

**Union of British Columbia Municipalities and BC Ministry of  
Community, Sport and Cultural Development  
Major Industrial Property Taxation Impacts  
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# Major Industrial Property Taxation Impacts

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## **1 Executive Summary**

This study has been undertaken for the Union of British Columbia Municipalities and the BC Ministry of Community, Sport and Cultural Development to assess the impact of property taxation on business decisions related to major industrial facilities defined as Class 4 properties under BC's Assessment Act. The analysis encompasses major business decisions including investment in new facilities, ongoing operations and temporary closures, re-investment in existing plants, and economic obsolescence and plant closure. The study includes detailed case studies for representative major industrial sectors from a sample selected to illustrate the impact of industry life and commodity price cycles on the sensitivity of business reactions. Industry views on the impacts of property taxes were obtained from extensive interviews with representatives from a wide selection of companies encompassing the major sectors in the Class 4 category.

The consulting team was led by Philip Davies of Davies Transportation Consulting Inc., in cooperation with Darryl Anderson of Wave Point Consulting Ltd. and David Lane of Lane Property Advisors Inc.

### **Major Industries Property Tax Issues in British Columbia**

The impact of municipal property taxes on major industry in British Columbia has been a subject of controversy for years. Business complaints have focused on the differentials between municipal taxation rates on major industries relative to residential property. High tax rates have been blamed for reducing the competitiveness of BC firms in global markets.

Supporters of the existing system have argued that higher tax rates on major industries are justified because the presence of major industry imposes significant costs on municipalities, directly through the provision of services to industry and indirectly to provide the services which are necessary to enable firms to attract workers. They point to the relatively insignificant cost of municipal tax rates in firms' overall costs.

The issues came to a head in 2009 due to the impact of the recession on major forest products companies. In 2009, there were seven lawsuits filed by major industrial property owners with respect to municipal tax rates. Most prominently Catalyst Paper, a major pulp and paper producer, refused to pay its property tax bill and launched a court challenge to the tax rates based on the proposition that their tax rates are inconsistent with the cost of services provided.

### **Overview of the BC Property Tax System**

In British Columbia annual property tax costs are the product of the taxable assessed value multiplied by the applicable tax rates. The taxable assessed value and property classification are determined by BC Assessment, an independent crown agency, legislatively mandated to assess all property throughout British Columbia at its actual value and on a fair and equitable basis. Tax rates are set by the province, municipalities and a number of other taxing jurisdictions. Our analysis in this study focuses on general purpose tax rates set by municipalities.

The BC system is distinctive in that assessment of major industrial improvements (buildings & other components) is based not on market value, but rather through utilization of a costing manual, commonly referred to as the Major Industrial Property (MIP) manual. The costs estimated from the MIP manual are depreciated at legislated annual depreciation rates that range from 4% to 6.5%. In the instance of an operating major industrial plant the annual depreciation is capped at a maximum of 80%. Assessment values are adjusted each year by a cost factor based on trends in changes in reproduction costs of the assessable assets. It is noteworthy that the current major industrial system assessment does not reflect increases or decreases in value as a result of commodity price changes.

Class 4 tax rates are set by individual municipalities. Properties outside of municipal areas are taxed at standardized provincial rates except in Peace River, and these properties are also taxed by the regional districts at rates that differ according to the services provided. The Province retains the authority to intervene in municipal tax decisions; however this authority is very seldom utilized.

## Property Tax Impacts

To analyze the impact of municipal property taxes on major industry sectors, case studies based on industry life cycles, commodity price cycles, financial returns and competitive factors were conducted. Extensive interviews were also undertaken with representatives of firms in each sector.

Analysis of industry costs at the national level confirms the relatively low contribution of property taxes to overall industry costs. Based on Statistics Canada data, the share of total costs attributable to indirect taxes (including municipal property taxes) averaged .54% from 2005 to 2009. Among the specific industry sectors analyzed for this study, the share ranged from .17% for the petroleum and coal sector to 1.19% for marine terminals.

With the possible exception of marine terminals, our analysis of a sample of individual companies in BC did not indicate that property taxes account for a dramatically disproportionate share of costs relative to the national averages. Using the most prominent example, in 2009 Catalyst's municipal property taxes of \$23 million accounted for approximately 1.15% of estimated total operating costs. This is substantially higher than the national average of .22% for all indirect taxes for the paper industry, but still a small portion of total costs.

Interviews with company representatives confirmed the following decision patterns:

**Property taxes are not a major competitive issue under typical operating conditions.** Property taxes constitute a very small portion of overall costs and as long as industries are operating profitably have little impact on business operating decisions such as output levels or the distribution of activity among multiple facilities.

