

# **GROWING THE BC INTERIOR VALUE ADDED WOOD SECTOR**

## **SUMMARY REPORT**

***Prepared for:***

The Southern Interior Beetle Action Coalition

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# 1 EXECUTIVE SUMMARY

## The Value Added Wood Imperative

British Columbia has a long tradition of generating wealth for our citizens from their forest resources, but we are now caught in the eye of the perfect storm of a changing climate, increasingly fickle markets, and an unrelenting wave of globalization. The future of our forest-dependent communities – a critically important part of the economic backbone of this province – depends on our choice of collective vision and ability to create increasing benefits from our forest resource through a vibrant, resilient, and economically healthy forest sector with the capacity to create those benefits.

BC's value added wood industry is incredibly well poised to compete in global markets. New opportunities for forest products abound from our highly sought after wood species and high quality wood fibre. Our geographic proximity to robust markets, strong supply chain infrastructures, state-of-the-art technologies and thoughtful market intelligence give us competitive advantage. We are capable of strengthening the business environment, the skills of our workforce and our design traditions. The market power of our environmental track record in ever-'greener' world markets is substantial. There is a pressing need right now for us all – community members, Aboriginal peoples, industry, government, unions, NGOs, academics, and any other interested parties – to assemble our collective will to move the value-added agenda forward in a meaningful way.

## Value Chain Analysis

Kozak and Maness (2005) define a value chain as a “strategic collaboration of organizations for the purpose of meeting market objectives over the long term and for the mutual benefit of all ‘links’ of the chain. Developing a value chain approach therefore requires a collaborative rather than a competitive approach in our forest sector and should be approached strategically and at a high level of influence.” This report adopts a ‘value chain’ approach in describing the hurdles faced by value added producers, and proffering potential solutions for overcoming them, stressing collaborative approaches and recommendations at the highest levels as means of moving the concept of value added wood products from rhetoric to reality, solutions presented in terms of the value chain below:

- Vision and Government in the Wood Value Chain
- Business Conditions, Finance and Manufacturing
- Raw material supply
- Research and Technology
- Product development
- Education and Skills Training
- Marketing

## Forest Sector Economic Benefit Trends

Until the mid-1990's, our wood resource generated increasing benefits for our citizens from an industry based on gradually enlarging timber supplies and an almost singular focus on producing ever-larger volumes of mostly commodity wood products at progressively lower cost to compete globally. Forest sector, family-sustaining jobs exceeded 100,000 in 1995, and direct revenues from timber often exceeded \$1.5 billion per year in that era. Well over 100 large lumber and pulp mills carried a majority of the total Class 4, major industrial municipal tax burden in the province. Forest dependent, rural communities were directly sustained by these benefits, while urban economies

were, and continue to be, major beneficiaries of the induced employment generated by the 'first dollars' coming into the economy from forest product exports.

BC communities continue to greatly value the commodity forest product industry, but the outcomes from its almost singular focus on competition strategies based on commodity production and increasingly lowering costs, is a cause of great concern.

The industry has shed one-half of the forest sector employment that existed in 1995. The competition strategy has for many years pushed down the real, inflation adjusted value of lumber and pulp products, which in turn reduces industry's capacity to pay stumpage, and direct revenues to the Crown are now slightly more than one-third the level of the mid-1990's. A large proportion of sawmills, and some pulp mills, have permanently closed, and about one-half of the major industrial municipal tax burden has shifted to other taxpayers since 1998.

The commodity game is fleeting and, even as BC pursues new lumber markets, lower-cost competitors are emerging in other global regions. The added, extraordinary loss to the pine beetle of timber supply is a reality in the interior and an accelerated wave of mill closures is anticipated in the interior in the short-term due to loss of timber supply.

## **BC Interior Value Added Wood Potential and Success Factors**

The value added wood sector is sensitive to even modest growth stimulus, with capacity to create thousands of new jobs, hundreds of millions of dollars in incremental manufacturing product sales, new profits for entrepreneurs, and higher government revenue streams to pay for public services. To illustrate how sensitive the value added wood sector is to growth stimulus, this report models several conservative scenarios for new jobs and manufacturing sales revenues, simply by solving some issues in the raw material link of the wood value chain.

We know these higher accomplishments are possible - they are a present reality in some other Canadian and international forest product jurisdictions, and the main success factors from those jurisdictions are described in this report.

## **Vision and Government in the Wood Value Chain**

There are numerous, differing visions for our forest sector operating among the main actors in the wood value chain. One aspect that all the visions have in common is a view that the purpose for which we manage our forest resource is primarily to create a forest industry in a high state of competitiveness, and secondarily to create benefits for citizens, described above as being in decline.

The 2009 Working Roundtable on Forestry identified that all leading forestry jurisdictions followed a single, common vision for the sector. The Roundtable also expressed that government is fundamentally responsible to lead the work with all parties to advance a common vision. This report makes a recommendation that government lead all of us that can affect the wood resource, or are affected by it, toward such a common vision. It also recommends that the vision work be done on the foundation of a guiding policy statement that the purpose for industrial development of our public forest resource is to increase the benefits to citizens from the resource by fostering a competitive forest sector with the capacity to increase those public benefits.

The *Ministry of Forests Act* directs the ministry responsible for forests to “*encourage a vigorous, efficient and world competitive timber processing industry*”, alluding to the primary industry that converts trees to primary forest products (mostly lumber and pulp). This mandate is unchanged since 1979, a time when the value added wood industry as we now know it did not exist. Not surprisingly, the Act provides no direction to the ministry to encourage a value added wood industry in BC. This legislated provision focuses the ministry on working with industry to solve problems in the primary forest product segment of the wood value chain.

The provincial government defines its relationship with industry through the forest tenure system. If a tenure link exists between government and an entrepreneur, the government ministry sees itself as part of the wood value chain, and applies its resources, staff expertise and policy tools to work with the private sector to solve problems in the wood value chain. Lacking a tenure link with the value added wood industry since 2003, the ministry no longer maintains an organization, staff with expertise, policy or programs to solve problems in the value added wood segment of the industry.

This report makes recommendations to modernize the mandate of the ministry to include the encouragement of the value added wood sector and to establish in the provincial government the kinds of capacities mentioned above.

## **Business Conditions, Finance and Manufacturing**

Access to venture capital for the value added wood sector is a large issue, and this report recommends improving access to capital through deepening sector access to government venture capital programs, including but not limited to the program funded by the federal Immigrant Investor Program, the BC Renaissance Capital Fund, and improved leveraging of existing capital pools.

Although the default rate on loan capital is extremely low in the value added wood sector, access to debt capital is difficult due to concerns about secure access to raw material supply (logs and lumber). The formation of a loan guarantee program, at very low cost to government, would profoundly improve sector access to debt capital.

The report recommends that the small and medium enterprises (SME's) that characterise the sector, and First Nations companies that aspire to move up the value chain, would benefit from increased access to business skills and capacity training programs. Many First Nations do not have the capital, experience and business capacity to directly develop their own forest companies, turning instead to various operating and business arrangements with existing forest companies.

There are many partnership opportunities between First Nations and the value added wood sector, based on the differing strengths that each can bring to a partnership. However, there remain gaps in understanding between First Nations and other potential partnership entities, slowing the pace of relationship building. We recommend the development of partnership incentives between value added wood enterprises that include First Nations and the primary industry, exploration of opportunities for partnerships between First Nations and BC Timber Sales, such as reciprocal management or marketing partnerships, the development of improved data about the wood profiles in First Nations tenures and a data base of First Nations currently involved in the value added wood sector. The report discusses the potential to explore a number of 'structural components' that could act to build the role of First Nations in the sector.

To help understanding other opportunities to improve the business climate, the report recommends that government work with the sector through a thorough bench-marking study and structured consultations with the sector to define the needs, opportunities and business challenges that could be addressed through a broader strategy to improve the business conditions for the sector.

## Raw Material Supply

Secure access to raw material (logs or lumber) inputs is often ranked as the greatest challenge for the value added wood sector – without raw material, a business cannot exist. The challenge is to create the conditions that cause ‘the right log to flow to the right mill’. BC Timber Sales is severely restricted by its current timber pricing mandate in its ability to supply the value added wood sector. Some aspects of interior timber pricing policy inhibit such log flow. For reasons described in the report, the Softwood Lumber Agreement has a profoundly adverse effect on the supply of raw material to the value added manufacturing sector.

This report recommends providing in the mandate of BC Timber Sales more entrepreneurial freedom to work directly to supply more timber to BC’s value added wood mills. Several recommendations are made to amend interior timber pricing policy to stimulate more sorting of special ‘value added’ logs in the woods and transportation of those logs to value added wood facilities or, in certain viability circumstances, to log sort yards. A recommendation is made to support the provision of new log market information to sellers and buyers of logs. We recommend a structured assessment and establishment of one or more business clusters of value added wood enterprises in the interior.

This report describes the growing supply chain impacts to the sector of the progressive disappearance of small and medium-sized replaceable tenure holders and their mills, which have been important suppliers of raw material to the sector. The report recommends legislative change to provide to the minister the statutory discretion to consider such public interest impacts in addition to impacts on competition in log markets when approving a license transfer under the *Forest Act*.

Lastly, the report recommends that governments take great care to ensure that the value added sector is appropriately exempted from any future Softwood Lumber Agreement with the U.S..

## Research and Technology

The BC and Canadian research and technology community is challenged to meet the and needs of the value added wood sector. Few of the SME’s in the sector are members of FPIInnovations, the national research institute, due to the limited capacity of management to engage. The diversity of needs in the sector, the number of participants, and the differences between the BC sector and that in other provinces, such as Quebec and Ontario, places severe practical limits on engagement with the sector under the *status quo*. The absence of a voice at FPIInnovations, and the way the institute is funded, results in a very limited focus on value added wood issues. UBC and UNBC research programs are widely admired, but their scale is tied to funding levels.

This report recommends the exploration with the sector of a ‘research check-off’ program to help fund its research needs, and a new collaboration between the sector and the provincial government to strengthen the sector voice in the governance bodies of FPIInnovations. We further recommend that the province, through its funding contract with FPIInnovations, provide contractual direction to ensure deployment of provincial funding to the specific needs of the sector. We recommend a higher

priority be placed on funding for university-based research, and an enhancement of R&D tax credits to encourage private funding of research in the sector. Lastly, we recommend that a sector-specific research study and strategy be developed, targeted at the strongest product and market possibilities for BC, not unlike that prepared in recent times for the Canadian bio-economy.

## **Product Development**

There is insufficient recent empirical data or strategic thinking to suggest which value added wood products have the greatest growth potential and in which markets, and a tendency to assume that BC cannot compete with low-cost, off-shore producers. We believe that there is no reason BC cannot differentiate its strongest products from its competitor' products through our capacity for innovation, quality, smart design for urban spaces, mass customization, after sales service, stronger customer understanding and development of a BC design aesthetic.

To enhance the culture of new product development in BC we recommend a comprehensive, sub-sector specific assessment of our strongest products and their markets, and the preparation of a strategy to develop those products. Further, we recommend that BC's product development programs and incentives be enhanced for under-resourced SME's. Lastly, we recommend actions to catalyze debate on the creation of a cohesive BC brand and design aesthetic that could be incorporated in products and be aggressively marketed globally.

## **Education and Skills Training**

In BC there is only one educational program fully dedicated to value added wood products, the UBC BSc. Wood Products Processing program. Related but distinct, the Centre for Advanced Wood Processing at UBC has a mission to improve the competitiveness of the Canadian value added wood processing sector. Graduates and certificate holders from these programs are highly sought after by the value added wood sector and, interestingly, the primary wood sector.

Recognizing the success of these programs, the multi-faceted nature of skills and knowledge demanded in the sector and its urgent skills needs, we recommend consideration by the Ministry of Education of new, more holistic programs which embody the diversity of topical disciplines. We recommend stronger support for the workplace skills programs for delivery by service providers such as BC Wood Specialties Group, FPIInnovations and the UBC Centre for Advanced Wood Processing. Lastly, we recommend that the skill supply chain be further developed by increasing efforts to provide resonant messaging about employment in the sector to the K-12 student population.

## **Marketing**

Value added firms in BC have long struggled with marketing and market research issues, yet another manifestation of the challenges faced by the mostly SME's in the sector. The provincial government plays a large role in marketing through Forest Innovation Investment corp..

Marketing programs are shaped by the priorities of the provincial government, consultations with the forest industry as a whole and with the federal government, a degree of fact-based market research, and the advice of the Wood First Advisory Committee. The end result of these influences is that wood product marketing is strongly focused on off-shore markets for lumber and other structural



products, on growing the market share for structural wood generally, and generic programs to increase the use of wood. This approach leaves the value added wood sector without a specific marketing strategy and with a limited focus on its best and largest market, the U.S..

In light of the above, we make recommendations for a marketing strategy specifically for the value added wood sector and for incentivized skill training for SME's in marketing, market research and marketing through social media.

Given the large role that government plays in this part of the value chain, we make further recommendations that government use its influence at a senior level to ensure that public funding is applied to the specific marketing needs of the value added sector, that the differing geographic market priorities between the value added and primary lumber sectors are recognized in marketing programs, and that the unique marketing capacity needs of value added wood sub-sectors are balanced with that of other wood product marketing needs. Lastly, we recommend the adoption of value added wood product market growth targets, as is currently the case for lumber market targets.

