, 2001] confirms the increased interest in wood products from sustainable sources. The survey polled 450 U.S. homeowners between April 1 and April 10, 2001. About 45 percent of those polled have purchased lumber in the past year, and another 37 percent had bought furniture or another wood product. Slightly fewer than 40% said they had personally made attempts to reduce consumption of wood or products with wood content (including paper products) to protect the environment. The most common way that people say they are helping to protect forests is by purchasing substitute products.

(Note: George Rosenbaum, president of the Leo J. Shapiro company who conducted the survey, made the intriguing suggestion that one benefit of certification could be to raise the demand for wood products by slowing or even reversing the public's effort to stop using wood as a conservation measure.)

- More that 50% indicate they feel strongly about the need for some kind of sustainable forest management certification.

- Nearly 60% of those polled in this study would pay more for wood products that are certified. The number rises to 83% among those who feel strongly about the need for certification.

- Women, who make the major decisions on home furnishings purchases, are more "green" than men according to the survey results.

We believe the NSSWPI needs to capitalize on the "green" issue and incorporate it in a Branding program.

As consultants to the industry, we are obligated to make recommendations that best serve our clients. We feel compelled to mention that we have made this same recommendation to other clients that are feeling global competitive pressures. In our opinion, the issue is too important be ignored when competition in developing countries are already incorporating ‘certification’ into their business strategies.

Timing is of the essence with regard to this issue. It takes time to develop a program that is acceptable to the small landowner, loggers, and small value-added manufacturer. Canadian manufacturers are already behind some competition. Ignoring the issue will only add to the competitive disadvantage of Nova Scotia manufacturers.

Nova Scotia has a good start with its sustainable forestry initiatives. While all materials for the sector will not come from Nova Scotia, the momentum is there to capitalize on for the NSSWPI.

Lower-tier parts manufacturers must realize that there is an emerging market for them to supply certified parts to other manufacturers as evidenced by the requirements in the EU in 2005.

Industry Groups

Largely due to the efforts of the Wood Products Group – WPG – based in Fredericton, the NSSWPI is beginning to see the advantages of cooperation and collaboration among industry members with regard to common issues. The WPG has been the champion of the SWPI in Atlantic Canada for the past several years as it gained support from a wide range of stakeholders from all four provinces of New Brunswick, Prince Edward Island, Newfoundland, and Nova Scotia.

The association is currently serving as a catalyst in the promotion of an Atlantic Canada strategy and has developed (with member input) a plan of action to further this worthy cause. These efforts will serve to strengthen each of the area clusters – including that of Nova Scotia.

Nevertheless, we feel it is important for the NSSWPI to have an association within its borders that can focus on the issues unique to the province. We have discussed our idea below with the President and C.E.O. of the WPG and have been told there is growing support for the concept.

In our vision for the association, it would remain essentially as it is now but each province would form its own chapter. The Nova Scotia chapter would be a member of the WPG and pay dues to the WPG on behalf of its membership. Individual members would pay dues to the chapter. Thus, Nova Scotia (and other provinces) would have a forum that could focus on its own agenda without diminishing the effectiveness of the parent organization.

The WPG and its chapters would serve as the champion of a larger Atlantic Canada promotional initiative. In addition, it could serve as a source of education and technical assistance to its members drawing on the education and training resources of the region.

An additional benefit to this structure is it offers the opportunity for funding assistance to the fledging WPG by local and regional government economic stakeholders since the benefits would be for Atlantic Canada as a whole and not an individual member who pay dues to each chapter. We encourage financial assistance to such a structure that would phase out as the clusters mature.

In any event, Nova Scotia companies could network within the province at WPG NS-Chapter meetings and during WPG meetings as well. This is a compromise of sorts that gives Nova Scotia (as well as other provinces) a forum for local cluster development while leaving in tact the important regional functions of the WPG. The 'parent' organization could meet twice a year and the chapters could meet in alternate quarters or as often as they deemed appropriate.