**Property taxes are not a significant factor in investments in major capital projects because anticipated costs are small relative to total operating costs and potential revenue over the economic life of the new investment.** These projects tend to be undertaken in periods of high commodity prices when investors see a potential for extraordinary profits. A business decision to undertake a major capital investment is most sensitive to the major factors that contribute to either revenue or cost uncertainty. Recent examples in BC include the Alcan expansion, the new Mount Milligan mine, and the reopening of the Copper Mountain mine.

**Property taxes do affect decisions on re-investment in existing facilities, which may affect the long term viability of operations.** These investments may be undertaken in periods of low commodity prices, in order to maintain production capacity or provide incremental reductions in operating costs. In the forest sector, firms are requiring rapid payback of capital when undertaking investments due to the industry downturn. A payback of 1 year for minor capital projects and 5 to 10 years for major projects is typical. Firms are seeking exemptions from taxation for their new investments to provide additional certainty for their capital recovery and to meet their investment objectives.

Property taxes have a larger impact on investment decisions for firms with multiple locations. Capital renewal and business expansion decisions are based on opportunity costs. While re-investment in a plant may be profitable, firms with multiple locations will optimize their allocation of capital to the projects which have the highest overall return on an incremental basis. Since capital is scarce those jurisdictions with high fixed costs will receive relatively fewer investment dollars than competing alternatives. In addition to the internal rate of return on their capital, firms will consider the differential revenue and cost implications to existing production and sales. Other things being equal, firms have an incentive to favour investment in mills located outside of municipal boundaries or other political jurisdictions with lower major industrial tax rates.

**Property taxes become a major factor for firms in financial distress due to structural or cyclical factors, because property taxes may constitute a large portion of firms' fixed costs.** The "tipping point" may be the decline in profitability to the point where revenue is insufficient to cover the weighted cost



of capital. Since debt is a legal obligation that must be paid this leaves the shareholder's equity investment in either retained earnings or share capital at risk. Firms and equity investors become very concerned about the level of property taxes when their rate of return is insufficient in relation to the risk. Investors look to see what incremental operating improvements can be made to make the rate of return acceptable.

The decline in profitability may be due to short term cyclical fluctuations in commodity process or long term structural issues. Long term structural issues affecting the competitiveness of industrial plants include:

- Resource depletion.
- Entry of new low cost firms.
- Exchange rates.
- Cyclical or secular (long term) price declines.
- Rising variable costs (labour, energy, etc.)
- Rising fixed costs (capital, insurance, property taxes, etc.)
- Obsolete technology.

Major industries in BC are particularly vulnerable because with few exceptions they are price takers in global commodity markets.

### **Tax Policy Issues**

In 1987 the current assessment system was implemented for major industries. Under this approach the value of major industrial property is determined on the basis of an assessment "manual" rather than the appraisal techniques used for determining market value.

The use of the assessment manual provides stability in the determination of property values because prescribed replacement costs are used. This is in contrast to the economic models used by appraisers using a market value approach. In a market-based assessment system factors external to the property that do affect property value are referred to in appraisal terminology as external obsolescence. In accordance with generally accepted valuation practice the type of factors analysed in this report do impact on the market value of the affected asset.

There are two implications arising from the current prescribed assessment practices that impact business decision-making. The first implication is industries that see an appreciation in the value of their properties based on rising commodity prices are not exposed to increasing property taxes. This is one of the reasons why the amount of property taxes a firm is paying in BC is of relatively less concern in a rising market, or when there is robust economic growth. However, the second implication is that if appraisals are not reassessed periodically the property value may deviate substantially from actual market value and over- or under-represent the industry's profitability and ability to pay based on long term trends in their global competitiveness.

Major industry property taxes in BC are relatively insensitive to market influences on industry profitability. Class 4 property values are determined by the criteria in the assessment manual rather than through a market based approach. Consequently the only avenue for firms to seek property tax relief to cope with economic obsolescence and/or cyclical price downturns is to seek tax relief from municipal councils. Municipalities have the ability to set their tax rates to account for changes in economic conditions, but they also have long-term service obligations and may find it difficult to adjust to reductions in tax revenue when economic conditions change.

The lack of any link between the market value of Class 4 industrial assets and their assessment for property tax purposes inadvertently creates a perception that a company is unaffected by long and short term competitive factors. The impacts of this perception could be especially severe for industries like pulp and paper that is both substantially overvalued relative to its ability to generate financial returns, and suffering a cyclical downturn.