## 2 INTRODUCTION – THE VALUE ADDED IMPERATIVE

British Columbia has a long, storied tradition of generating wealth and other benefits for our citizens from their forest resources. But now we stand at a precipice, caught in the eye of the perfect storm of a changing climate, increasingly fickle markets, and an unrelenting wave of globalization. The future of our forest-dependent communities – which remain a critically important part of the economic backbone of this province – depends on our choice of collective vision and ability to create increasing benefits from our forest resource through a vibrant, resilient, and economically healthy forest sector with the capacity to create those benefits.

Historically, our forest strategy has revolved almost singularly around producing high volumes of mostly commodity goods from the lower end of the wood product value spectrum, for export: dimension lumber, pulp and paper, and increasingly raw logs. This strategy served us well until the 1990's. But the world is changing, and so too are our fortunes. While we hope it will always be a large part of our forest product mix, the commodity game is fleeting, and we now find ourselves out of step in our ability to compete with low-cost producers from further and further afield – even if we open up new markets. Concurrently, our system of stewardship on our publicly-held lands has meant that we continue to enjoy an abundance of arguably some of the highest quality wood fibre in the world. New opportunities for forest products and services abound.

Now is as good a time as any to revisit our forest product manufacturing strategy, and perhaps a good place to start would be to pose a few simple questions related to the products that we manufacture. Will we create and market the higher value products that match the quality of our publicly owned wood fibre? Will we capitalize on the growing markets for high-end appearance wood products, like doors and windows, mouldings and millwork, cabinetry, furniture, flooring, prefabricated housing, and the like? Will we continually renew our wood product mix in response to markets? In other words, will we decide to develop the full potential of the wood value chain thereby enabling the creation of a viable and economically significant industry?

The actions needed to fully develop our wood value chain are numerous and nuanced. The important point is that BC's value-added industry is incredibly well poised to compete in global markets and to do so sustainably. We have highly sought after wood species. We have a comparatively strong environmental track record of responsible forest stewardship. We have numerous competitive advantages in the forms of geographic proximity to robust markets, strong supply chain infrastructures, ample business support services, thoughtful market intelligence, state-of-art technologies, a strong design tradition, a skilled workforce, and most importantly, a yearning on the part of forest-dependent communities to remain vital. In other words, we have all the ingredients to make this work.

Any thoughtful person turning their mind to the issue quickly sees that, for decades, forest stakeholders and policy makers have talked about 'value-added' wood products as a panacea to cure the woes of a cyclically ailing forest sector and to fulfill the needs of our forest-dependent communities. As summarized later, we continue to search for success, making it all too easy to dismiss more strategy as rhetoric; a mere flight of fancy. However, that same thoughtful person will also be struck by the realization that, while we have spoken much about how to extract more value from our forest resource, we generally have not acted on our own advice.

There is a pressing need right now for us all – community members, Aboriginal peoples, industry, government, unions, NGOs, academics, and any other interested parties – to assemble our collective will to move the value-added agenda forward in a meaningful way. There are a number of schools of thought as to how such movement should be achieved, ranging on a continuum from minor tinkering to fundamental reforms of forest resource control, with corresponding degrees of practicality associated with them. Considered as a whole, the actions and strategies outlined in this report are at neither end of that continuum. They are intended to be impactful, practical, affordable, and subject to evolution in the future as conditions change. We believe they represent a good road map for action on the value added wood imperative so important to so many British Columbians.

The nature of this report is shaped in part by the results of outreach conducted by the authors to a number of value added wood sector entrepreneurs, government officials, associations representing segments of the wood products industry, academia and the forest lending industry. In addition, First Nations now hold a large position in the forest sector, and the challenges they face in many ways are a microcosm of the larger value added wood sector, therefore, this project also reached out to the First Nations Forestry Council and a number of First Nations business entities. It is important to be clear about the scope of First Nations-related content in this report:

- a. The scope is confined to structural business elements for First Nations to successfully integrate and contribute to the larger strategy. It has a business focus and does not extend to other important but more politically related components such as consultation and accommodation of aboriginal rights, increased First Nations access to tenures and other First Nations' specific socio-economic factors.
- b. The views are derived from those First Nations entities that currently or historically have direct experience in the sector.

### 3 VALUE CHAIN ANALYSIS

At the foundation of this report are two major themes. First, the forest sector in British Columbia is overly reliant on the production of commodity goods, like dimension lumber and pulp and paper. While this strategy has served us well for more than a century now, global forces of shifting economies and increasingly fierce competition mean that we must refocus our forest strategy, the products we make, and the markets we serve. This leads to the notion of value-added wood products as a potential panacea and the second major theme of this report; that a viable path forward for fostering sustainable growth in the BC's value-added wood products sector is to take a 'value-chain' approach. Each of these themes underpins the logic of this report.

In 2000, the noted economists, Roger Martin and Michael Porter characterized Canada as standing at a crossroads, "facing a choice of whether to tackle serious weaknesses in its microeconomic fundamentals of competitiveness or accepting a lower standard of living. [...] Canada has pursued the latter road" (Martin and Porter, 2000). At the root of Canada's problem of 'weaknesses in its microeconomic fundamentals' is the fact we have, for years, fostered and promoted a business culture of 'replication' by producing high volumes of interchangeable commodity products destined for cyclical export markets. In the fleeting commodity game, competitive advantage is gained through efficiencies; by producing ever higher volumes at ever lower costs in order to achieve economies of scale. Unfortunately, it is becoming increasingly difficult to compete with nations – particularly in the Southern Hemisphere – producing virtually identical products using lower cost raw materials and lower labour cost inputs. Over time, this need to compete on costs leads to a downward pressure on commodity prices. This, coupled with a reliance on volatile export markets, is most definitively not a recipe for success.

Instead, Canada should be striving for a culture of ‘innovation’, and one means of doing so is by producing value-added wood products. Value-added wood products refer to the basket of forest-derived products that require processing steps in addition to the primary breakdown of logs. While a simplified argument, the reality is that value-added wood processing leads to the creation of more wealth and jobs per tree cut, meaning that it is more conducive to our broader societal goal of sustaining our BC’s forests for future generations. As such, most stakeholders – First Nations, companies, governments, environmental groups, communities, and labour organizations – generally agree that value-added approaches represent a viable, realistic, and prudent strategy for maintaining the economic health of our province and the social fabric of our rural communities. That said, the value-added wood products sector has yet to gain significant traction. This report seeks to understand the reasons for this lack of uptake, and puts forth recommendations for changing this course.

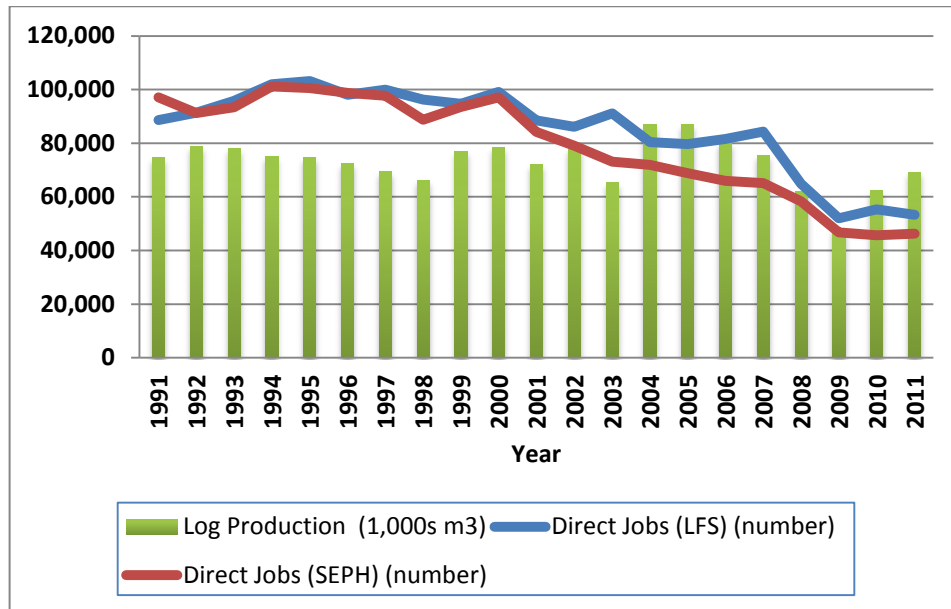
As a starting point, this report adopts a ‘value chain’ approach in describing the hurdles faced by value-added producers, and proffering potential solutions for overcoming them. Kozak and Maness (2005) define a value chain as a “strategic collaboration of organizations for the purpose of meeting market objectives over the long term and for the mutual benefit of all ‘links’ of the chain. Developing a value chain approach therefore requires a collaborative rather than a competitive approach in our forest sector and should be approached strategically and at a high level of influence.” Throughout this report, collaborative approaches and recommendations at the highest levels are stressed as a means of moving the concept of value-added wood products from rhetoric to reality. Interestingly, the value chain concept also aligns well with Martin and Porter’s (2000) notion of collaborative business clusters as a path forward for fostering a culture of innovation in business communities. Innovation, they claim, “tends to be facilitated by the presence of a cluster, particularly where the cluster is concentrated geographically.” That given, a clustering approach to fostering growth and success in BC’s value-added wood products sector is also a recurring recommendation in this report.

## **4 FOREST SECTOR ECONOMIC BENEFIT TRENDS**

As owners of approximately 94% of BC’s forests, British Columbians seek to create benefits for citizens from our extensive development of timber resources. They look for stable employment, family sustaining income, and for public revenues from payroll taxes and stumpage to pay for public services. They look for the ‘first dollar’ into the economy, which comes from the highest possible value of exports of forest products, to build the economic base and create further induced employment. Our most forest dependent communities look to wood product manufacturers to contribute to the municipal tax base. They look for a growing value added wood sector capable of growing its market share. We provide here a brief review of these benefit streams.

Employment in BC’s forest sector peaked in 1995 with a labour force of 102,000, a year when the timber harvest was 75.4 million cubic metres. As of 2011, the labour force had declined to approximately 50,000, a 51% decline, based on a timber harvest 3.7% smaller than that in 1995.

**Figure 1: BC's Forest Sector Labour Force And Total Provincial Harvest, 1991 to 2011**



Source: Canadian Forest Service (2013).

A simple way to express the rate of employment creation from forests is in terms of the employment coefficient (jobs per 1,000 cubic metres of timber harvested) for a jurisdiction. The employment coefficient for BC has generally trended downward, dropping from around 1.30 jobs/1000 m3 in 1993 to less than 0.8/1000 m3 in 2011. It is important to remember that these coefficients include both forestry/logging employment and wood product manufacturing employment.

This job-creation outcome in forest product manufacture is not typical among Canadian jurisdictions. When compared to other provinces that have established value added wood sectors and active value added wood strategies, BC's employment coefficients are noticeably lower and declining. In Ontario, Quebec and Manitoba the employment coefficient has actually been trending up.

**Table 1: Provincial Comparison of Forest Sector Employment – Jobs/1000 m3**

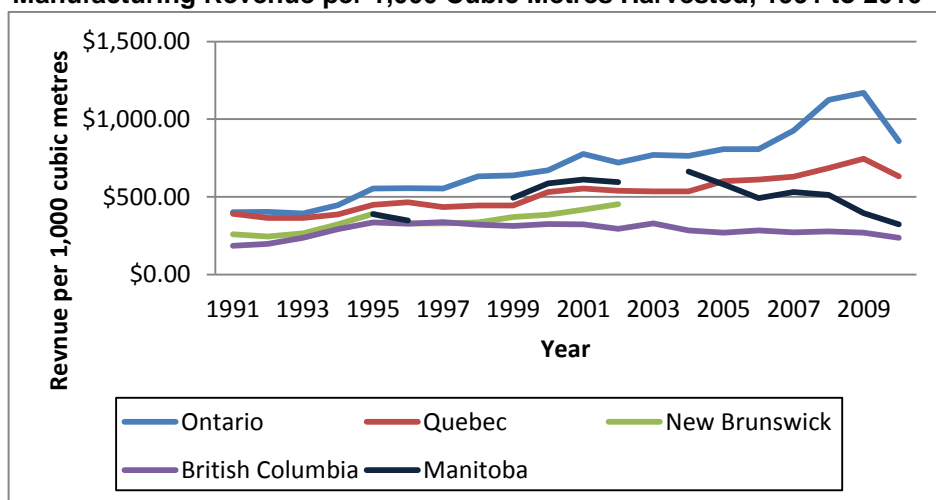
	1991 to 1993	1994 to 1996	1997 to 1999	2000 to 2002	2003 to 2005	2006 to 2008	2009 to 2011
	<b>(Jobs per 1,000 cubic metres)</b>						
Manitoba	3.55	3.34	2.89	3.84	3.59	3.28	4.70
Ontario	2.68 - 3.01	2.52 - 3.06	2.86 - 3.13	2.86 - 3.22	2.94 - 3.65	3.78 - 4.43	3.41 - 4.79
Québec	2.68 - 2.81	2.12 - 2.48	2.05 - 2.39	2.24 - 2.70	2.26 - 2.85	2.57 - 2.93	2.82 - 3.38
New Brunswick	1.38 - 1.74	1.51 - 1.59	1.52 - 1.59	1.69 - 1.73	1.77	1.62	1.39
BC	1.19 - 1.22	1.35 - 1.37	1.32 - 1.38	1.14 - 1.20	0.91 - 1.08	0.88 - 1.06	0.79 - 0.91

Source: Canadian Forest Service (2013).