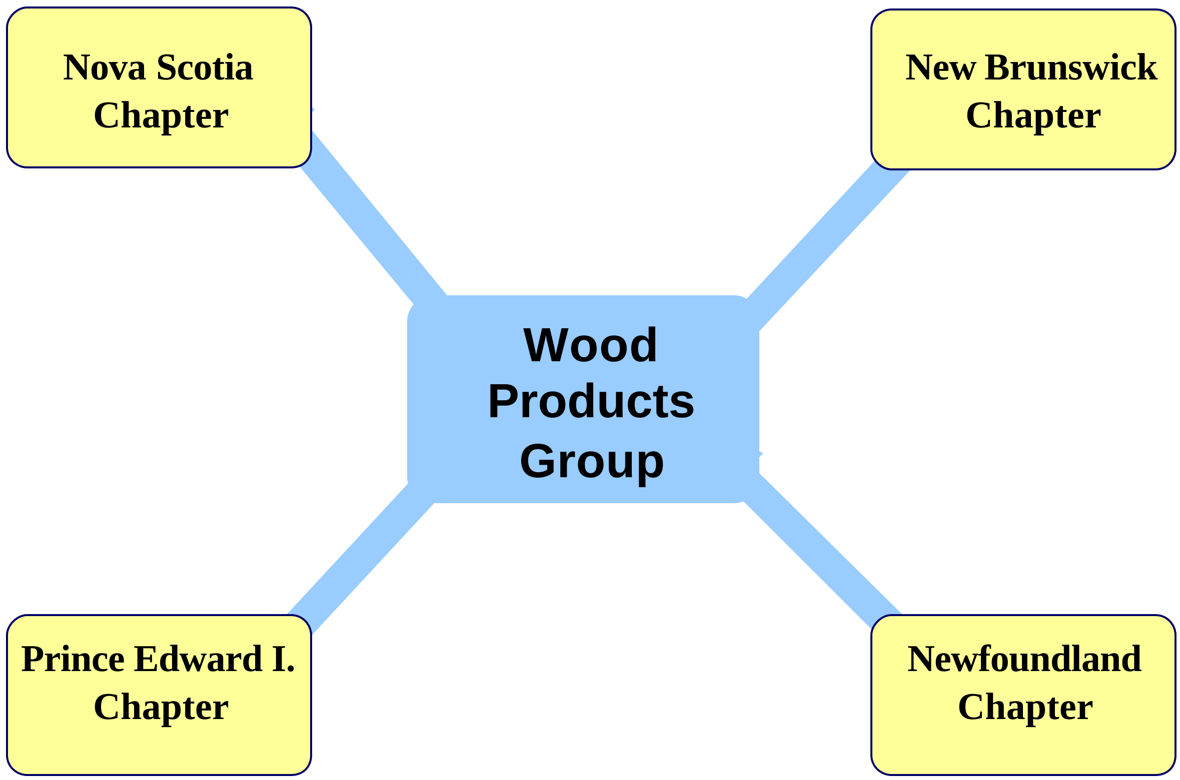


Figure VIII-1

Figure VIII-1 above illustrates the relationship of the four Atlantic Chapters with the WPG at the hub. Without the WPG, there would be no opportunity for the provinces to draw from their neighbors' strengths to improve their own weaknesses in an effort to increase exports individually and as a region.

The small-shop manufacturers represented by the Nova Scotia Designer Crafts Council, the Atlantic Woodworkers Association, the Nova Scotia Wildlife Carvers & Artists Association, and others need to be kept in the loop. Hopefully, some would become members of the Nova Scotia Chapter of the WPG as associate members to avail themselves of some of the benefits that may lead some to become larger manufacturers of secondary wood products.

In addition, a strong working link needs to be built between the <u>*primary*</u> and <u>*secondary*</u> wood products industries. The maximum utilization of roundwood into value-added products will depend on extraordinary cooperation between the sectors. Furthermore, the strategy of marketing "green" products will necessitate a reliable supply of "green" (or certified) lumber and require cooperation between primary and secondary processors.

We believe that a new paradigm needs to be formed by those in the wood products industry – "that there is no separation between the ultimate goals of the primary and secondary producers and that the sectors must blend into one." Competitors from abroad are combining primary and secondary manufacturing operations now to form strong competitive forces (see the example of Bolivian Company on page 16). A strong group of associate members from the primary sector sharing in strategy formulation would be healthy for the Nova Scotia Chapter and the NSSWPI.

Education Support

The higher tiers of the value-added wood products industry have been overlooked in the provincial educational system! Serious deficiencies exist that put the industry at a disadvantage to global competitors in other provinces and in other countries. Nova Scotia continues to lag behind other provinces, sates in the U.S., and regions around the world that are investing in the promotion of advanced technology and manufacturing techniques.

The only way to compete on price and quality is to adopt world-class manufacturing techniques and have employees who are trained to utilize them. The factories of the 70s and 80s are no longer competitive. The globalization of the value-added wood products industry has changed the way we must look at manufacturing.

Education and training is **the** key to the advancement of the Nova Scotia secondary wood products industry. A multi level educational program is needed to serve the needs of the sector. Cabinetry and simple woodworking techniques are no longer adequate to compete in today's market. High-tech machinery and equipment must be utilized along with lean manufacturing techniques in order to keep costs to an acceptable level. This is not to say that some older, manual machinery is not appropriate for some operations in a modern factory, but it is to say that a focus on this outdated methodology at the expense of investing in new technology is a formula for the rapid decline of any manufacturer.

Thus, it is essential to develop a new and updated program for the industry in Nova Scotia. Our own independent assessment of the current programs in the region convinces us that this is critically urgent.