In previous industry downturns, and for specific industries, the Province intervened to assist major industries. This was accomplished through the services of the Critical Industries Commission from 1986 to

1992, and the Jobs Protection Commission from 1992 to 2002. Since the signing of the Canada – US Free Trade Agreement in 1988, followed by NAFTA in 1994, the ability of governments to assist industry has become increasingly constrained by international trade obligations. In the case of BC, the long running trade dispute with the US over softwood lumber exports has also had a major impact. In 2002, assistance from the Jobs Protection Commission was found by the US Department of Commerce to be a countervailable subsidy; the Commission was abolished by the provincial government in the same year.

In 2004 the Province amended the Community Charter to provide more flexibility for municipalities to enter into tax agreements with specific taxpayers by establishing a revitalization program. Municipalities have used this authority to provide investment incentives to Class 4 industries, and in one case (Mackenzie) the revitalization program has been used to negotiate minimum employment levels over the term of the agreement. Even if these programs are found to be consistent with international trade obligations, municipalities are limited in their ability to assist industries in distress by their financial capacity.

## **2 Property Taxes in British Columbia**

### **2.1 Introduction**

This study has been undertaken for the Union of British Columbia Municipalities and the BC Ministry of Community, Sport and Cultural Development to assess the impact of property taxation on business decisions related to major industrial facilities defined as Class 4 properties under BC's Assessment Act. The analysis encompasses major business decisions including investment in new facilities, ongoing operations and temporary closures, re-investment in existing plants, and economic obsolescence and plant closure. The study includes detailed case studies for representative major industrial sectors from a sample selected to illustrate the impact of product life and commodity price cycles on the sensitivity of business reactions. Industry views on the impacts of property taxes were obtained from extensive interviews with representatives from a wide selection of companies encompassing the major sectors in the Class 4 category.

The consulting team was led by Philip Davies of Davies Transportation Consulting Inc., in cooperation with Darryl Anderson of Wave Point Consulting Ltd. and David Lane of Lane Property Advisors Inc.

### **2.2 Overview of Property Taxes in BC**

In British Columbia annual property tax costs are the product of the taxable assessed value multiplied by the applicable tax rates. The taxable assessed value and property classification are determined by BC Assessment, an independent Crown agency legislatively mandated to assess all property throughout British Columbia at its actual value and on a fair and equitable basis. The assessment of major industrial property is unique in that unlike assessments for the significant majority of properties it is not market based. Tax rates are set by the province and municipalities along with a number of other taxing jurisdictions.

#### **2.2.1 Major Industrial Assessments - Non Market Valuation**

The significant majority of properties in BC are assessed on the basis of the actual value. Actual value and market value are generally considered to be synonymous. For example if your home is assessed at \$500,000 it would follow that the price that you could sell your home at would be approximately \$500,000.

There are approximately 500 Major Industrial Plants including pulp and paper mills, saw mills, oil refineries, cement plants, shipbuilding facilities, smelters and mines. In addition there are approximately 9,000 gas and petroleum properties that are classed as Major Industrial properties. Notwithstanding the Major Industrial Classification, the significant majority of these properties consist of well sites and related oil/gas field facilities that typically carry very nominal property assessments i.e. less than \$50,000. For this reason, the assessment and taxation of these small oil and gas properties are not further investigated or commented on in this report.

The assessment of the land component of major industrial properties is estimated on the basis of the land's actual/market value. Major industrial improvements (buildings & other components) are not assessed on a market basis but rather through utilization of a costing manual, commonly referred to as the Major Industrial Property (MIP) manual. Estimation of improvement assessments involves determining the quantity of the improvement or more likely the component of the improvement and multiplying this quantity by the rate contained in the MIP manual as being applicable to the particular improvement or component. For each assessment year BC Assessment through consultation with owners of major industrial properties applies a factor to the manualized costs determined from the MIP manual. This factor adjusts or indexes up the estimated costs to the current assessment year and makes a further minor adjustment for Interest During Construction. The unit costs in the manual tend to be low relative to current development costs, and improvements or components thereof described in the manual may not fully reflect the impact of changes in technology and construction methods.

The costs estimated from the MIP manual are depreciated at legislated annual depreciation rates that range from 4% to 6.5%. In the instance of an operating major industrial plant the annual depreciation is capped at

a maximum of 80%. In the instance of a major industrial property that is not operating and is not being held for future operation the property may be eligible for additional depreciation, commonly referred to as a closure allowance. Closure allowances may be granted in two situations:

- Firstly where a senior executive of the owner of the major industrial property provides a declaration to BC Assessment that the plant is permanently closed.
- Secondly in the instance where a major industrial plant has been closed for three years and senior executive of the owner provides confirmation to BC Assessment of the plant's closure. In instances where the major industrial plant complies with the closure allowance maximum depreciation is increased from 80% to 90%.

Under the non-market based manualized assessment system in the instance of a permanently closed plant the estimated cost for the closed plant is escalated each year to reflect increased construction costs and interest during construction, while at the same time depreciation is capped at 80%. The consequence of these calculations is that the assessed value of a permanently closed plant increases each year.