Note: Three year averages have been derived using the Labour Force Survey (LFS) data and Survey of Employment, Payroll and Hours (SEPH)

Another key indicator of the economic value to the economy is the revenue from forest goods manufacturing per 1,000 cubic metres of timber harvested. All provinces observed have higher per cubic metre values than observed in British Columbia.

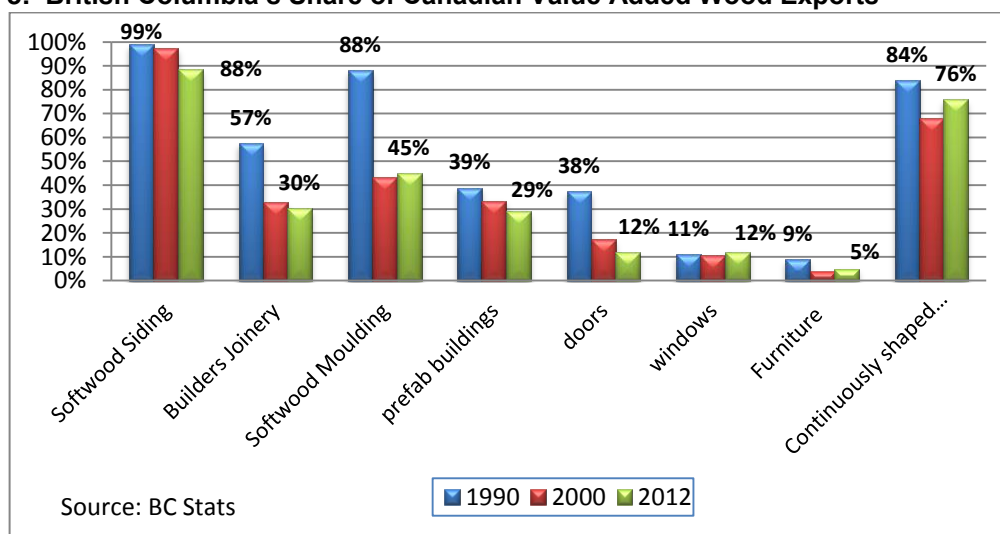
**Figure 2: Manufacturing Revenue per 1,000 Cubic Metres Harvested, 1991 to 2010**



Source: Canadian Forest Service (2013).

An indicator of the value added sector's health is its ability to maintain or increase Canadian export market share. From 1990 to 2012, BC's share of the Canadian export market for most sub-sectors in the value added wood sector has declined, with only window manufacturing gaining share.

**Figure 3: British Columbia's Share of Canadian Value Added Wood Exports**



Source: BC Stats

Stumpage is a component of cost for the forest sector along with logging, labour costs etc.. The capacity of industry to pay stumpage and cover other costs of production is directly influenced by the value of wood products manufactured or, more accurately, the 'margin added' in manufacturing. Due

to the very nature of the commodity business, the real, inflation adjusted value of lumber and pulp has been in long decline as global competitors have pursued cost reduction-based competition strategies. This in turn has manifested in reduced stumpage revenues to the public timber owner in BC. Stumpage revenues have declined from over \$1.5 billion in 1997 to a provincial government forecast of \$0.580 billion in fiscal 2013/14, rising only modestly to \$0.664 billion in fiscal 2015/16 (Ministry of Forests, Lands and Natural Resource Operations, 2013).

Sawmills, pulp, paper, and veneer mills comprised 52% of the municipal major industrial tax base in BC in 2010 (Davies Transportation Consulting et al, 2012). Due to the extensive number of mill closures that have occurred (in excess of 30, or 28%, since 2006, many more before then), downward negotiation of tax rates for some remaining mills, and other influences, much tax burden has shifted from major industrial taxpayers to other municipal taxpayers. In 1998, major industrial taxpayers carried 8% of the municipal revenue burden, but only 4.5% (approximately half) in 2011 (Ministry of Community, Sport and Cultural Development, 2012). The imminent impacts of the mountain pine beetle epidemic will result in the future closure of a significant number of mills in the interior, which will further burden non-major industrial municipal taxpayers. The most vulnerable communities and taxpayers are those in highly forest-dependent communities.

## 5 BC INTERIOR VALUE ADDED POTENTIAL

In light of the past and future trends described above, we asked ourselves “How sensitive are employment and sales of manufactured goods to positive stimulus of the value added wood sector?” To gain some insight, we modelled several conservative, realistic scenarios of small increases in the supply of round logs to certain value added sub-sectors and regaining some lost market share for certain other sub-sectors.

### 5.1 Alternative Scenarios – Increase in Log Supply

The table below outlines the employment and sales coefficients for various value added wood sectors that utilize raw logs or are closely associated with round log inputs (See Canadian Forest Service Report 2008). This data is then used to build two scenarios including:

- Scenario 1 is based on capturing a new incremental volume of 400,000 m<sup>3</sup> annually in the value added sector. Such a volume is less than 1% of the average interior harvest between 2006 and 2009, and is equal to the volume annually exported from the interior of BC over the past four years. Under this scenario, employment increases by 535 jobs and revenue from sales by \$113 million/year.
- Scenario 2 is based on capturing a new incremental volume of 800,000 m<sup>3</sup> annually in the value added sector. This volume is 1.6% of the average interior harvest between 2006 and 2009, and represents the annual volume exported from the interior of BC over the past four years, plus an additional 400,000 m<sup>3</sup> or 7.5% of the volume exported from the BC coastal region in 2012. Under this scenario, employment increases by 1070 jobs and sales revenues by \$226 million/year.

Sector participants indicate that these volumes could be easily accommodated by near-term growth in the various sub-sectors.

**Table 2: Increased Employment and Sales Associated with Increased Log Supply**

	Reman	Engineered Wood	Other Wood	Log Home & Timber Framers	Total
<b>Coefficients</b>					
Jobs/'000s m <sup>3</sup>	0.51	0.80	1.01	3.03	n/a
Sales/ m <sup>3</sup>	\$160	\$390	\$110	\$470	n/a
<b>Scenario 1 – Increase of 400,000 m<sup>3</sup></b>					
Increase in logs	100,000 m <sup>3</sup>	100,000 m <sup>3</sup>	100,000 m <sup>3</sup>	100,000 m <sup>3</sup>	<b>400,000 m<sup>3</sup></b>
New jobs	50	80	100	305	<b>535</b>
Increased sales	\$16 million	\$39 million	\$11 million	\$47 million	<b>\$113 million</b>
<b>Scenario 2 – Increase of 800,000 m<sup>3</sup></b>					
Increase in logs	200,000 m <sup>3</sup>	200,000 m <sup>3</sup>	200,000 m <sup>3</sup>	200,000 m <sup>3</sup>	<b>800,000 m<sup>3</sup></b>
New jobs	100	160	200	610	<b>1,070</b>
Increased sales	\$32 million	\$78 million	\$22 million	\$94 million	<b>\$226 million</b>

## 5.2 Alternative Scenarios – Increase in Lumber Supply

For those value added sub-sectors that rely on sawn fibre as opposed to round logs as a raw material, increased sales are also anticipated as the US housing market emerges from the recession of 2008 and construction begins to rebuild. In discussion with BC Wood Specialties Group it is believed that, in the first five years, the sector can conservatively capture back 25% of sales lost since 2008, and that during the subsequent five year period, sales can be grown by an additional 25%.<sup>1</sup> This growth is reflected in the table below and illustrates a potential increase in employment of 800 new jobs and new sales of \$110 million by the end of ten years for this group of value added sub-categories. It is important to note that this employment is incremental to the forestry, logging and primary manufacturing employment created in the primary production of the sawn fibre for further value added manufacture.

**Table 3: Employment and Sales Associated with Increased Market Share**

	Year 0 to 5 - 25% Increase in Sales		Year 5 to 10 - 25% Increase in Sales		End of 10 Years	
	Jobs	Sales	Jobs	Sales	Jobs	Sales
<b>Cabinets</b>	140	\$17.50 million	140	\$17.50 million	280	\$35.00 million
<b>Furniture</b>	105	\$11.25 million	105	\$11.25 million	210	\$22.50 million
<b>Millwork</b>	110	\$15.00 million	110	\$15.00 million	220	\$30.00 million
<b>Pallets, Containers, Shakes, Shingles</b>	45	\$11.25 million	45	\$11.25 million	90	\$22.50 million
<b>Totals</b>	<b>400</b>	<b>\$55.00 million</b>	<b>400</b>	<b>\$55.00 million</b>	<b>800</b>	<b>\$110.00 million</b>

<sup>1</sup> In discussions with BC Wood Specialties Group membership and members' revenues have declined between 25% and 40% since the last Canadian Forest Service value added wood survey in 2006 with most of that decline occurring after the 2008 recession.



Collectively under the scenarios above, the total value added wood sector in the interior of British Columbia would expand by 1,870 jobs and increase sales revenues by \$326 million over the next 10 years. It is anticipated that this employment and business growth would take place across many interior communities including numerous rural communities that have lost of primary processing facilities in recent years.

## **6 SUCCESS FACTORS FOR VALUE ADDED STRATEGY**

Before turning to what we can learn from other jurisdiction's success, it is important to draw attention to an existing success factor pertinent to BC, the need for deep involvement of First Nations in all future development of the value added wood sector. First Nations collectively hold a very large proportion of the provincial timber resource in their control, they have aspirations to move up the value chain beyond timber harvesting, partnership opportunities with First Nations abound and the kinds of challenges faced by First Nations are a microcosm of the larger value added wood sector. Capturing these opportunities open to First Nations is a key success factor for BC's future value added wood sector.

To help ground the recommendations in this report, we conducted four reviews and case studies of jurisdictions noteworthy for their success in creating higher value products:

- Finland was chosen for its success in adding value to wood and for the similarities that exist between the primary wood product sectors and timber supplies in that country and interior BC;
- Quebec was chosen as a Canadian jurisdiction with an old, vibrant value added sector based significantly on a timber supply important component of hardwoods, but with abundant softwoods also;
- A case study was conducted of the Bluewater Wood Alliance (BWA) of southeast Ontario, a value added wood industrial cluster based on the Austrian Clusterland model;
- A case study was conducted of the BC wine industry, which provides insight into the strategies that led to added value in wine products, strategies transferable to the wood product sector.

The complete reviews and case studies mentioned above are included in the Background Report as Appendices A-C. When these jurisdictions and case studies are considered together, it is possible to synthesize a number of the factors that contributed to the success of the value added strategies pursued. These success factors are summarized below.

### **1. Recognition That Government is Part of the Wood Value Chain**

With its unique capacity to use its legislative, policy and funding tools to add value at numerous points in the value chain (raw material flows, business and investment climate, research and development, product development, education and skills training and marketing), government recognition that it is part of the wood value chain is critical for growth in the sector.

### **2. Government Leadership and Influence**

In successful jurisdictions government fulfils a leadership role toward the development of the wood product segment of the economy, and uses its unique position of influence to advance development. Society has strong views about the nature of, and benefits it desires from, development of forest

resources. Critically important, society looks to government leadership, not private sector leadership, to define the purposes and benefits for which we are developing the industry.

### **3. Collaboration of Organizations toward a Single Vision**

Success requires strategic collaboration between the numerous segments of society with a stake in the wood value chain, including private enterprises of all sizes, government, communities, First Nations, academia, and so on. A pre-requisite for such strategic collaboration is agreement upon a single vision for development of the sector, as strongly urged by the 2009 Working Roundtable on Forestry, an agreement that government alone is uniquely positioned to lead us toward.

### **4. Broad-based Agreement on Strategies to Achieve the Vision**

While shared vision pulls us toward a specific future, strategies describe ‘the right things to do’ to create that future. If a shared vision for the wood product industry in BC includes a vibrant value added wood sector, success depends in part on building a broadly supported strategy with participants in the wood value chain as to what those ‘right things to do’ are for BC.

### **5. Raw Material for the Product Supply Chain**

Without secure access to raw material, value added enterprises do not have a business. Whether the security arises from a very large and free timber/log market (Finland), a value added sector so competitive that it can import raw logs (Quebec) or secure lumber supplies through well-functioning supply links between primary and secondary manufacturers (Quebec, Finland), in every case government is playing a role in ensuring raw material is secure for the supply chain.

### **6. Business Collaboration between Primary and Value Added Wood Manufacturing**

The degree of business-to-business collaboration, or industrial synergy, between primary wood product manufacturers and value added wood manufacturers is a success factor. The adoption of industrial clustering approaches is a powerful technique for such collaborations. The benefits are realized in numerous parts of the value chain, from raw material supply management through R & D, marketing, skills development, worker training and so on.

### **7. Financial Incentives for Forest Industrial Development**

In all of the cases we reviewed, various forms of financial incentives in the business environment played or play an important part in forest industrial development. Examples of tax policy, loans, loan guarantees, venture capital programs, regional development policies, and supports for industrial clustering are common tools used for sector development.