Fortunately, there is a new program under development at the Marconi Campus of the Nova Scotia Community College. We have reviewed the plans and objectives and the curriculum outline of this proposed program. We have served on several advisory boards for programs at Colleges and Universities and have visited dozens of programs during and after development. We have not seen a better plan that addresses the needs of the sector to be served.

We were not asked to evaluate the plan and have mentioned earlier that we indeed did not even look at the plan until we had completed our primary and secondary research into the educational opportunities to the sector. We have no criticisms of the plan documents we have reviewed but feel they are well conceived and can be a vehicle to address most if not all of the educational and training concerns outlined in this report.

We believe that the plan to locate the new Advanced Canada Wood Technology Center - our name for the proposed program for reference purposes only – should be located at the Marconi Campus of the Nova Scotia Community College. The reasons follow:

- There is profound vision and interest in the development of the NSSWPI (and Atlantic Canada Secondary Wood Products Industry) at the campus.
- This is where the most advanced program in Nova Scotia is now located.

- We believe the location to be strategic to offer education and training opportunities to the widest range of Atlantic Canada manufacturers by being located well east of the only other credible program in the area located in Campbellton, Western New Brunswick at Quebec provincial line.
- Sydney is relatively accessible by ferry to companies in Prince Edward Island and especially Newfoundland where there are no programs for the secondary wood products industry.
- The Marconi campus has training for related trades that support a high-tech woodworking industry such as Electro Mechanical Technology, Electronic Engineering Technology – including industrial automation and robotics, Industrial Control Technician, as well as a business and a design program.
- The proximity to the University College of Cape Breton is another compelling reason that we feel relevant. The college offers a Bachelor of Technology (Manufacturing) as well as a degree in business administration and individual courses that could complement the NSCC and ACWTC courses to offer an advanced degree for those aspiring to become mid to upper managers in the industry or those who want to start their own businesses.
- The native communities of the Eskasoni and Membertou are located in the area and have demonstrated keen interest in the SWPI.
- Finally, Cape Breton, Prince Edward Island, and Newfoundland are economically depressed areas that need access to a program to stimulate the growth of an exporting value-added wood sector.

The idea of an Advanced Wood Technology Center to serve the industry in Nova Scotia is justified. However, one to complement the program in New Brunswick to efficiently serve a broader Atlantic Region is better conceived as such.

Education and training programs needed include but are not limited to the broader areas of:

- Management
- Strategic Planning
- Marketing (Global and Domestic)
- Productivity Improvement
- Manufacturing Skills Training
- Product Development
- Wood Technology

The traditional view of education and training at such a facility is that students and industry go there to learn. However, the trend is becoming more common that the education and training is taken to the industry through industrial extension programs whereby the expertise and staff of the programs are sent into the workplace to improve performance and competitiveness.

The topics and issues that can be addressed are numerous including employee recruitment and retention, safety, employee involvement in a continuous improvement program, and others.

Technical Assistance

The value-added wood products industry has received a long overdue wake-up call from the onslaught of imports. As mentioned earlier, the industry is severely lacking in world-class manufacturing techniques. While the industry needs the education and training mentioned above, it also needs focused technical assistance from outside sources.

Areas of focus must include but are not limited to:

- Product Engineering
- Production Scheduling and Control
- Lean Manufacturing
- Continuous Improvement

Many companies find it difficult to budget these services but could benefit greatly from an operations audit that would include looking at their goals and objectives and conducting a SWOT analysis resulting in needed change initiatives in order to become export-ready. This would be a justified area of financial assistance from government agencies and other stakeholders.

However it is provided, the industry must embrace technical renewal throughout.

Employee Recruitment and Retention

The NSSWPI is suffering from a lack of qualified and trained employees. The only way to eliminate this challenge is to convince more young people to enter the industry. The new program proposed for the Marconi Campus of the NSCC will be a good venue to prepare these for the industry. But how will they be enticed into the industry when it is perceived to be a backward and obsolete industry?

The answer has been conceived in Canada at **WoodLINKS** – an established and proven program designed to work with high schools, post-secondary institutions, and industry to develop wood manufacturing programs in schools and provide practical training opportunities, career counseling and information for students and teachers.

The program headquarters is in Vancouver, BC and can be reviewed at www.woodlinks.com. The non-profit society welcomes association and educator involvement into the program.

Another model program that is very interesting is underway in the state of Virginia in the U.S. Virginia Tech has employed breakthrough thinking in their Wood Magic Program (logo at left) – a science education program for 3rd, 4th, and 5th graders in the state of Virginia. During this program factual information is presented in an entertaining, engaging, and interactive way. During a Wood Magic Show, children, teachers, and industry guests take part in a variety of activities, demonstrations, and experiments. They learn to make a wood sandwich out of wood veneer and adhesive film, they explore the intricate architecture of tree leaves and termites in the scanning electron microscope, they test a piece of wood, they learn that each has used 3 lbs of wood and forest products that day, and that 5 trees are planted for every one harvested.