Machinery and equipment is not subject to property assessment in British Columbia. Thus in the instance of major industrial plants it is the buildings and other improvements to the land and that are attached to the land, which are subject to property assessment and taxation.

Total assessed value for an industrial property is calculated as the sum of the market based actual value of the underlying land plus the non-market-based or manualized depreciated cost estimate of the improvements to arrive at the total assessed value of the major industrial property.

The legislative and regulatory framework differs from generally accepted appraisal practice, because the assessment on the land component of an industrial property is on a different basis than the assessment of the improvement component, with land valuations based on market, and improvements on non-market.

### 2.2.2 **Property Classifications**

Under the Assessment Act, Prescribed Classes of Property Regulation B.C. Reg 344/2010 establishes the following property classifications:

Class 1	residential
Class 2	utilities
Class 3	supportive housing
Class 4	major industry
Class 5	light industry
Class 6	business and other
Class 7	managed forest land
Class 8	recreational property/non-profit organization
Class 9	farm

## 2.3 Property Tax Rates

### 2.3.1 Provincial Tax Rates

2011 provincial property tax rates for general purposes by class and their respective ratio to the residential tax rates expressed as dollars per thousand of assessed value are set out in the following table.

**Figure 2-1 Provincial Property Tax Rates 2011**

<b>Class</b>	<b>For General Purposes Tax Rate</b>	<b>Ratio of General Tax Rate to Residential</b>
1. Residential	0.52	1
2. Utilities	3.95	7.6
3. Supportive Housing	0.1	0.2
4. Major Industry	4.84	9.3
5. Light Industry	2.87	5.5
6. Business & Other	2.87	5.5
7. Managed Forest Land	0.46	0.9
8. Recreational Property & Not For Profit Organizations	0.88	1.7
9. Farm Land	0.51	1.0

### 2.3.2 Municipal Tax Rates

Municipalities have wide authority under Part 7 of the Community Charter to tax property owners. Each municipal government provides different services and different levels of service. Also, methods of cost recovery other than taxation such as user fees may be employed for various services.

The cost of service provision varies significantly between local governments due to factors such as geography, climate and availability of labour, so the tax revenue required to provide the service will also vary significantly. Some local governments have specified areas that pay different taxes than everyone else. If these areas cover a large portion of the municipality, the tax rate is added to the municipal rate for reporting purposes.

The Provincial Government retains the authority to intervene in municipal taxation decisions. The Lieutenant Governor in Council, may make regulations respecting tax rates that may be established by annual property tax bylaw, including:

- (a) prescribing limits on tax rates;
- (b) prescribing relationships between tax rates;
- (c) prescribing formulas for calculating the limits or relationships referred to in paragraph (a) or (b);
- (d) allowing the inspector under prescribed circumstances to vary, by order, a limit, relationship or formula prescribed under this section.

Based on data on municipal tax rates on Class 4 properties supplied by BC Ministry of Community, Sport and Cultural Development<sup>1</sup>, municipal tax rates levied on properties classed Major Industry during 2011 ranged from 4.4 to 87.1 per \$1000 of assessed value.

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<sup>1</sup> Schedule 702.

### 3 Business Decisions and Property Taxes

An understanding of the basic theory of business behaviour is essential for understanding the role of property taxes in business decisions. Firms are influenced in their decisions by the nature of their costs and the markets in which they operate. The fundamental assumption in analyzing these effects is the assumption that firms maximize profits.

Our analysis will focus on the impact of property taxes on three main types of business decisions: new investments, on-going operations and the closure of a business line, or operating facility. We will also identify and analyse the impact of other factors including other business costs relative to taxation levels.

Firms are faced with numerous business decisions however they can be generally classified into one of the following two types:

- **Capital Budgeting:** New investment or expenditure that must be amortized because of the accounting rules. Performance is usually assessed on the basis of discounted cash flow measures such as Internal Rate of Return or Net Present Value. Property taxes are simply a cost input that needs to be factored into the criteria under which the investment decision is undertaken. The larger the property tax bill the more net cash the firm needs to produce to earn the required rate of return, to attract the capital investment.
- **Operating Decisions:** Decisions on current operating parameters of existing facilities. From a microeconomics perspective, the primary decision variable in short-term operations is the quantity and/or price of the product. Performance indicators such as cost-volume and profit analysis techniques are used to guide these decisions. Cost accounting in essence is similar to microeconomics. It is important to note that for an individual firm's behaviour the issue of resource constraints comes into play more often in cost accounting. In British Columbia most firms compete under a commodity pricing model, where the highest cost plant is the first plant whose operations will be curtailed.

Financial indicators can be assigned to two categories.