### **8. Value Added Wood Research, Development and Education**

The capacity to innovate is a central factor for any value added wood industry, and government plays a major role in all cases. Through direct investment in research and education programs, and support for infrastructure in the form of institutions for wood-related research, product development, wood design and wood education, government collaborates with the private sector to feed the wood product manufacturing supply chain with knowledge, innovation, new products and skilled labour.

## 9. Strategic Targets and Measures

'What gets measured gets done', and targets and outcome measures create an essential 'dashboard' to feedback information about the effectiveness our strategies are over time. In our reviews we found examples of measures for adding value to wood, creating employment, increasing net profits for industry, research investment targets and targets for volumes of product sales.

## 10. Proactivity, Patience and a Long-term Focus

An understanding that industrial development in the forest sector requires patience and a long-term focus is a success factor. Programs must be planned with long lifespans, must be held relatively stable over long time spans, but must be open to evolution as new things are learned. Results are better when strategies are monitored, evaluated and revised for improvement as opposed to wholesale change or abandonment.

# 7 STRATEGIC ISSUES

The purpose of this section of the report is to summarize the issues that face the value added wood sector and its possible return to growth, with a focus on the interior of BC. These issues are organized and presented in terms of a wood value chain comprised of:

- Vision and Government's Place in the Wood Value Chain
- Business Conditions and Finance
- Raw Material Supply
- Research and Technology
- Product Development
- Education and Skills Training
- Marketing

For a more fulsome description of strategic issues, see the Background Report.

## 7.1 Issues Pertaining to Vision and Government in the Wood Value Chain

### 7.1.1 BC's Visions for the Forest Sector:

If we think of our vision for the benefits we expect from our wood resource as the 'destination' we choose to travel to, strategy is the road we take to that destination – the road chosen depends on the destination. Major players in BC's forest sector each have their own vision for the future of the sector as summarized below.

- In introducing the 2003 Forestry Revitalization Plan the province stated "*Our goal is to revitalize our forest industry and make it a global leader, renowned for the excellence of its products and practices.*" The primary focus of the Plan was the revitalization of the large commodity lumber

and pulp industry in BC, but secondary benefits in terms of employment and growth in the value added sector were anticipated in the Plan.

- The 2009 government strategy *“Generating More Value from Our Forests”*, includes a vision that *“By 2020, British Columbia’s environmentally sustainable forest sector generates more economic value per hectare of forest-land than any other jurisdiction on Earth. Such economic activity will be driven by a more diversified and higher value manufacturing capacity and expanded markets. This will be achieved through innovation and a broad partnership among forest stakeholders, ranging from governments to First Nations to industries and workers; from small firms to global companies; from rural communities to large urban centers.”*
- The 2009 Working Roundtable on Forestry proposed a vision that *“British Columbia has a vibrant, sustainable, globally competitive forest industry that provides enormous benefits for current and future generations and for strong communities”*. The provincial government acknowledged the vision of the Working Roundtable, but there was no suggestion that the Working Roundtable vision would replace the 2003 *Forestry Revitalization Plan* vision.
- The Council of Forest Industries (COFI) is the voice of the primary wood manufacturing industry in BC with a vision *“To advance the competitiveness and sustainability of British Columbia’s forest industry as the primary contributor to the economic growth and stability of the province, now and into the future.”*
- FPInnovations, the largest forest sector research institute in Canada, is guided by the Forest Products Association of Canada Vision 2020 which states *“By 2020, the Canadian forest products industry will power Canada’s new economy by being green, innovative and open to the world. It is a place to grow and prosper.”*
- The Crown corp., Forestry Innovation Investment, invests public funding in a number of market development, research and information programs, and pursues a vision that *“The British Columbia forest sector is innovative, diverse and prosperous, based on sustainable forest practices and a commitment to continuous product and market development.”*

A number of observations can be made about the important forest sector visions mentioned above:

1. We have a numerous visions in play, different interests are pursuing different visions, and they are not necessarily in harmony;
2. None of the visions could fairly be represented as a consensus vision that includes the value added wood sector, which has an important stake in the future of the sector;
3. Most visions presume that their pursuit would place the degree of public benefit, such as employment or revenue for public services, on an increasing, more positive trend than the trend described earlier;
4. The visions are oriented such that the ‘destination’ or primary purpose for developing our forest resource is an industrial sector in a high state of competitiveness. The benefits that flow to the public from its forest resource are seen as secondary attributes of the vision.

With regard to point 4 above, there is another, fundamentally different orientation for a vision for our forest sector that could be considered, one that envisions that the primary purpose for developing our forest resource is to create and increase benefits for citizens. Achieving such a vision is not possible without a competitive forest sector with capacity to create and increase citizen benefits. However, the role of the private sector is to generate competitive returns for company shareholders/owners within the investment environment it chooses, not to be concerned with creating public benefits. It falls to government to be concerned with increasing public benefits from the forest resource.

The challenge for BC is to consider a consensus vision to increase the benefits to citizens from forest resources, and to seek the policy and investment conditions that result in a forest industrial sector with capacity to increase benefits for citizens. The importance of this choice of vision, our possible ‘destination’, is that it has a major influence on the nature of strategies chosen, our ‘road to the destination’, to develop the wood value chain, and on how limited public and private resources are used.

### 7.1.2 Government in the Wood Value Chain:

The provincial government defines its relationship with wood product manufacturers primarily through forest tenure, the short and long-term contractual relationships between the Crown and sector participants. From these licensor-licensee relationships grow forums for interaction, lines of communication, and relationships to pursue mutually-held interests or to solve the problems of the parties. Given the 140-year history of tenure policy in BC, this relationship is highly developed between government and lumber and pulp manufacturers that hold large, replaceable forest tenures, but the tenure relationship link also exists between government and the holders of smaller tenures, including woodlot license, community forest agreement, First Nations woodland license, and BC Timber Sales license holders. In a nutshell, where a forest tenure link exists, government assumes an active role in the wood value chain with the private sector– it sees itself as part of the wood value chain and makes significant contributions to the development of the wood value chain.

While the ‘bid proposal’ tenure program existed between government and the value added wood sector (1988-2003), government actively created legislation, policies and programming specific to the value added wood manufacturing sector, and adapted its organization to include specialists in value added wood policy. Regular lines of communication developed between the tenure holders and the ministry in support of relationships and problem solving. When the tenure relationship link between government and the value added wood sector was severed by the cessation of the bid proposal program, government’s place in the wood value chain changed fundamentally, effectively moving government to an arms-length relationship with the multi-billion dollar-per-year value added wood manufacturing sector and its interests, business needs and challenges. As a result, the ministry is no longer organized, staffed with expertise or funded to take an active, assertive place in the wood value chain pertaining to value added sector problems in R&D, technology transfer, product development, raw material supply, manufacturing and marketing.

The *Ministry of Forests and Range Act* creates the ministry responsible for forests and articulates the purpose of the ministry. It is, therefore, a major influence upon how the ministry defines its place in the wood value chain. Importantly, the Act directs the ministry to “*encourage a vigorous, efficient and world competitive timber processing industry*”. Taken in context with the legislated definition of timber and timber processing, this provision effectively directs and focuses the ministry on the primary forest product sector (lumber, pulp). Therefore, the long and highly developed government-client relationship with primary lumber and pulp producers is firmly rooted in, and consistent with, the government direction to the ministry expressed in the *Ministry of Forests Act*. The purpose of the ministry described has remained unchanged since 1979, a time when a value added wood sector as we currently know it did not exist for the ministry to interact with, so it should be no surprise that the Act did not direct the ministry to “*encourage a vigorous, efficient and world competitive value added wood manufacturing industry*”. However, 1979 was a long time ago, and the described purpose of the ministry now appears to be inconsistent with the changed character of the wood products value chain and government’s place in that value chain.

## 7.2 Issues Pertaining to Business Conditions, Finance and Manufacturing

It is interesting and a concern that the value-added sector in Canada occurs primarily in the eastern part of the country – Quebec, Ontario, and Manitoba. This can be explained, in part, by an abundant high quality hardwood resource, which is well suited to appearance-grade wood products, but this does not tell the entire story. The BC sector is extremely well positioned and offers numerous advantages, in spite of an increasingly fierce competitive landscape worldwide. For instance, value-added producers see near them an abundant source of high quality fibre, have established and efficient supply chains, and geographic proximity to some of the most lucrative and wood-friendly markets in the world (ie, the United States, Canada, and, to a lesser degree, Japan). On this latter point, the ability to provide mass customization (eg, cabinetry), customized solutions (eg, timber building), and after-sales service (eg, engineering drawings) is far superior to competing regions across the ocean. In addition, value-added producers generally have business savvy, a high degree of managerial competence, and skilled workforces in place. Last but not least, BC has a comparatively strong track record in environmental stewardship and responsibility; a differentiating attribute that cannot be ignored in an increasingly fickle and environmentally conscious customer base. In short, it is difficult to imagine, in some ways, why BC is not a world leader in the production and sales of value-added wood products.

Clearly something is afoot in British Columbia. Put simply, we lack the enabling environment required to foster and nurture a viable, sustainable, and profitable value-added wood products sector. This has much to do with the business conditions present, and various business issues that value-added producers in this province must contend with.

In 2007, DeLong et al. set out to address some of these problems by characterizing the business-related issues faced by the value-added wood products sector, as well as the factors that limit their growth. Several recurring themes emerge from this analysis, not the least of which is that value-added producers in BC must contend with increased competition, perceptions that forest policies are not designed with them in mind and lead to diminished access to the grades and species of wood fibre that they require (discussed in another section of this report), and taxation burdens. Comparatively speaking, the corporate tax rate in BC is not out of line with other provinces in Canada and is, in fact, lower than most – 2.5% for income eligible for the federal small business deduction, and 10% for all other income. However, with federal taxes built in, corporate taxes are substantially higher than other competing countries.

One of the key findings related to factors limiting growth of value-added producers is the limited access to financing that many of them seem to face. Although the default rate on debt capital is very low in the value added wood product sector, access to loan capital is a significant barrier for business entry and growth. Confidence that the supply chain for a value added wood enterprise is sound is the single greatest consideration for lenders before they will risk capital. For example, forest tenure represents to lenders security of raw material for the supply chain, and is the underlying reason that enterprises frequently press government for secure, replaceable forest tenure. Lending institution's willingness to lend is profoundly improved if there is a guarantor for the loan.

For wood product manufacturers that lack forest tenure, lenders may be encouraged if the supply of raw material is made secure through alternatives to forest tenure, such as firm supply agreements, partnerships or similar alliances. As will be elaborated later, the value added wood sector has great difficulty establishing supply partnerships with large lumber producers due to the rather rigid nature

of the production processes of large producers. However, the value added wood sector has had greater success establishing supply relationships with small and medium sized lumber producers and with custom cutters. There is a 'golden moment' in the design, capitalization, and modification/construction of such primary breakdown mills when the mill owner must decide which customers and products the mill will manufacture for. In that 'golden moment', access to loan or venture capital can be the key factor to finance the building of flexibility into the mill needed to forge a supply partnership or alliance between the mill owner and one or more value added wood manufacturers. This kind of supply chain collaboration/partnership is a key feature of jurisdictions that have been successful in growing their value added wood production.

### **7.3 Issues Pertaining to Raw Material Supply**

Value added wood entrepreneurs consistently affirm an ability to pay competitive prices for the right raw material, whether in log form or sawn wood form. When wood fiber flows to its highest-value use, as was envisioned in the 2003 *Forestry Revitalization Plan*, the economy, entrepreneurs and the public owners of the resource benefit. To the extent this does not occur, wealth leaks out of the wood value chain. Raw material supply uncertainty is now most frequently ranked as the single greatest obstacle to growth, threat to survival, or barrier to entry for a number of value added wood sub-sectors. Without sufficient access to raw material, value added wood entrepreneurs do not have a viable business, making secure, competitive supply of paramount importance.

This was confirmed in a study by Kozak *et al.* (2003) on supply impediments in BC's value-added sector. With regard to sub-sectors that use lumber inputs, the survey found that the vast majority of firms had problems procuring lumber that met their specifications, especially in the remanufacturing, engineered building components, millwork, and miscellaneous other products segments, each with more than 75% of the firms stating as much. The key problems seemed to revolve around receiving lumber that was misgraded, had an unacceptable appearance (with respect to grain, figure, colour, etc.), inconsistent moisture contents, and drying defects (eg, checks and cracks). In the final analysis, value-added producers felt that primary lumber producers are not producing products meant for them, and that it would be a tremendous benefit to develop long-term supply chain partnerships with sawmills if it meant a consistent supply of on-grade raw materials. In fact, many value-added producers are willing to pay a premium to ensure the delivery of a consistent product.

#### **7.3.1 Raw Material in Log Form**

Many value added wood entrepreneurs prefer not to be in the business of forestry or logging, preferring to purchase on the market only the specific log they need for their particular needs. In typical interior forests, the desired species or log grades are mixed with others unsuitable for the purposes of the value added wood product manufacturer. A number of difficulties arise that inhibit the flow of 'the right log to the right mill' for maximum product value generation, as described below.