To date, over 1500 children and 162 teachers have participated in this innovative program. (http://www.woodmagic.vt.edu) The Nova Scotia forest products industry is critical to the province and a program to emulate this highly successful program in Virginia would serve the province of Nova Scotia and the NSSWPI well.

Natural Resource Availability

Past history of failed new ventures, statistical data provided by the Nova Scotia Natural Resources, and discussions with stakeholders throughout the province thoroughly convince us that there is a need to divert some of the roundwood that is going into the primary value stream into the secondary wood products industry in Nova Scotia.

With a variety of market issues including pricing critical issues, training and education of buyers and sellers will be necessary to divert product that is wasted or underutilized into the NSSWPI.

As alluded to in the SWOT analysis above, the growth of the NSSWPI has been hindered by the past policies of the province with regard to the use of Crown Land and this policy now threatens any significant growth in the sector. According to a study in GPI Atlantic Report of November 2001 – pulp and paper revenue from one cubic meter of wood were $118 per m3 while wood flooring generated revenues of $1,200 to $1,600 per m3. At the same time, for the same volume of wood seven times the number of workers were employed.

In order to maximize the economic benefits of the forest resources in the province, Nova Scotia needs to find ways to get more roundwood currently being harvested into the upper tiers of the value-added wood products industry in Nova Scotia. In our interviews and discussions we determined that there is a desire by a variety of stakeholders – including the department of Natural Resources and STORA ENSO – to see the available Crown hardwood allowable annual cut being utilized by higher tier value-added wood products manufactures in Nova Scotia.

With this apparent objective and the additional fact that most allowable cut is on private land, the industry has a base with which to develop creative strategies to indeed obtain a higher percentage of hardwoods and softwoods as well as underutilized species in the province. Examples are soft maple and white pine which both can be utilized in fine furniture.

Creative incentives that promote the flow of forest resources from small private landowners to the NSSWPI should be explored.

New sources should be explored including the salvage of 100 year-old sunken logs to make products that are in demand in very high-end markets. (Environmental issues need further study to look at this objectively.)

The issues of forest management and value-added manufacturing of the products harvested from the woodlands will never be separate again. They have become intertwined more with the passage of time.

Until this day, there has been a separation of the interests (perceived or real) by those who own and manage the forests, those who harvest trees from the forest, those who process the primary products that are produced, and value-added manufacturers. With the issues mentioned herein, this is no longer a division that can exist.

The primary and secondary wood products industries are becoming one and must change the old paradigms they have held and form a new and fresh strategic alliance that works for the long-term benefit of both. Nowhere have we seen this to be more urgent than in Nova Scotia.

IX. EXECUTIVE SUMMARY - RECOMMENDATIONS

The value-added wood products industry of Nova Scotia has many serious challenges that are currently constraints to a successful exporting sector. This report presents those in a manner that exposes them as opportunities to be capitalized on in the strategies presented below. Sectors around the globe are fighting to become more competitive and are looking for strategies to accomplish this. Nova Scotia has demonstrated its own dedication to the secondary wood products industry in this and other prior initiatives. The question now becomes whether or not the stakeholders have the determination to act.

The purpose of these recommendations is to provide a guideline or roadmap for the province of Nova Scotia and the NSSWPI to use to guide the industry into the second decade of the 21st Century. The end result of the total strategy will be a stronger more vibrant Nova Scotia value-added (secondary) wood products industry that is exporting products around the globe. The protection of current sector employment and the creation of new jobs in the value-added wood products industry through these exports is one of the main objectives of these recommendations.

The overall strategy consists of the twelve recommendations below and is designed to build on the strengths of the NSSWPI while eliminating or minimizing the weakness, and threats. As mentioned above, it is also designed to capitalize on the opportunities mentioned in the SWOT analysis of the industry.

Some may not agree with all of these recommendations or some of the details; and some will not agree with the way in which we prioritized them. However, they are a beginning framework that should be continually reviewed and expanded in scope and depth as required. While these are ranked by importance to the success of the overriding goal of export development, they are all essential and many must logically be undertaken simultaneously.

There is an immediate urgency for prompt action.

1. Form NSSWPI Strategy Implementation Commission

It will be of paramount importance to form a high level platform for acceptance and then for the implementation of these and other strategies adopted to advance the NSSWPI. This 'commission' should consist of interested and influential stakeholders who will be responsible for the overall implementation of these recommendations.