- **Microeconomic/Cost Accounting:** these are firm specific financial indicators. Comparisons between firms even within the same industry must be done with caution.
- **Financial Accounting Indicators:** are standard indicators from the annual financial statements regarding the Balance Sheet and Income Statement. These ratios are typically used for comparisons among firms and industries. Financial accounting data is intended to make it easy to make comparisons. Other financial indicators such as debt/equity ratios, liquidity ratios etc. may impact a firm's ability to execute a specific strategy but do not determine whether it is a sound business decision.

While each category of plant in the Major Industrial Property class has unique features, most share common characteristics that are likely to influence management responses to local property taxes under similar circumstances.

Relevant indicators related to the business decisions to be analyzed are shown below.

**Figure 3-1 Business Decision Making**

<b>Business Decision Making Matrix</b>		
<b>How do property taxes influence the decision-making process?</b>	<b>Microeconomic/Cost Accounting Indicators</b>	<b>Financial Accounting Indicators</b>
<b>Investment in New Facilities</b>		
Greenfield Entry Merger Entry	Hurdle Rate Opportunity Cost Payback Period Return on Investment Risk Profile of Project	Proforma Projections
<b>Ongoing Operations &amp; Temporary Closures</b>		
Maintain Existing Production Capital Expenditure (betterments, smaller scale)	Fixed & Variable costs	Operating Profit Margin Net Profit Margin Return on Equity Return on Capital
Production Levels Reduced Production Level Stopped for Indefinite Period	Avoidable/unavoidable costs Avoidable/unavoidable costs	
<b>Reinvestment in Existing Facilities</b>		
Capital Expenditure (betterments, larger scale)  Expansion at Existing Location	Contribution Differential/incremental costs Internal rate of Return	Weighted Cost of Capital
<b>Economic Obsolescence</b>		
	Financial Restructuring	
<b>Plant Closures</b>		
Close-down Exit Divestiture Exit	Opportunity Cost Replacement Costs	Net Profit Margin

While each category of plant in the Major Industrial Property class has unique features, most share common characteristics that are likely to influence management responses to local property taxes under similar circumstances.

### 3.1 Investment in New Facilities

Typically new facilities in the Major Industry classification are capital intensive and require substantial capital investments to bring into production. Some examples of recent investments in BC and globally illustrate the level of investment required.

**Figure 3-2 Capital Cost Examples Major Industries**

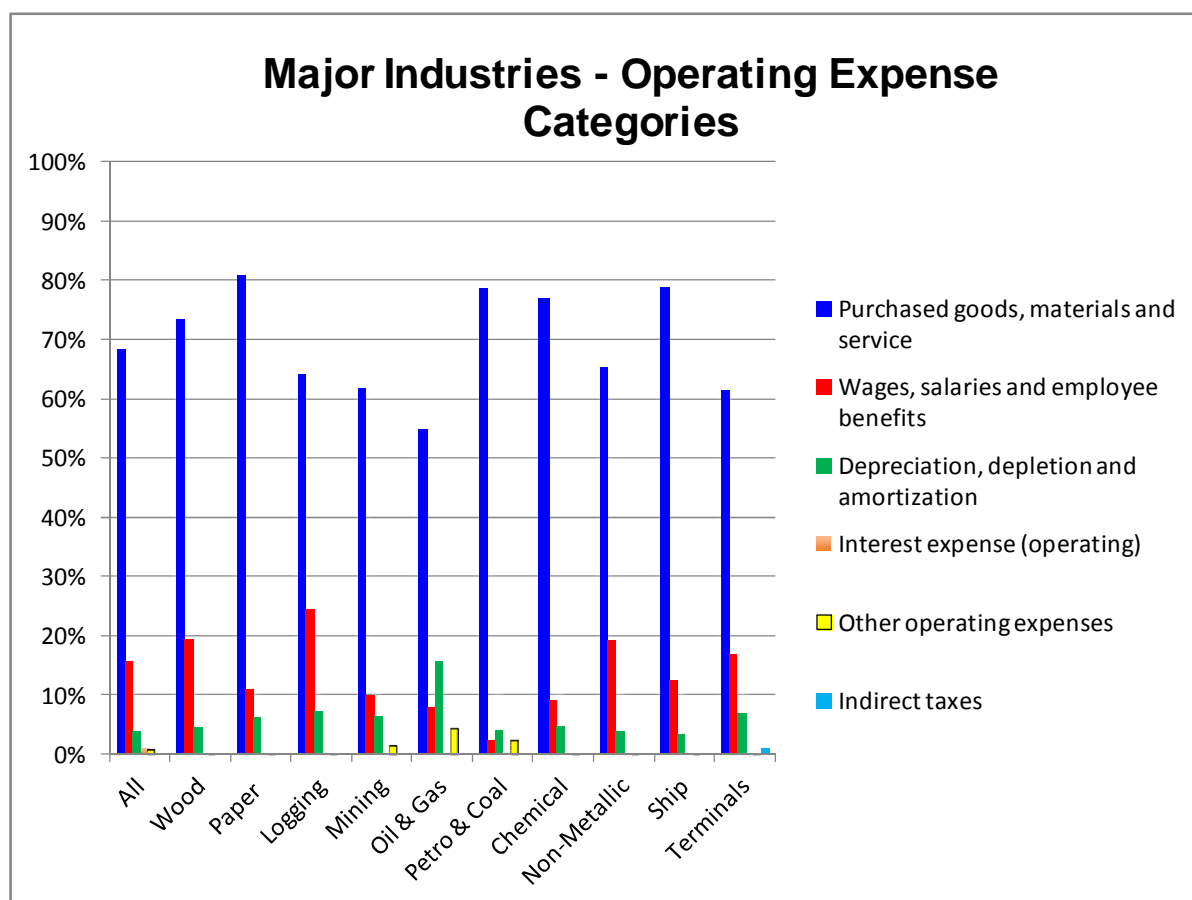
<b>Capital Costs of Major Industry Facilities - Recent Examples</b>			
<b>Category</b>	<b>Example</b>	<b>Capital Cost (Millions)</b>	<b>Comments</b>
Metallic Ore	Mount Milligan Mine	CDN\$827 Million	Greenfield project
Coal	Wolverine Perry Creek	CDN\$245 Million	Capacity 3 million tonnes/year
Aluminum	Alcan expansion	US\$2.5 Billion	Capacity to increase by 48%
Lumber	Interfor Adams Lake	CDN\$100 million	Replacement mill on existing site
Pulp & Paper	Mercer Stendhal (Germany)	1 Billion Euros	Finished construction 2004
Marine Terminal	Deltaport Third Berth	CDN\$400 million	