The provincial government through BC Timber Sales, with some 15 million m<sup>3</sup>/year under its direct control, is a potentially much larger supplier of logs/timber to certain value added wood sub-sectors than at present. BC Timber Sales has 3 purposes:

- i. To sell 20% of the provincial AAC through competitive auctions to provide a credible market reference point for the value of timber for other timber pricing purposes. Purposes ii. and iii. below are subordinate to this purpose;
- ii. To provide a reliable source of supply to the market through competitive auctions;
- iii. To maximize net revenues to the province from the sale of the timber.

To maximize the usefulness of its timber sale transactions for timber pricing purposes, BC Timber Sales mimics the way that large tenure holders, primarily lumber producers, configure their timber harvests (size/timber volume, species, etc.) The mimicry of major licensee timber harvest configurations makes many timber sales less suitable or financially viable for value added wood customers or those that would log and perform primary milling operations for them.

This speaks to a critical supply-side issue facing the predominantly small and medium enterprises that characterize the value added wood sector. Many simply lack the scale to become meaningful actors within the forestry value-chain, a situation exacerbated by policy and tenure structures that are explicitly designed with the needs of large companies and timber licensees in mind. Perhaps the solution that holds the most promise is in the creation of geographic clusters of value-added wood products manufacturers that can work collectively to achieve scale. Many examples of such clusters exist (see section on the Bluewater Wood Alliance). The fundamental idea behind a business cluster is that numerous market advantages can be gained by formally grouping geographically proximate firms within the same industry in a collaborative manner. One such advantage revolves around the ability to source supplies in larger volumes to meet the needs of many member firms, therefore achieving economies of scale. While a simple concept to grasp, the reality is that clusters are difficult to establish and coordinate, requiring a good deal of background training.

First Nations are increasingly becoming a significant economic player in BC's forest sector. British Columbia's Ministry of Forest Lands & Natural Resources First Nations Division web page states that, "At the end of April 2012, First Nations held 12.7 million cubic meters/year of Allowable Annual Cut (AAC) within competitive and direct award forest tenures. This represents 15.5% of the provincial AAC. Of the 12.7 million, 4.9 million (or 6.0% of the provincial AAC) is within competitively held forest tenures and 7.8 million (9.5% of the provincial AAC) is within direct award forest tenures." The web page further states that "An additional 395,000 more AAC was awarded to First Nations since the previous quarter."

Within this large wood basket, individual holdings tend to be relatively small, lacking the economy of scale needed to build integrated companies capable of forest management, logging, value added manufacturing and marketing. While First Nations are generally interested in value added manufacturing, they have limited experience in the area and many other community priorities take away leadership capacity and focus on developing opportunities

Many First Nations do not have the capital, experience or capacity (administrative, financial or professional) to manage their own forest company, therefore, many harvest their volume under some type of operating agreement with existing forest companies. While these arrangements provide stable returns and operating certainty, many First Nations have expressed interest in creating more value and employment from volume under their control. There is a dearth of information about the nature of the wood profile under First Nations control and therefore how the profile may support the value added wood sector. The number of value added wood industry partnerships with First Nations has increased in the last decade, but a general lack of understanding between the parties has slowed relationship development, which extends to potential, higher level strategic collaborations, making it more difficult to effectively address each of their concerns. Consequently, there are a limited number of long-term success stories. Those few are almost all in business partnerships where a major forest company supplies management capacity, capital, marketing and distribution systems. In potential partnerships between First Nations and value added wood enterprises, the SME's that characterize the sector face similar limiting factors as do First Nations businesses.



There has been a major movement by lumber manufacturers in the interior of BC to 'cut-to-length' logging systems that result in logs being bucked to relatively short sawlog lengths in the woods, rendering what may have been higher-value logs, for example building logs or logs needed for long timbers for the timber frame house industry, unsuitable for that end use. Value added wood entrepreneurs, able to pay high prices or trade for such logs, find they exist in far smaller quantities than used to be the case due to changed logging practices for the lumber industry.

Log sort yards are a known way to extract special log types and making them available to value added manufacturers, however, it is very difficult to make log yards economically profitable in most parts of the interior. Log yard viability depends on being able to add value that exceeds the cost (typically \$8-12/m<sup>3</sup>) of running the log sort yard on each cubic meter of timber volume that enters the yard, not just those of higher value. There are some exceptional cases in regions where there are timber types that have a relatively high proportion of high value logs, and there are enough buyers to consistently warrant the log yard costs incurred to make that fiber available, where log yards may be profitable and be a source of special wood fiber to value added wood manufacturers. The Revelstoke Community Forest Corporation log yard is one such example.

It is far less costly, perhaps \$2/m<sup>3</sup>, to sort logs at the roadside in the woods, and direct 'the right log to the right mill' straight from the woods to the place of end use. Sorting at roadside commonly includes separating peeler logs, large and small sawlogs and species sorts for Douglas fir or cedar. If a viable log yard exists, the practice of sorting logs in the woods enables only those logs to which value can be added in the log yard to arrive in the yard. To improve the flow of 'the right log to the right mill' through log sorting in the woods:

- The log seller must be open to selling logs to more than one buyer;
- The price paid for the logs must exceed the added costs of sorting and transportation;
- The value of the end product must be sufficiently high as to allow a profit for the log buyer.

Interior timber pricing policy includes the principle of 'least cost-highest stumpage' and assumes the end use of the log is for commodity lumber. Consequently, timber transportation allowances are given only to the nearest large lumber mill, as that results in the 'least cost-highest stumpage' paid for the timber. When the value added wood facility that would buy the logs is more distant from the timber than the nearest large lumber mill, the price the value added producer is able to pay for the log goes down by the amount of the added transportation cost. This feature of timber pricing policy puts downward pressure on the amount of timber that can economically flow to its highest and best use. The pursuit of the highest Crown stumpage comes at the cost of the added economic benefits that would result if the log flowed to its highest and best use.

Within the large timber basket (more than 36 million m<sup>3</sup>/year) in BC Timber Sales, Community Forest Agreements, First Nations tenures and Woodlot Licenses, there are volumes of timber for which the highest and best use, from a public interest perspective, is for value added wood products. However, there is limited information available to the timber sellers and value added wood product manufacturers or their raw material suppliers about this 'potential value added' part of the timber supply. The interests of sellers and buyers can be expressed by some key questions.

**Table 4: Information Interests of Log Sellers and Buyers**

<b>Seller Interests</b>	<b>Buyer Interests</b>
What special timber do I have that might be of interest (species, sizes, sorts, etc)?	What are the characteristics of logs/timber that I need (quality)?
How much volume of that special timber do I have in my inventory?	How much do I need (quantity)?
Who might want this volume, now and in the future?	Who has it and where is it?
What might this volume be worth if I could identify, sort, and sell it?	What does it cost and can I pay the price?
When could I make this volume available, would the quality and timing to be of interest to my value added wood customers?	When do I need it?
Will removing this volume reduce or eliminate my ability to sell logs to other buyers, such as large lumber manufacturers?	
Can I lawfully cooperate with other sellers or buyers for mutual advantage?	Can I lawfully cooperate with other sellers or buyers for mutual advantage?

Many of these questions could be addressed, at least partially, by collecting better information about the fiber supply, and making that information available to buyers and sellers. This better information could be presented and managed in several forms and levels of detail:

1. *Detailed 'forest stand-level' inventories* created using timber cruising procedures adapted to provide information about log grades defined by the seller, net timber volume factors, and 'end use log sorts' defined by the seller to further describe timber volumes and log attributes of interest to the buyer(s). A form of this practice is currently being tested by BC Timber Sales in southeast BC;
2. *A consolidated inventory of fiber available to the value added wood sector contained in a larger network of timber sellers and their forest tenures.* To create a consolidated inventory willing sellers collaborate to combine their individual inventories into a single database, to GIS map them, to build a predictive matrix for the location of certain log grades and end use sorts of interest, and to make the consolidated inventory available to the market on a web-based platform;
3. *A 'Virtual Log Sort Yard'.* Through further technical refinement of the consolidated inventory above, which is primarily of value at a strategic level, combining it with the more detailed forest stand-level inventories mentioned above, and making the information available to the market on a web-based information management system that allows buyers and sellers to connect for the purposes of market transactions, such as *WoodsourceBC*, a very inexpensive 'Virtual Log Yard' could be created.

This concept implemented on the supply side of the timber market could assist value added wood enterprises to improve and focus their supply chain, yield needed supply information to entrepreneurs considering entering the sector, and support timber supplier efforts to cluster for synergy. For a fulsome description of this concept, see the Background Report, Appendix D.

### 7.3.2 Raw Material in Lumber Form

Commodity lumber mills produce a relatively narrow range of lumber products in large volumes, at extremely high speeds and at globally competitive costs. This approach to timber processing is not conducive to the production of much smaller orders for non-commodity lumber in particular grades or in various states of drying. That part of the value added wood sector that requires such sawn fiber for raw material, therefore, has a very difficult time creating supply relationships with large mills.

Mid-sized and small primary log breakdown mills with associated replaceable forest tenure have historically been an important part of the raw material supply chain for value added wood manufacturers. As mentioned, this market niche is not usually suited to the large, high speed commodity mills common in the industry, therefore, the small and large mills are not normally competitors in the same sales market. However, they are competitors in the standing timber market, and the number of small and medium sized mills in BC has been in long decline as their owners have sold their tenures to larger companies, motivated by a profit opportunity or by competitive pressures in the standing timber market. In the near-term, small and medium sized mills will experience intense, heightened competitive pressure for timber supply as the supply contracts in the interior due to the mountain pine beetle or other reasons, placing more of them in jeopardy of closure, with adverse implications to the supply of sawn fibre to the value added wood sector. Since 2003, the minister has had very limited statutory discretion with regard to license transfers.

The series of lumber trade conflicts between Canada and the United States has had profoundly adverse effects on the supply of sawn fiber from major BC lumber producers to value added wood manufacturers, including those that do not hold replaceable tenure. During periods when no trade agreement is in place:

- Lumber producers may prefer to sell into the U.S. market rather than to a value added wood manufacturer because, in past 'quota' based trade agreements, quota was awarded to the 'importer of record'. If during the period of conflict the U.S. collects countervailing and anti-dumping duties and later agrees to refund them, the refunds have in the past gone back to the importer of record;
- If a value added wood manufacturer is able to reach a supply agreement with a lumber producer, the price will include the anticipated future duty refund the producer believes it will 'lose' by selling the lumber to a BC value added wood manufacturer;
- When the value added wood manufacturer exports an end product to the U.S., it pays any countervailing and anti-dumping duties on the lumber input it used, plus duties on any value added to the lumber;
- The resulting cost impacts reduce the competitiveness of affected value added wood manufacturers, their ability to purchase raw material goes down, and either business closures or production curtailments ensue. Lumber supply is then diverted to foreign markets unaffected by the countervailing or anti-dumping duties, such as China, where value is added and product shipped back to the U.S. duty-free.

During times when a trade agreement is in place, BC value added wood manufacturers seeking lumber supply face the following conditions:

- Lumber producers continue to prefer to sell to the U.S. over BC customers knowing that there is a risk that a future trade agreement may be a quota agreement and quota will be awarded to the importer of record. This holds true even if the current agreement is tax-based for BC, as is the case now;

- If value added wood product manufacturers have in their product line goods that are subject to the trade agreement, having a reduced export history to the U.S. prior to the trade agreement being in place, will have a reduced quota if such a future quota agreement becomes a reality;
- The 'first mill' provision of the current softwood lumber agreement, which enables certain manufacturers to register for exemption from export tax on their products, requires that the manufacturer not hold a forest tenure, including BC Timber Sales licenses. The negative supply consequences of this for manufacturers has resulted in few exemption registrations;
- The higher costs that the current agreement typically adds to value added wood manufacturer's exports exceeds the freight costs to ship lumber to a low-cost jurisdiction, such as China, where it can be further processed for export back to the U.S. duty and tax free. This makes the BC manufacturer less competitive for the lumber supply domestically.

Since the current softwood lumber agreement came into effect in 2006, numerous independent wood product manufacturers have gone out of business or dramatically curtailed production. The vast majority of such companies attribute this to either the softwood lumber agreement, lack of access to raw material in BC, or both. These independent companies, which typically seek their raw material on the open market, are nimble, adept at doing business in the U.S. and other markets, and can adapt, mix and customize products to suit changing demands at different parts of the housing cycle in the U.S., given fair treatment in future trade agreements.

## 7.4 Issues Pertaining to Research and Technology

Much of the capacity for research on the value-added wood products sector in BC is situated within the two universities offering degree programs in forestry – UBC and UNBC. While UNBC does not have a program devoted to wood products and wood science, it is certainly engaged in wood products research with faculty and a number of graduate students engaged in research projects. UNBC is establishing the Wood Innovation and Design Centre in downtown Prince George, and has aspirations of building one of the world's first programs dedicated to tall wood building design.

UBC's Department of Wood Science is one of the largest and most established research units of its kind in the world, and one that is recognized as an international leader in the domain. The department has established several labs with state-of-the-art analytical and processing equipment (including the Centre for Advanced Wood Processing which contains a multi-million dollar state-of-the-art wood processing laboratory). Broadly speaking, research in the department revolves around four topical themes: wood science and wood products manufacturing; business operations and community wellbeing; timber building technology; and forest biotechnology and biomaterials. Over 350 refereed journal articles have emanated from the department over the past five years.