Each strategic item should have its own support or implementation work-group or committee reporting to the commission. Each issue is complex in itself and will involve much hard work and diligent oversight over a number of years. In addition the groups will work together to integrate their efforts in a way to complement each recommendation. The groups that we recommend to form for support, promotion, or implementation are:

- **The Advanced Woodworking Technology Center Support Committee**
- **The Nova Scotia Wood Products Group Committee**
- **The NSSWPI Career Recruitment and Retention Committee**
- **The NSSWPI Value Added Forest Resource Committee**
- **The NSSWPI Technical Assistance Committee**
- **The NSSWPI Committee for Innovation**
- **The NSSWPI Branding Committee**
- **The NSSWPI Market Research Committee**
- **The NSSWPI Committee for HAV (Higher Added Value)**
- **The NSSWPI Product Certification Study Group**
- **The NSSWPI Committee for Better Transportation**

The commission should be responsible for oversight of the strategy and measurement of the success or failure to implement the plan and each element within. Therefore, high ranking local and regional economic development and government representatives should be prominently represented on the commission.

2. New Advanced Woodworking Technology Center

The Marconi Campus of the Nova Scotia Community College should be the location of a new and visionary Advanced Woodworking Technology Center (our reference name) under consideration. The program is well conceived and was evaluated in this study only after we determined such a program was seriously lacking in Nova Scotia. It should come to no surprise that the creation of this center is second only in priority to the formation of the oversight commission.

The center and its program will serve as the champion of the industry in Nova Scotia along side the Nova Scotia Chapter of the WPG (See #3 below). It is this educational institution that will provide the new technology and innovative ideas through its graduates at differing levels. In addition it can be the vehicle for crucial technical assistance and training though an aggressive industrial extension program.

The center will help address many of the weakness and threats to the NSSWPI and promote several opportunities in the sector. These include:

- Provide a vision for the NSSWPI through its leadership and existence
- Provide much the education and training needed to bring the sector to export-ready status
- Provide a steady stream of well trained employees to the regional industry
- Help companies see the need for more efficient machinery and technology in their manufacturing processes
- Promote education in lean manufacturing principals to students and industry
- Provide basic industrial engineering principals to students
- Help train owners, managers, and workers to participate in meaningful strategic planning for export
- Assist in the employee recruitment and retention efforts within the NSSWPI at multiple levels of staffing needs
- Remove the pessimistic sector outlook by participating in and fostering innovative solutions to a perceived or real shortage in forest natural resources for the NSSWPI.

These areas carry a heavy responsibility but we feel the immediate implementation of the new program will be successful in all of these areas. As we have stated in the report, without this element the sector has little or no chance to flourish in these times of rapid globalization of the SWPI.

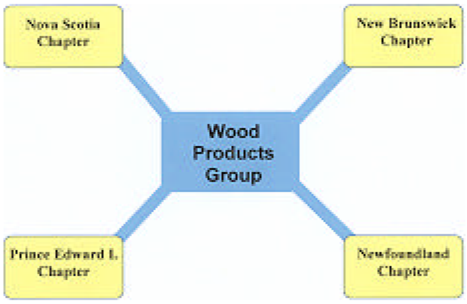
We recommend there be an active and ongoing industry based advisory board that reviews the current plan before it is finalized and then meets annually to discuss the program effectiveness with the NSCC leadership. Even though the industry has been consulted during the current process, the formation of a new formal advisory board will achieve broad buy-in to the ongoing success of the program and provide valuable input as to the needs of the industry. This will be critical to the success of the program. The representatives should be from a broad spectrum within the industry including the larger companies likely to hire graduates.

The program should not be scaled down from its currently planned configuration. The equipment listed for inclusion is the minimum for an effective program and the course offerings are not excessive.

If we were to liken these strategies as building blocks for the future of the industry – we would have to refer to this recommendation as the foundation for all the rest.

3. Form the Nova Scotia Chapter of the WPG

Our vision for a more effective structure for the Wood Products Group is one that serves the individual provinces as well as the whole Atlantic region. While this is the current goal of the WPG, it is difficult for members from a particular province to focus on their own unique challenges under the current structure.



In our vision the association would remain essentially as it is now but each province would form its own chapter. The Nova Scotia chapter would be a member of the WPG and pay dues to the WPG on behalf of its membership. Individual members would pay dues to the chapter. Thus, Nova Scotia (and other provinces) would have a forum that could be used to focus on its own agenda without diminishing the effectiveness of the parent organization.

The WPG and its chapters could serve as the champion of a larger Atlantic Canada growth strategy. In addition, it could serve as a vehicle for education and technical assistance to its members - drawing on the education and training resources of the region.

An additional benefit to this structure is that it offers the opportunity for funding assistance to the fledging WPG by local and regional government economic stakeholders since the benefits would be for Atlantic Canada as a whole and not an individual member who pay dues to each chapter. We encourage financial assistance to such a structure that would phase out as the clusters mature.