In planning these capital investments, firms take into account all fixed and variable costs to ensure that the investment will provide an adequate return. Property tax is considered as a fixed cost, but it is generally insignificant in relation to overall fixed costs (including capital costs).

To the degree that firms have options among different locations for their plants, differentials in tax rates in among municipalities may have an impact on investment decisions.

Property tax is considered as a fixed cost, but it is generally not the most significant factor in relation to overall fixed costs (including capital costs) and is therefore not a major consideration at this stage of the plant's existence. Typical cost structures of industries in the Major Industrial category based on Canadian companies are shown below<sup>2</sup>.

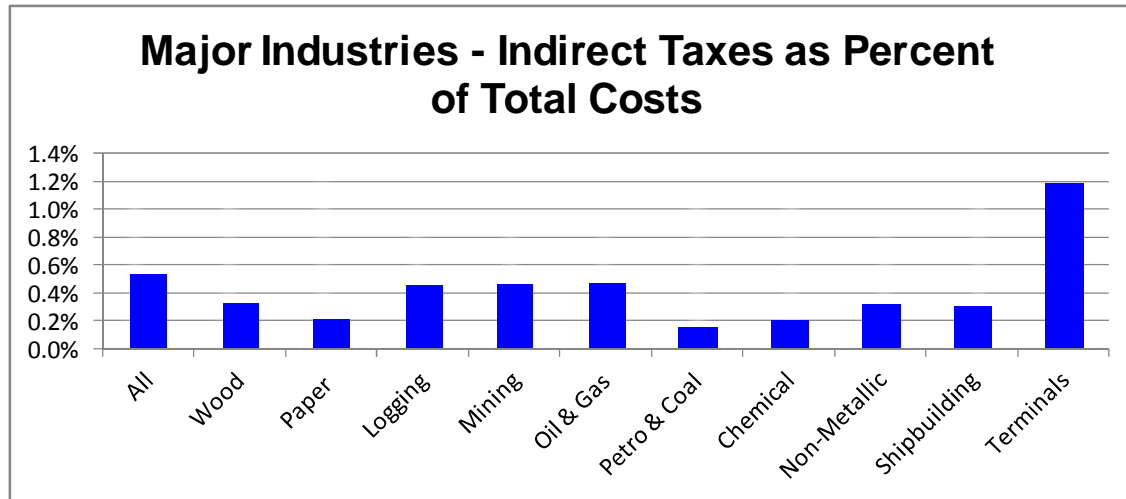
**Figure 3-3 Major Industries Operating Expense Categories**



Indirect taxes – including sales, property and excise taxes, and customs duties – account for a very small portion of total costs. The share of indirect taxes in total costs for major industries is shown below.