Apart from research capacity in BC universities and occasional benchmarking studies on the part of the Canadian Forest Service, the main wood research and technology provider is FPIInnovations, a national research institution. While FPIInnovations has infrastructure in all of the large wood producing regions of Canada, its governance and decision making is done through a committee structure at a national scale. The source of funding for FPIInnovations is roughly one-third each from the federal government, provincial governments and industry members. Industry members pay their share through a system of check-offs. FPIInnovation's value added wood programming is driven largely by the availability of provincial funding.

The research capacity described above is significantly challenged to address the research and technology interests and needs of the value added wood sector. The company structure in the sector is almost entirely small and medium sized enterprises, and management capacity is heavily focused on day-to-day operations, with limited ability to focus on short and long term research interests. The value added wood sector has hundreds of industrial players, which means that individual engagement between them and the research infrastructure is not practically possible.

The various product sub-sectors in the value added wood industry have differing research needs. In addition, the make-up of the BC sector itself, in terms of product mix, is substantially different than that of Quebec, Ontario, or Manitoba, for instance, with their large furniture and appearance wood products industries. This diversity between provincial sectors increases the challenge for research institutions like FPIInnovations and the Canadian Forest Service to be responsive to the particular needs of the value added wood sector in each province.

Few BC value added wood companies are members of FPIInnovations, and their voice is almost entirely absent from FPIInnovation decision making forums and committees. The Government of BC is represented by staff on the board of directors, National Research Advisory Committee and some of the Program Advisory Committees of FPIInnovations. Not surprisingly, value-added wood products do not figure prominently on the national research agenda in FPIInnovations. Notable exceptions include the extension (not research) work conducted by the network of Industry Advisors across Canada (funded largely with provincial funds and designed to provide support to value-added producers) and the national programs coordinated by FPIInnovations (much of which is conducted by universities) on innovations in value-added wood products (eg, the Canadian Forest Service Value-2-Wood program, now defunct).

The low level of integration between the primary and value added wood sector in BC, combined with the low level of participation of the valued added sector in FPIInnovations, further hampers the ability of the research community BC and at FPIInnovations to address the interests of the value added wood sector. In contrast in Quebec for example, value-added producer involvement in FPIInnovations is higher, and the forest industry overall is more tightly knit, making it possible to bring a more broad set of industry interests to bear in research programs.

## **7.5 Issues Pertaining to Product Development**

The abundance of high quality wood fibre in BC is used to produce a diversity of value-added wood products that can be broadly categorized into four groups: (1) remanufactured lumber, including components, mouldings, and millwork; (2) household products, including cabinets, doors, windows, and furniture; (3) structural products and systems, including engineered structural members and components, timber frame / log building, and manufactured homes; and (4) miscellaneous other products, including crafts, toys, musical instruments, pallets, and so on. Beyond these solid wood products, the excess pulping capacity that currently exists in the province and the recent emergence of the 'biorefinery' concept have led to the development of a new suite of fibre-based products. While there is promise and appeal in these innovative fibre-based products and their potential to add value, much of the technology has yet to be scaled up, and some of it is not yet economically viable.

In the final analysis, there is a huge basket of value-added wood products that can and should be manufactured in BC. Unfortunately, there is insufficient recent empirical data or strategic thinking to suggest which markets should be pursued, which products have the greatest growth potential, or which products best align with our current (largely softwood) resource base. Common wisdom and

industry participants suggest that value-added producers in BC ought to be strongly pursuing the growing US market, especially in the areas of housing and household goods. BC can produce more of the products demanded in the recovering, large and growing U.S. market, and the geographic proximity of this market leads to all manner of competitive advantage through supply chain efficiencies, mass customization, and service provision. That said, there is salient need to research the many nuances inherent in entering this market prior to this being set as a strategic direction for BC's value-added wood sector. While it has been argued that these are highly competitive markets – especially in light of the dominance of low cost producers from China and Southeast Asia – there is no reason that value-added producers, with enough scale, could not differentiate themselves from these low-cost producers with attributes like high quality, smart design for urban spaces, mass customization, after-sales service, and a strong track record in BC of environmental stewardship.

One potential area of improvement for appearance wood products might be in the development of a consistent and cohesive design aesthetic that evokes the spirit of British Columbia. Other regions of the world – Denmark and Finland, to name a couple – have had unprecedented market success in developing and selling high quality and high value wood products with unique design sensibilities. There is no reason to believe that a similar collective approach could not take place in BC. First Nations in BC, for example, do have the advantage of a cohesive design aesthetic – through carvings, crafts, longhouses, and so on – that has been cultivated over millennia. It is an aesthetic that also has wide appeal in non-First Nations communities. Manufactured goods that incorporate First Nations designs stand a very good chance of success in global markets, especially those produced by First Nations. That said, care must be taken to produce such goods in an honest and culturally appropriate manner.

One of the key issues facing value-added wood product manufacturers is that many lack in-house capacity and resources to design and develop new products. Progress on this front has recently been made with the creation of the Business Innovation Partnership (now subsumed in the WoodFirst Program), an initiative funded by the BC Crown Corporation, Forestry Innovation Investment. The service providers include FPIInnovations, BC Wood Specialties Group, and WoodWORKS!, but it is the Centre for Advanced Wood Processing (CAWP) at UBC that is largely responsible for assistance to value-added wood manufacturers interested in developing new products. Value-added wood products companies can obtain funding from FII covering 50% of the project costs, meaning reduced financial risk for them. The program at CAWP is tailored to the specific needs of individual firms, and includes a broad range of product development activities, including design, engineering support, feasibility analyses, prototyping, troubleshooting, and product testing. To date, a number of successful clients have been served, including small furniture shops, panelized home manufacturers, cabinet manufacturers, window and door companies, timber framers, engineered flooring producers, architectural millwork suppliers and others, but demand typically exceeds the capacity of available funding.

## **7.6 Issues Pertaining to Education and Skills Training**

There is only one educational program in BC that is fully dedicated to education related to value-added wood products – the BSc Wood Products Processing program in the Department of Wood Science (Faculty of Forestry), UBC. BC's other forestry school, UNBC, continues to offer a forestry degree. However, there is no formal wood products program in place, despite the presence of a few faculty members with wood science backgrounds. The BSc Wood Products Processing program at UBC was developed in 1995 as a national program in direct response to a demonstrated need on the part of the Canadian value-added wood products sector for university-trained managers. The

program itself is described as a fusion of science, engineering, and business. Importantly, the program is offered in a five-year co-operative education program (70% of the students have participated), providing valuable and relevant industry-based experience for the students during their degree programs. By all accounts, the program is a success, with over 600 graduates since its inception and current enrollments of approximately 130 students. The program boasts a near-100% job placement rate, with many students finding meaningful employment as managers in the value-added sector (both locally and abroad), and a significant number of students get placed in the more traditional commodity forest products sector.

Related, but distinct, to the BSc Wood Products Processing program, is the Centre for Advanced Wood Processing (CAWP) administered by the Department of Wood Science at UBC. Leveraging the expertise that resides within the Department of Wood Science and affiliated units at UBC (eg, the School of Architecture and Landscape Architecture), and supported by one of the most advanced value-added wood manufacturing machine labs in the world, one of CAWP's key mandates is the provision of specialist industry training to workplace learners.

Industry training at CAWP comes in many forms, including certificate programs, workshops, seminars, short courses, conferences, in-plant training, and e-Learning initiatives. Certificates (officially granted by UBC) are offered in the areas of kiln drying and wood finishing. Workshops and seminars are offered in the areas of quality management, marketing, tooling selection, digital fabrication technologies, computer-aided design and manufacturing (CAD/CAM), computer numerical control (CNC) manufacturing, wood identification, and wood finishing. In-plant training takes place in the form of in-house quality improvement programs (the WoodMark Quality System, a third-party quality certification system administered by CAWP), and the RISE (Rapid Internal Skills Enhancement) program, a system of training templates that can be adapted by companies for use as their own internal training programs (notably this program was set up as means of addressing the significant gap that was left when the BC Wood Specialties Group Value Added Skills Centre in Abbotsford, BC was closed in 2006). Finally, CAWP provides an e-Learning certificate designed to assist small value-added entrepreneurs in upgrading their business skills and acumen. Sponsored by the Wood Manufacturing Council – Canada's national human resources woodworking sector council – the certificate includes modules in sales and marketing, quality management and control, safety and human resources management, production planning, factory layout and equipment justification, business finance, new product development, green marketing, and supply chain management. To date, more than 80 workplace learners have taken this certificate program.

The Emily Carr University of Art and Design offers an interesting option for students interested in value-added wood products through its Industrial Design major. While the program is not material-specific, some of the faculty have backgrounds in wood design and teach courses specifically on this topic. Consequently, many of the major student projects are wood-based.

Finally, FPInnovations also provides workplace education, largely through its network of Industry Advisors, in the form of in-plant training in quality improvement and lean manufacturing. The BC Wood *WORKS!* program offers its suite of educational courses, tools, symposia, and online materials. These educational programs – often provided as free professional development courses – are offered to architects, structural engineers, and building professionals to support the mandate of increased wood usage in the design of large-scale, non-residential structures.

## 7.7 Issues Pertaining to Marketing

At the firm level, value-added companies in BC – and the entire forest sector, for that matter – have long been known to be struggling with issues related to marketing and market research. According to Cohen and Kozak (2001), marketing in the forest sector has evolved over time in three distinct phases: a *forestry orientation* wherein the sale of forest products was limited only by the rates at which companies could produce goods; a *production orientation* wherein firms concentrated on producing goods that they were most efficient at; and a *marketing orientation* wherein companies had to interact and continually learn about the wants and needs of their customers in order to remain competitive. Unfortunately, the forest sector was slow to embrace the marketing orientation, and this issue remains to this day; marketing is oftentimes seen as a necessary evil, and not a potent competitive tool. This is exacerbated by the fact that firms today are now adopting a *knowledge orientation* – marketing activities driven by the continual flow of information vis-à-vis marketing research, which allows firms to pursue advanced and highly powerful business strategies such as mass customization. This orientation is grounded in a complete understanding of potential and existing customers, and has utility in limitless value-added applications from timber framing to cabinet installation to furniture design.

The unfortunate reality for many value-added wood manufacturers in BC is that they simply lack the scale and capacity to make marketing a business priority. There is consequently a woeful underuse of innovative promotional and social media tools to improve their collective competitive positions. Part of the problem seems to be a lack of formal training with respect to modern-day marketing techniques and marketing research. However, a major issue is the fact that most value-added producers are small and medium enterprises, meaning that the time and energy that could be spent by managers pursuing new markets and developing innovative promotional campaigns is more typically spent ‘putting out the fires’ that are typically associated with the everyday activities of manufacturing smaller batch volumes of goods and managing a small group of workers.

One possible solution to this dilemma that has been successfully implemented in Finland, the United Kingdom, and Australia, to name a few examples is the use of generic, industry-wide marketing and branding campaigns. By aggregating companies with similar goods and sending out industry-wide promotional messages, such campaigns serve to overcome the scale problem faced by many smaller firms trying to market their own goods. While it becomes difficult for individual firms to differentiate themselves, generic advertising and branding of products does provide an opportunity for the sector as a whole to potentially penetrate new markets and perhaps flourish. Notably, this sort of strategy has been attempted before in BC (eg, the “Wood is Good” campaign), but past efforts have been poorly resourced, and have met untimely ends.

Related to the foregoing, a First Nations cultural marketing niche has international appeal but it has been difficult to develop and implement a collective First Nations marketing strategy. First Nations tend to be independent. There is a delicate balance between capitalizing on this niche and being culturally insensitive, which inevitably is harmful for the businesses in the partnership and destructive of trust on the part of First Nations. Successfully realizing the potential of this niche takes time and will be based on first having built a broad level of trust through various other successful sector and business-level collaborations.

With little in the way of firm-level or industry-wide marketing programs specifically for value-added wood producers, the job of marketing goods to domestic and export markets must fall on the shoulders of government. To its credit, the Government of BC has done just this. For instance, the



provincially funded Crown corp., Forestry Innovation Investment (FII), is the primary government entity engaged in wood product marketing in BC.

The focus of FII programs is determined by a number of influences. First among these are the priorities expressed to FII by the provincial government. Paraphrased, these priorities for fiscal year 2013/14 are to lead the Wood First Initiative, conduct market advocacy, research and communications to promote BC wood and forest practices, and to develop emerging markets, for example in China, and early stage markets, for example in India. The provincial government, as the sole shareholder in FII, also issues an annual *'Government's Letter of Expectation'* to the corporation. For fiscal year 2013/14, the letter confirmed the priorities mentioned above, and further directed FII to achieve specific softwood lumber sales targets in China, Japan, South Korea, the U.S. and BC, and to leverage the expertise and financial resources in Canada and internationally to create critical mass for the marketing priorities of the corporation. In addition to the expectations set by government, FII refines its strategies through an ongoing program of international market research and consultation with forest industrial players and Natural Resources Canada.