The WPG is at a critical state and needs the support of Nova Scotia. It is high on this list of required strategies for the success of the NSSWPI.

Small craft shops and lower tier value-added manufacturers should be encourage to become associate members of the Nova Scotia chapter since they can become a supply source to the sector or may expand into a viable exporting company themselves. Many new ventures are started from very small beginnings and the Nova Scotia Chapter of the WPC is an excellent forum to foster this within Nova Scotia.

4. Sector Career Recruitment & Retention Initiative

If there is to be a viable export focused NSSWPI there must be a continuous influx of qualified employees who are creative and innovative to propel the industry forward. This recommendation is designed to influence any prospects for entry into the sector at an early age and dispel the image that the SWPI is an old, outdated, and dying industry. Career recruitment and retention must precede any successful employee recruitment and retention initiatives by individual companies – something almost universally overlooked in the industry worldwide.

The Canadian society – **WoodLINKS** – has developed a successful public relations and promotional package to dispel the negative image of the SWPI and to entice high school and career seekers to take a serious look at this industry. The program consists of an excellent web site, videos, and printed material for schools and organizations that presents the true nature of the wood products industry of the 21st Century – an exciting industry filled with high technology. This program should be thoroughly investigated and utilized to the fullest degree possible in this initiative.

Another program that should serve as a model for Nova Scotia is underway in the state of Virginia in the U.S. Virginia Tech has employed breakthrough thinking in their Wood Magic Program (logo at right). This is an innovative science education program for 3rd, 4th, and 5th graders in the state of Virginia. During this program factual information is presented in an entertaining, engaging, and interactive way. During a Wood Magic Show, children, teachers, and industry guests take part in a variety of activities, demonstrations, and experiments. This creative approach presents the wood products industry in such a way as to form a positive image of the industry in these young minds.

A program like this should be developed by the NSCC and the Nova Scotia Chapter of the Wood Products Group for implementation throughout the province.

In summary, we think Nova Scotia should take the strengths of both of these initiatives and develop a coordinated program tailored to draw young people and career-seekers into the sector over the next decade and beyond. The measure of success will either confirm the value of the program or not - after the first ten years.

5. Develop a Value-Added Forest Resource Strategy

After our review of the forest resources currently available to the NSSWPI with Natural Resources in Halifax and Truro and extensive discussions with primary and secondary processors – we have concluded that additional forest resources (such as Hard Maple) that have been referenced as strengths of the province in prior reports do not exist.

In order to maximize the economic benefits of the forest resources in the province, Nova Scotia needs to find ways to get more roundwood *currently being harvested* into the supply chain of the upper tiers of the value-added wood products industry in Nova Scotia. Currently, very little is finding its way into Nova Scotia value-added manufacturing operations. Instead, much of the hardwood and softwood roundwood is leaving the province to be processed elsewhere or is being converted into very low value-added products. In addition, the higher-grade hardwood material is being exported to veneer mills in the U.S. and elsewhere.

Prior policies and decisions with regard to Crown land use have supported the primary wood sector at the sacrifice of the higher value-added industry.

According to a study in GPI Atlantic Report of November 2001 – pulp and paper revenue from one cubic meter of wood were $118 per m3 while wood flooring generated revenues of $1,200 to $1,600 per m3. At the same time, the same volume of wood produced seven times the number of workers. The implications are clear – there is great incentive to promote the use of forest resources in higher-tier value-added processes.

This issue needs to be the focus of a high level project that results in a strategy formulation that promotes a much greater use of the allowable cut of hardwoods and softwoods by the NSSWPI. Innovative ways must be found to convert existing roundwood into value-added products. This will involve finding processes and markets for lower grade materials as well as the very high grade now exported as roundwood.

On the supply side, there should be a study by Natural Resources to generate a clearer assessment and statement of the accessible and usable allowable cut of hardwoods presented in such a way that future supply is made clearer to the NSSWPI and other interested parties.

To foster better utilization of the Nova Scotia natural resources, the oversight committee for this recommendation should interact closely with market research efforts and innovative product development initiatives.

6. Develop a Comprehensive NSSWPI Technical Assistance Program

In order to develop viable export-ready clusters in Nova Scotia, existing companies and new start-ups will need extensive technical assistance in order to compete with global producers.

The new Advanced Woodworking Technology Center in Sydney will provide a steady stream of technically trained machine operators, supervisors, and managers. However, existing companies will need technical assistance before the Center is providing this talent to the industry.

A technical assistance program must be developed and delivered to the NSSWPI as soon as possible. The program objectives should include but not be limited to the following elements:

- Hardwood lumber production and grading (primary and secondary sectors)
  The primary and secondary sectors are not working effectively together and have not formed a good hardwood supply chain within the province. Co-operative technical assistance designed to improve the hardwood sector is needed for cluster development.