<sup>2</sup> Source: Adapted from: Statistics Canada Financial and Taxation Statistics for Enterprises 2009 Catalog no. 61-219-X <http://www.statcan.gc.ca/pub/61-219-x/61-219-x2009000-eng.htm>



**Figure 3-4 Major Industries: Indirect Taxes as a Percentage of Total Expenses**

It is important to recognize that analysis of new investment decisions by existing producers provides only a partial indication of the impact of property taxes. There are no statistics on investment proposals that do not proceed because anticipated revenues cannot cover the fixed and variable costs of the project, or the risks are deemed to be too large. Property taxes may play a role in these decisions as well, either due to the impact on fixed costs or the risk that taxes will increase. These effects cannot be captured in a statistical analysis of existing investments.

### 3.2 Ongoing Operations and Temporary Closures

Firms are influenced in their operating decisions by the nature of their costs and markets. Most industries in the Major Industrial Properties classification share similar cost and market characteristics.

- Most are price takers in international markets i.e. the prices received for their products are determined by global (or regional) supply and demand conditions and individual producers cannot substantially influence these variables.
- Most plants can minimize unit costs by operating close to their maximum capacity.

Profit-maximizing behaviour under these market and cost conditions generally results in the following behaviour:

- Firms will operate individual plants near capacity as long as the price of their product exceeds their variable costs. Even if they are losing money they are better off producing and selling their products as the surplus of price over variable costs provides some contribution to their fixed costs.
- Firms with multiple production facilities will tend to operate their lowest cost plants near capacity and temporarily close their higher cost plants.

Based on the microeconomic theory of the firm, fixed costs (including property tax costs) do not affect decisions on output levels or on the distribution of activity among multiple facilities in the short term.

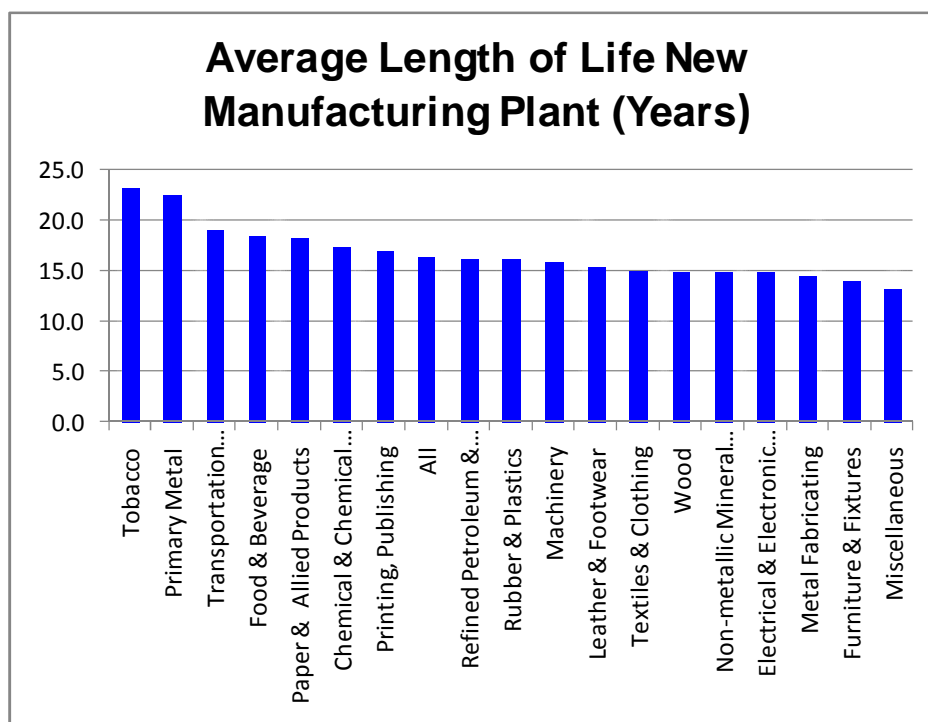
### 3.3 Capital Re-Investment

The life of industrial plants can be extended through expansion, investment in new technology or replacement on the same site. The factors influencing the decision to re-invest in existing facilities are

similar to that for investment in new plants; however incremental expansion of existing facilities may be a cheaper alternative than a new greenfield plant, and the factors that determined the original location of the plant may still favour production at the same location. In British Columbia over the past two decades there has been a strong trend towards incremental investment rather than development of new plants on a greenfield basis.

In setting tax rates, policy makers need to be cognizant of the rate of turnover. Because of high rates of plant closures, the health of the manufacturing sector depends on the rates of renewal. On balance where product prices escalate, the economic life of the plant is often extended. This situation is currently prevalent in the metal and coal mining sectors in British Columbia. In general, manufacturing facilities tend to have a relatively short life.<sup>3</sup> The average life of manufacturing plants in Canada from 1961 to 1999 is depicted below.