The influences mentioned above result in the broad FII expenditure pattern for fiscal year 2013/14 as follows:

**Table 5: FII Planned Expenditures 2013/14**

<b>Priority Activity</b>	<b>Budget</b>
FII corporate support and self-initiated market outreach, development and Wood First studies directed by FII	\$4.2 million
FII China and India operations	\$3.6 million
Cost-shared marketing projects with BC trade associations, allocated through a call for proposals – China, India, Korea, Japan, U.S.	\$7.0 million
Wood First program funding available to the Wood Enterprise Coalition	\$2.5 million
<b>Total</b>	<b>\$17.3 million</b>

FII manages a separate strategy for the Wood First program mentioned above (\$2.5 million in 2013/14), a strategy that receives advice from the Wood First Advisory Committee. The committee is comprised of individuals with backgrounds in value added and primary wood manufacture, architecture, wood design, engineering, construction and building code policy. For fiscal year 2013/14, the Wood First program strategy, informed by the advice of the Wood First Advisory Committee, outlines investment categories and funding for the program as shown in the table below.

**Table 6: Wood First Program Strategy Priorities and Expenditures**

<b>Investment Category</b>	<b>Funding</b>
Reduce building code, policy and perceived risk barriers to using wood in structural and architectural applications in BC.	0.276
Research to improve performance of wood in uses offering significant market potential and ensuring BC priorities are considered in the national research agenda.	0.115
Education about the benefits of using wood at the K-12, trade school, university and professional development level	0.575
Marketing, promotion and outreach to the public and students; government; designers; contractors/ developers, architects, engineers, builders, buyers, and trade media.	0.920
Manufacturing and marketing activities to improve sustainable manufacturing and marketing capabilities, and fill gaps in the supply of green building products.	0.600
<b>Total</b>	<b>2.486</b>

The Business Innovation Program, formerly a stand-alone program of FII now subsumed in the Wood First Program, provided rather direct support to the value added wood sector to increase its manufacturing and marketing capacity. It was highly valued by the value added wood sector and was typically over-subscribed. At present, the ‘Manufacturing and Marketing’ line item above is the closest funding envelope to the former Business Innovation Program, which was formerly funded at a level significantly higher than \$600,000/year.

The outcome on market-related programs of the interplay between the influences described above (government, industry, federal government, Wood First Advisory Committee and fact-based research) is that:

1. Programming and funding is strongly focused on increasing the market share of wood used in structural applications. While this focus is helpful for those value added wood sub-sectors that create structural wood products, such as engineered wood products, it is less helpful for those sub-sectors that do not make such products;
2. The geographic emphasis of structural wood product marketing is offshore, while the best market for many value added wood products is in North America, and perhaps the northwest U.S. in particular;
3. In an overall environment of constrained financial resources, it appears that the effect of the mentioned influences has been to disproportionately reduce the available resources that previously supported in quite a direct way the building of manufacturing and marketing capacity of all value added wood sub-sectors, as were available under the former Business Innovation Program of FII.

## **8 RECOMMENDATIONS AND STRATEGIES**

The purpose of this section of the report is to describe a number of practical strategies which, if implemented well, in combination, and sustained for the long-term, will assist to stop the decline in the solid value added wood sector and return the sector to growth, with a focus on the interior of BC. As with the issues previously described, these strategies are organized and presented in terms of a wood value chain comprised of:

- Vision and Government’s Place in the Wood Value Chain
- Business Conditions, Finance and Manufacturing

- Raw material supply
- Research and Technology
- Product development
- Education and Skills Training
- Marketing

## 8.1 Recommendations Pertaining to Forest Sector Vision:

The 2009 Working Roundtable on Forestry report made two insightful, critically important observations about a vision for the sector, saying *“We have observed that globally competitive and leading forestry jurisdictions around the world have two things in common:*

- *Leadership – at all levels of government and in industry to support innovation, growth and investment; and,*
- *A Common Vision – for all those who affect and are affected by the forest sector.”*

The report went on to say *““WE” all need to change and “WE” all need to take action. Without a collective effort, it is unlikely that we can improve the opportunities for the forest industry. We therefore need to work toward a common vision. The Roundtable also believes that the provincial government is fundamentally responsible for taking a leadership role in working with all of the parties involved in the forest sector to stimulate the dialogue and action that is required to advance a common vision.”*

We concur with the view of the Roundtable expressed above. If the current or future vision for the forest sector in BC includes a growing value added wood sector, provincial government leadership will be critical for success. Successful leadership will include government creating a broadly supported vision to grow the sector, taking an assertive role in developing the wood value chain, making that role part of its ministry’s mission and purpose, and organizing to execute the mission.

We make the following recommendations related to vision for the forest sector:

1. We recommend that the provincial government formally pursue the development and expression of an over-arching, guiding policy statement to establish that the purpose of forest resource management and forest industrial development is to increase the benefits to citizens from their forest resources. The policy statement should clearly articulate government’s future intent, as a key player in the wood value chain, to foster the development of a competitive forest sector capable of increasing public benefits from the forest resource.
2. We recommend that the provincial government use its leadership position and influence at a senior level to build a consensus, common vision for the future development of the value chain between all of the community, First Nations, public sector and private sector participants in the wood value chain.

In setting the stage for the development of such a vision, the government should be clear that what is sought is a vision that is enduring, is shared by all parties to the vision, and which will be used by the government to shape policy choices and public investments going forward for the long-term, and by the private sector to guide collaboration between the participants in the wood value chain.

## 8.2 Recommendations Pertaining to Government in the Wood Value Chain

We make the following recommendations to modernize the ministry mandate and capacity to support the value added wood sector:

1. We recommend that the *Ministry of Forests and Range Act* be amended to include in the purpose of the ministry the encouragement of vigour, global competitiveness and efficiency for manufacturers in the entire wood value chain, including those in the solid wood value added product industry;
2. We recommend that government assist appropriate ministries to build internal organization, expertise and capacity to engage in the strategic collaborations with solid wood value added sector entrepreneurs in each sub-sector necessary to resolve value chain development challenges;
3. While implementing these recommendations, we recommend that government be mindful not to disrupt the success of existing capacity in forms, for example, such as the Forest Innovation Investment Corporation and its effective delivery agencies.

## 8.3 Recommendations Pertaining to Business Conditions, Finance and Manufacturing

The following recommendations are made pertaining to improving business conditions and increasing access to capital for the value-added wood products sector in BC.

1. We recommend that the province of BC review and deepen its venture capital programs, including tax credit programs, in a manner to increase access to capital for the value added wood manufacturing sector. In addition to other opportunities that emerge, government should:
  - a. Seek new opportunities for capital investment program synergies between provincial programs and, for instance, federal programs that provide investment capital through Community Futures Corporations or the provincial regional development trusts;
  - b. Adapt its existing BC Renaissance Capital Fund investment program, which is funded by the federal Immigrant Investor Program, by designating the BC value added wood sector as a target sector for investment. In the province of Quebec, the wood product manufacturing sector is presently eligible to seek venture capital through Investment Quebec from that province's Immigrant Investor Funding.
2. We recommend that government establish a loan guarantee program for the value added wood sector in BC to ease access to loan capital for the sector. Recognizing that the loan default rate for the value added wood sector is very low and therefore the cost of the program is very low, the scale of the program should be maintained in the range of \$50 million/year;
3. While the details of the program mentioned above should be developed in further consultation with the sector, we recommend that an advantageous focus could be to:
  - a. Catalyze supply chain partnerships pertaining to raw material supply for the value added wood sector;
  - b. Support the recapitalization of existing enterprises necessary to increase productivity, scale of production or entry into new markets;

- c. Support the entry of new wood value chain participants in the solid wood value added sector as was envisioned in the 2003 *Forestry Revitalization Plan*;
  - d. Increase access to operating capital for the sector.
4. We recommend that the provincial government conduct a series of workshops / focus groups with the community of value-added wood products firms and other interested stakeholders, with discussions revolving around the creation of more favorable business policies which serve to attract and retain value-added wood products businesses, as well as to foster growth in small and medium enterprises. The results of these sessions could be used to inform a province-wide value-added sector strategy.
  5. We recommend that an updated sector-wide benchmarking study be conducted, similar to that of DeLong et al. (2007), but concentrating on the needs, opportunities, and business challenges for value-added wood products firms in BC. This could be a collaborative effort between researchers at UBC, UNBC, FPInnovations, and BC Wood Specialties Group.
  6. We recommend that programs dedicated to business skills training and capacity building be continued and expanded. The Centre for Advanced Wood Processing at UBC is an obvious candidate for the delivery of such courses, as one of their mandates is industry extension, and they have developed a suite of courses for improving business skills. These courses are currently offered online, but it would not take a great deal of effort to mobilize this knowledge in the form of workshops and/or in-plant training.
  7. With regard to all of the above recommendations it is critical that First Nations in the forest sector be engaged to ensure actions are strategically shaped to support access to capital, business-to-business partnerships and building business and management acumen for such enterprises;
  8. To act as an information reference for latent First Nations business-to-business partnership opportunities, we recommend the development of an attribute data base that describes the enterprises of existing players in the value added wood manufacturing sector, First Nations and non-First Nations, and the nature of tenure holdings of First Nations.

## 8.4 Recommendations Pertaining to Raw Material Supply

We make the following recommendations to begin to improve the raw material supply chain for value added wood manufacturers:

1. We recommend that government revisit the mission, goals and objectives of BC Timber Sales to provide more freedom to that agency to more directly market and sell timber to its value added wood sector customers, or those BC Timber Sales customers that log timber and manufacture sawn raw material for value added wood entrepreneurs, subject to a requirement that BC Timber Sales continue to receive full predicted market value for the timber;
2. Within the greater business freedom afforded by a broadened mission as described above, we recommend that BCTS:
  - a. Continue to develop and maintain a high degree of understanding of the raw material supply chain needs of value added wood manufacturers in each BC Timber Sales business area;
  - b. Assert itself as a direct, reliable supplier to the value added wood manufacturer supply chain while receiving full value for Crown timber;
  - c. Explore opportunities to establish longer-term supplier relationships or partnerships with value added wood enterprises that go beyond single timber sale transactions;

- d. Explore with First Nations in the forest sector reciprocal management or marketing collaborations;
  - e. Explore opportunities to extract, sort and directly market certain logs suited for value added wood manufacture. For example, logs such as building logs, cedar, poles, etc. may be extracted by road construction contractors in the course of road right-of-way logging, or through selective removal and sale of such logs as may be possible before an entire timber sale is timber cruised and auctioned;
  - f. Where a viable private log sort yard exists, or where the exceptional circumstances for a viable new private log sort yard exist, develop partnerships between BC Timber Sales, willing BC Timber Sales registrants and private sector log sort yards with the objectives of increasing net profits for each member of the partnership while increasing the supply of logs suited to the value added wood sector.
3. To ensure a level playing field in the competitive timber market between those that would sell timber or logs to lumber and pulp producers and those that would sell to value added wood producers, or who supply sawn lumber to value added wood producers, we recommend that the provincial government:
- a. Soften the ‘least cost-highest stumpage’ policy tenet in interior timber pricing policy to provide an added timber transportation allowance for timber in BC Timber Sales licenses that must be transported past a current point of appraisal to a place of value added wood manufacture;
  - b. Consider applying the new policy provision to forest license and tree farm license cutting permits to improve the provision of logs not acquired through market competition to value added wood manufacturers;
  - c. In practice, the policy could be implemented when a BC Timber Sales license holder or a cutting permit holder provides to the ministry proof of a log supply agreement with a value added wood enterprise, which could trigger a re-appraisal of the timber sale or cutting permit to incorporate the added timber transportation allowance;

While this policy would reduce initial stumpage revenue from the timber in question, the downstream benefits in the form of increased economic value from wood, job creation and public revenue from income and sales tax should exceed the initially lower stumpage revenue.

4. The encouragement of a higher degree of log sorting in the woods has potential to increase log supply to the value added wood sector. Such log sorting increases logging cost to a degree. While bidders for timber sales can factor these costs in when deciding how much to bid for timber, holders of tenures such as forest licenses or tree farm licenses do not have that option relative to their cutting permits. For these tenure holders, the opportunity to sell high value logs at a higher price may not be sufficient offset the higher costs involved with doing so.

We recommend that interior timber pricing policy be amended to include an operating cost adjustment to offset the log sorting costs to enable holders of tree farm licenses and forest licenses to economically direct high value logs to their highest use with value added wood manufacturers.

5. Small and medium sized sawmilling companies with replaceable forest tenure, an important part of the supply chain for value added wood manufacturers, have been declining in number for many years due to the forces of industry consolidation. This trend is expected to accelerate in the near term as the timber supply impacts of the mountain pine beetle occur, and companies compete for the diminished supply.