- Kiln Drying
  While there are kiln-drying facilities for hardwoods in the province, they are few and small. Most drying is done at predominately softwood mills. This part of the supply chain needs development and an effort in this area will fill a critical link in the supply chain.

- Company Operations Audits
  An effective way to determine the potential and needs of a company is to conduct an operations audit or diagnostic evaluation as to the export readiness of the company. This is a critical step in the process of re-engineering a company and this service should be made available to the sector. The services can be provided from several sources such as Forintek, industrial extension specialists, or independent consultants. A cost-share formula could be utilized to provide some public assistance.

- Lean Manufacturing
  The objective of lean manufacturing is to eliminate all waste in an enterprise. Areas that make up a lean manufacturing program include continuous improvement, continuous flow manufacturing, lower inventories, workplace management, plant layout, total quality management, and other areas to cut waste and associated costs in labor, materials, time, and capital.

- Finishing
  The higher tier value-added wood products industries incorporate a more sophisticated finishing process than are currently found in Nova Scotia. A broad analysis of current suppliers to the industry is needed and their ability to advance the NSSWPI technical expertise evaluated in order to achieve higher styled and higher value products.

- Packaging
  Exporting high-tier secondary wood products necessitates good packaging that is designed for maximum protection with the minimum costs. This will become a need as the sector matures.

The technical assistance listed above, as well as other special requirements must be high on the agenda of the WPG and other stakeholders in the province if the sector is to be globally competitive.

7. Promote Innovative Thinking In The NSSWPI

The NSSWPI must be creative and innovative in its efforts to become a global player in the industry. An organized effort designed to foster innovation is needed to change the negative atmosphere now prevalent in the sector and stimulate creative ideas that can produce new and expanded companies.

All recommendations in this strategy will need to utilize innovation to be effective and therefore require an atmosphere of optimism and creativity throughout the sector.

A series of timely seminars and workshops on the subject will serve the sector well to bring out the creativity within the sector. Motivational speakers and those who can share past successes are potential presenters as well as other visionaries from within and outside the SWPI.

The areas that can be covered during the next few years are numerous including:

- Product design and development
- Manufacturing and/or sales co-operatives
- Employee recruitment and retention
- Marketplace opportunities for the NSSWPI
- The factory of the future - 2020

Fostering breakthrough thinking is an essential part of any comprehensive strategy for improvement in the NSSWPI.

8. Develop NSSWPI Brand

Branding is an effective way to gain consumer attention and spending – especially in the U.S. market. Since this is and will continue to be one of Canada's strongest export markets, it is imperative that there is a brand by which consumers recognize there are benefits to buying Nova Scotia value-added wood products.

We believe a professional U.S. branding company should be retained to help develop such a compelling brand for Nova Scotia products. [Beforehand, we encourage a through dialogue with other Atlantic Canada provinces to see if it would be more beneficial to join forces and create a compelling Atlantic Canada secondary wood products brand.]

We believe it will be advantageous to include a 'guarantee' that the Nova Scotia brand represents products made from wood harvested in a sustainable manner to such a degree that it might be referred to as 'certified'. The certification agency might be the Nova Scotia Natural Resources department. This idea should not be dismissed without through discussions as part of the branding strategy.

Whether the brand is regional or only for Nova Scotia – we believe the province and the NSSWPI should capitalize on the tourist trade and positive Nova Scotia image in Europe and the U.S. The sector could produce pamphlets and place them in tourist stations promoting plant tours at facilities that have well-organized factories. In addition, several showrooms could be opened to showcase higher tier value-added wood products and the Nova Scotia brand to tourists.

All of this is designed to build brand awareness and product demand.

9. Conduct Primary Market Research in Global Markets

Any viable export market development effort must include market research and market intelligence gathering. While there have been trade missions in the past to the U.S. and Europe and other markets, new higher-tier markets need to be identified and promoted within the NSSWPI. This goes beyond past and current 'match-making' missions.

We believe new global market segments not yet served by the sector need to be investigated for potential. This process can begin by attending the High Point International Home Furnishings Market to review the trends in the U.S. marketplace.

For example: Nova Scotia has a relatively good supply of white pine. White pine is a good material for casual, occasional furniture. Painted and distressed furniture is a viable niche market in many regions of the U.S. market. Nova Scotia has a base of artisans. Hand painted pine furniture is another high-value niche market. This same furniture could be hand painted or even custom hand painted for targeted markets.

There are many market niches in the States that are being filled off shore. These represent opportunities for Nova Scotia due to its strategic positioning for shorter transport time and lower costs.

Additional opportunities exist in other markets of Europe, the Middle East, Asia, and in new emerging markets.

Entrepreneurs or professional market research consultants from the industry should be sent to such markets to identify new opportunities for Nova Scotia companies. Once the market opportunities are identified, incentives can be offered to promote entry into these markets including Nova Scotia pavilions at buying fairs in those countries showcasing newly created products for those markets.

10. Promote the Development of Higher-Tier Secondary Wood Products

Past promotional efforts have been focused on existing lower tier secondary wood products. With a limited supply of forest natural resources available in the province for the NSSWPI – every effort should be made to encourage the utilization of these products into high-tier products.

Every sector of the industry should be examined for opportunities to push the product up the value chain. For example, wood doors could be offered as pre-hung and pre-finished wood doors. Curved plywood could be converted to arch-top windows. The possibilities are numerous but require imagination and visionary thinking to identify the possibilities.

With a source of materials available, small veneer mills are a potential. There is a global demand for high quality face veneers for the furniture industry. This is an opportunity for Nova Scotia entrepreneurs even if veneer stock has to be imported from other provinces or from other countries.

Glued panels from low-grade hard and soft maple offer other potential for hither-tier secondary wood products. While not in the upper tier, these products are higher than solid wood elements or dimension stock.

Furniture - including bentwood chairs - offers opportunities for Nova Scotia manufacturers.

This recommendation and #9 can compliment each other to assist in cluster development within the industry.

After the prior recommendations have received endorsement and implementation is well underway or completed, economic development efforts can be geared up to recruit new or expanded industry into Nova Scotia. Manufacturing companies abroad may find it strategically advantageous to move manufacturing capacity to Nova Scotia to gain quicker access to North Atlantic markets.

The Deloitte & Touche report - Cape Breton, Industry Targeting Assessment, January 2003 – presents some of the incentives and advantages for companies to locate in Nova Scotia and specifically in Cape Breton. These may be recognized and thus entice manufacturers to consider Nova Scotia as an attractive location for production facilities.

However, it is important to remove as many weaknesses and threats to the NSSWPI before serious efforts formally begin. Otherwise, these issues will remain constraints to any efforts to attract new higher tier secondary wood product manufactures to Nova Scotia. On the other hand, having a strong education and training and technical assistance structure already in place would be perceived as a tremendous asset and a compelling reason to consider locating in the province or in Cape Breton.

11. Develop Nova Scotia Forest Certification Plan

We have mentioned in the branding recommendation #8 above that certification should be incorporated into the Nova Scotia brand. We are convinced that the issue of certification will become more important in the next few years and that any sector anywhere in the world that does not build its industry around this issue will loose market share.

As Michael Jenkins and E. T. Smith said in The Business of Sustainable Forestry: "The issue is not whether demand for sustainable forest products will develop, but rather how fast and in which markets sustainable forestry will become an important variable."

We believe that the two most important markets to Nova Scotia – Europe and the United States – will both continue to move toward value-added wood products from 'certified forests'.

Nova Scotia and the NSSWPI have the opportunity to capitalize on the province's sustainable forest management initiatives and to develop a certification scheme of its own to attach to its brand. This will take a lot of creativity and hard work but will position the industry well to compete with lower cost producers and others who decide to lag behind and become followers instead of leaders in this area.

12. Improve East-to-West transportation

While Nova Scotia has many excellent roads and transportation routes, it is lacking in an efficient infrastructure to promote the east-west movement of manufactured products and supplies to and from manufacturing sectors in the Cape Breton area. It will become increasingly important to efficiently bring forest resources from other regions to emerging clusters throughout Nova Scotia.

Since there is already a loose cluster of value-added wood products manufactures in Cape Breton and since there are some available natural resources in the area, there is great opportunity for growth for the NSSWPI in the region. However, easy access into the region by suppliers and the ease of moving trucks and containers from Halifax to Eastern Cape Breton and return will be a constraint to growth.

A four-lane road is needed to minimize time of shipment and damage to goods moving in and out of the region from all areas in the province and to tie the NSSWPI together through transportation.

Measures of Success:

The ultimate success of this project depends on the number of recommendations implemented and to what degree of creativity and effectiveness. Collectively, they form the “strategic plan” for the Nova Scotia Secondary Wood Products Industry. The completion of all twelve recommendations will be necessary to realize the full potential of the plan and the resulting success of the industry.

The ultimate measure of success in the industry will be the lack of the erosion of jobs lost to competition. A system of tracking jobs in the sector and the reasons why they are added or lost should be in place during this year (2003). We believe that when implemented, these strategies will attract new entries into the NSSWPI and create new jobs.

Initial Milestones

We suggest the following initial milestones be used to measure the successful launch of this plan.

- The solid endorsement of this strategic plan (or a slightly modified version) by the NSSWPI and other stakeholders by October 2003.
- The formation of the NSSWPI Strategy Implementation Commission by November 2003.
- The appointment of all individual committees by January 2004.

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