The *Forest Act* requires the minister to approve the transfer of a tree farm license or forest license if satisfied that the transfer will not have the effect of unduly restricting competition in the standing timber, log or chip markets. This provision defines the extent of discretion provided to the minister. We recommend the following relative to this issue:

- a. Amend the *Forest Act* to provide more broad discretion to the minister to consider the impact of a license transfer on the restriction of the supply chain for the value added wood manufacturing sector. Such discretion would enable the minister to more adequately consider the public interests affected by a license transfer;
  - b. Market forces may leave a small or medium-sized forest license or tree farm license holder and mill owner no viable option but to discontinue milling operations and to dispose of their license. In conjunction with a. above, and in the event the minister exercises discretion to intervene in a proposed license transfer, the Crown should adopt a policy of acquiring the license in question at market value, and re-deploying the timber volumes into the economy in a manner that supports the value added wood manufacturing sector.
6. We recommend that government pilot with timber sellers in an appropriate region of the interior the implementation of enhanced timber market information, described in detail in Appendix D of the Background Report, in the form of detailed stand-level inventories, consolidated inventories, and virtual log yards. As leadership is required to act on this recommendation, and BC Timber Sales is the most likely collaborator in the concept, it is recommended that BC Timber Sales lead the implementation of this recommendation.
  7. We recommend that a formal assessment be undertaken regarding the establishment of a business cluster or clusters of value-added wood producers. Specific regions should be targeted, and based on an analysis of member firms, raw materials supplies and issues, product breadth, and the potential to collaborate, a decision should be made to concentrate on certain geographic regions (eg, the Quesnel forest district, the Kootenays). In parallel, it is recommended that an assessment study of existing wood industry clusters (eg, Bluewater Wood Alliance, the Danish furniture cluster) be undertaken and that interested parties be enrolled in the Austrian Clusterland school for training on how to properly establish, organize, govern, and administer a cluster.
  8. We recommend that the federal and provincial governments take great care to ensure that value added wood entrepreneurs that acquire their raw material on the open market, whether in log or lumber form, are appropriately exempted from any future softwood lumber trade agreement with the United States. The positive impact of successful implementation of this recommendation on the future of the value added wood sector must not be underestimated.

## 8.5 Recommendations Pertaining to Research and Technology

The following recommendations are made pertaining to improving the quality and quantity of research on or about BC's value-added wood products sector:

1. We recommend that a large-scale research study be commissioned to inform the development of a subsequent strategic plan to catalyze and foster the value-added sector through the creation of innovative and highly demanded value-added wood products (this would not be unlike the value-added sector strategy in Alberta, or the reports recently produced by the Forest Products Association of Canada on the emerging bio-economy).

The size of potential markets for a series of value-added wood products will be highlighted, and specific products/markets which seem to make the most sense for BC producers to pursue will be identified, taking into account BC's resource base, proximity to markets, and infrastructure. This could be a collaborative effort between researchers at UBC, UNBC, FPInnovations, and BC Wood Specialties Group.

2. We recommend that a higher priority be applied to increase provincial funding for research in BC's two forestry schools for targeted programs that address the specific needs of BC's value-added wood products sector. While a good deal of research is taking place, ranging from new product development to market assessments for value-added wood products, faculty are generally under-resourced and must rely on national (tri-council) funds to conduct research, which are becoming increasingly difficult to obtain. In addition, it may be worthwhile to explore means in which value-added wood producers can directly contribute to and fund university-level research, perhaps through the formalization and promotion of tax credit programs and improved communications with value-added producers on the part of universities.
3. Given FPInnovation's status as Canada's national wood products laboratory, it is recommended that opportunities be explored to create an alternative model that fosters engagement between BC's value-added wood products sector and FPInnovations. Specifically, we recommend that the following actions be considered:
  - a. Strike a volunteer BC Board of Directors comprised of representatives from all of the associations/sub-sectors that represent the value added wood sector in BC;
  - b. Continue a seat for the Deputy Minister of Forests, Lands and Natural Resource Operations from BC on the FPInnovations Board of Directors and seats for representatives from the Ministry of Jobs, Tourism and Skills Development and Ministry of Forests, Lands and Natural Resource Operations on the National Research Advisory Committee and Program Advisory Committees of FPInnovations;
  - c. Engage the above government staff as the link or conduit between the volunteer BC Board of Directors and FPInnovations, and between the volunteer BC Board of Directors and the Deputy Minister of Forests, who sits on the FPInnovations Board of Directors;
  - d. Empower the mentioned government staff to convene the volunteer BC Board of Directors between meetings of the FPInnovations committees and Board of Directors meetings, to capture the volunteer BC Board's perspectives on issues of the day, and to represent those perspectives at the FPInnovations committee tables.
4. We recommend that a dialogue be struck on the feasibility of setting up a research check-off program for value-added producers in BC, akin to the one that exists for the BC wine industry. Given that there may be some opposition from value-added producers to paying fees to support such a research program, it is recommended that the BC Government lead an engagement process with the range of value-added sector associations in play – including BC Wood Specialties Group and the Independent Wood Processors Association – in an attempt to foster healthy debate on the subject and develop mutually supported solutions.
5. We recommend that the provincial government, through its funding contract with FPInnovations, prescribe an appropriate funding allocation and priority on the specific research and technology needs of the value added wood sector, determined in consultation with the sector or made consistent with a larger research strategy as recommended earlier.



## 8.6 Recommendations Pertaining to Product Development

The following recommendations are made pertaining to enhancing the culture of new product development in BC's value-added wood products sector:

1. We recommend that a comprehensive market assessment be commissioned with the fundamental purpose to provide a strategic plan and direction for BC's value-added wood products sector based on an exhaustive and systematic analysis of the markets and products which make the most sense for manufacturers to pursue. This would include a review (possibly a S.W.O.T analysis) of all potential value-added products, as well as a consideration of the constraints inherent in BC's fibre basket. The ultimate aim will be to produce a 'silver bullet' list of products and markets that represent the greatest potential upside and likelihood of success.
2. We recommend actions which serve to catalyze debate and dialogue on the creation of a cohesive "made in BC" brand and design aesthetic in the forms of informal group meetings, symposia, and conferences, and involving stakeholders from industry, universities, the industrial design community, architecture, and research institutions. We recommend that a thorough case study describing similar movements be undertaken, in the Danish and Finnish furniture sectors, for instance. If successful, we recommend that this design aesthetic be aggressively marketed globally through trade shows, trade missions, and more traditional promotional media.
3. We recommend that formal product development programs and incentives for under-resourced value-added wood products manufacturers interested in diversifying their product lines should be continued, if not enhanced. Such programs need to be heavily promoted to the value-added wood products sector.

## 8.7 Recommendations Pertaining to Education and Skills Training

The following recommendations are made to improve education and skills training for current and future employees in the value-added wood products sector:

1. Given the multifaceted nature of value-added wood products design and manufacturing, we recommend exploring the development and delivery of more holistic wood products programs which embody this diversity of topical areas. At the post-secondary level, this can potentially be achieved through partnerships with educational institutions (ie, UBC, UNBC, Emily Carr University of Art and Design, BCIT). For instance, the need for a vibrant wood products sector to continually evolve by developing new and innovative wood products requires expertise in product design and development, manufacturing processes, and entrepreneurship. A joint science / arts program (degree and/or diploma) between UBC and Emily Carr University of Art and Design can be imagined, jointly taught and administered by the two institutions. Similarly, the Wood Innovation and Design Centre in Prince George presents ample opportunities for UNBC to partner with UBC, which has a pre-existing and well regarded civil engineering program. In either case, this would need the buy in and support of relevant decision-makers and perhaps the Ministry of Education for the creation of a new degree-granting program.
2. There are a number of service providers (ie, CAWP, FPInnovations, BC Wood Specialties Group, BC Wood *WORKS!*) that provide (or have provided in the past) a variety of high quality workplace education and skills training programs for the value-added sector. Capacity building is much needed in BC's value-added wood products sector, both at the

- managerial and floor-worker levels. We recommend that support for these types of initiatives in a strategic, cohesive, and forward thinking manner, should be continued.
3. BC has a long and proud history and culture of forestry and wood products. However, interest in the sector is waning and enrolment in post-secondary programs remains a challenge. We recommend that funds should be invested in promoting the sector, with the aim of appealing to youth by showcasing elements of the value-added wood products industry that are more likely to attract them – high tech machinery, high end design, environmental friendliness, sustainability, carbon sequestration, and so on. Efforts should be made to create and disseminate resonant messaging about the forest sector and wood products to K-12 students in both the rural and urban parts of the province.

## 8.8 Recommendations Pertaining to Marketing

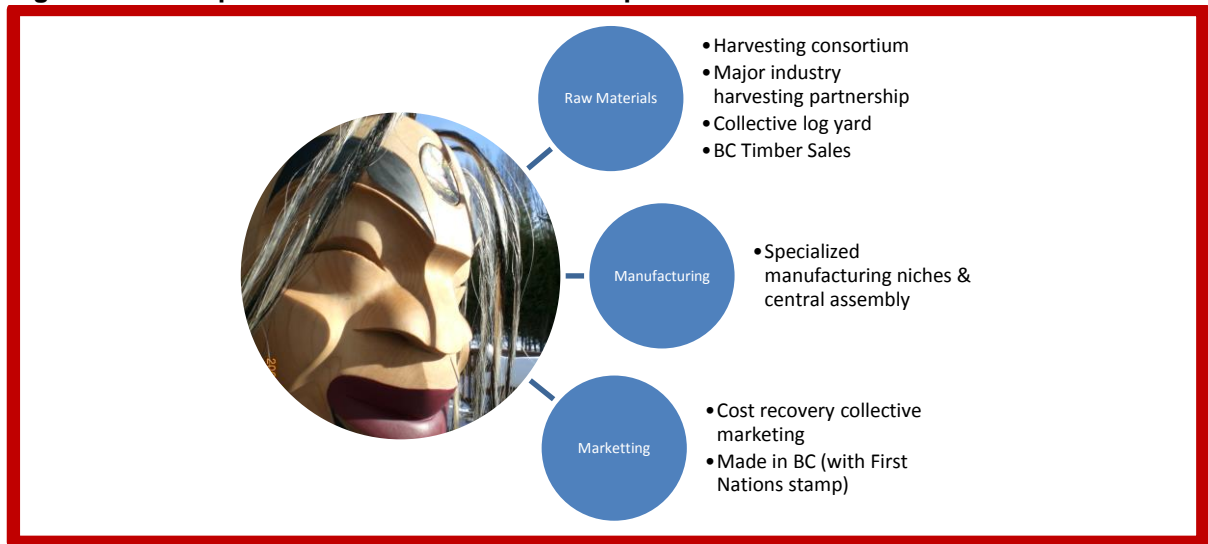
The following recommendations are made to improve marketing efforts on the part of the value-added wood products sector:

1. We recommend that funding should be made available to create and deliver a province-wide training program in marketing, social media, and market research, perhaps offering in-plant courses to minimize disruptions for management staff. These courses should be offered at incentivized rates for all value-added wood products manufacturers interested in acquiring marketing skills.
2. We recommend that the services of a professional advertising firm should be sought to develop an industry-wide generic marketing strategy, in consultation with value-added producers and key association actors. One possible avenue would be to promote a 'Made in BC' brand for value-added wood products produced locally.
3. We recommend that government should provide direction to FII in the form of priorities expressed, and the content of the *Government's Letter of Expectations*, to increase the emphasis on supporting the varying needs of industrial participants in all parts of the wood value chain with particular attention to the needs of the SME's that typify the value added wood sector. This revised direction should be clearly reflected in offshore trade missions, for which a requirement could be made to include value-added wood manufacturers and products.
4. We recommend that government programs which serve to maximize the use of wood in public and private spaces should continue unabated, and perhaps even more aggressively;
5. We recommend that the government and FII should adopt some specific market growth targets for value added wood products, in a fashion similar to the market growth targets currently in place for softwood lumber products;
6. We recommend that government and industry should ensure that, where the best markets for value added wood products differ from those of structural wood products (eg. U.S. Northwest vs. Asia), that the differing need is reflected in the priorities and funding allocations for marketing programs,
7. We recommend that government set the provision of funding to increase the manufacturing and marketing capacity of value added wood sector SME's in all sub-sectors as a priority of the government, to bring the executive prerogative of the FII CEO to bear on the priority if necessary to ensure the capacity is enabled.

## 8.9 Further Conceptual First Nations Considerations

The question of 'structural' mechanisms to help integrate the First Nations' component into a provincial strategy to invigorate the value added wood sector is a subject area that has to date only been addressed in very general terms. The figure below depicts several conceptual, structural elements that could be explored for development in the value added wood sector that could help First Nations forest sector businesses be a valuable contributor toward the invigoration of the sector. We wish to emphasize that exploration or establishment of any of these structural elements will be subject to all of the limitations/challenges outlined earlier and will require a significant, dedicated effort by a very focused team of experts. This team must be made up of individuals who have the necessary range of skills and abilities plus the established credibility among First Nations, the Sector and government.

**Figure 4: Conceptual Structural Elements for Exploration**



See the table below for slightly more detail regarding each of these concepts/structural elements.

**Table 7: Concept Descriptions**

<b>Concept</b>	<b>Description</b>
<b>Harvesting consortium</b>	First Nations create regional harvesting consortia managed by experts in harvesting
<b>Major industry harvesting partnership</b>	Offsets for major industry to harvest regional First Nations' volumes
<b>Collective log yard</b>	Collective First Nations log yard with distribution networks to the Sector
<b>BC Timber Sales</b>	Partnership with BC Timber Sales
<b>Specialized manufacturing niches &amp; central assembly</b>	Individual First Nations manufacture components for larger products with centralized assembly
<b>Made in BC (with First Nations stamp)</b>	Create a marketing niche utilizing a First Nations stamp for FSC type certification
<b>Cost recovery collective marketing</b>	Establish a collective marketing entity that operates on a cost recovery basis.

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