**Figure 5-5 Average Life of Canadian Manufacturing Plants 1961 – 1999<sup>4</sup>**



New plants are encouraged by incentives and discouraged by disincentives. For example, the impact of a high property tax rate that discourages new investment will be felt much more quickly in a world where plants are constantly exiting the market place and being renewed - because a lack of ongoing investment due to a burdensome tax environment will quickly translate into a smaller sector and fewer jobs.

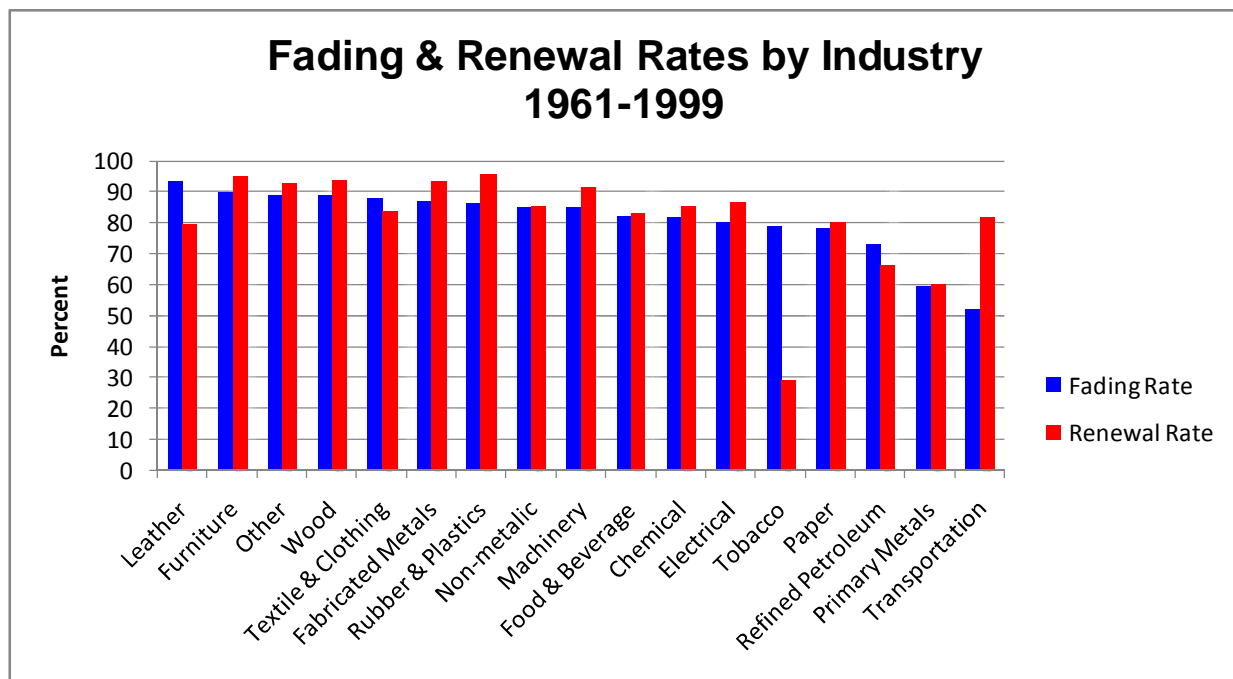
Capital renewal can take place through expansion of existing facilities, greenfield entry or a merger in the major industries. In planning these capital investments, firms take into account all fixed and variable costs to ensure that the investment will provide an adequate return. If a community is experiencing significant capital renewal in plant and equipment, this would tend to suggest that the overall cost structure, including property taxes, of the firm is competitive and at a level that encourages continued economic expansion.

<sup>3</sup> Death in the Industrial World: Plant Closures and Capital Retirement John R. Baldwin, Statistics Canada Catalogue no. 11F0027MIE — No. 033 May 2005 p. 15.

<sup>4</sup> Ibid., p. 12.

The long-term impact of new investments and plant closures on employment can be assessed based on fading and renewal rates. The fading rate is the proportion of jobs in the first year that was lost by the last year of the period of analysis, either because of plant closures or downsizing. The renewal rate is the proportion of jobs in the last year that is new, either because of investments in new plants or the expansion of incumbent plants. The former is a measure of the extent to which jobs are fading away, at the level of individual business units; the latter is a measure of the extent to which the economy is being renewed, again at the level of individual business units.<sup>5</sup> Fading and renewal rates for Canadian manufacturing industries over the period from 1961 to 1999 are shown below.

**Figure 5-6 Fading and Renewal Rates by Industry 1961 – 1999**



These rates of fading and renewal are directly attributable to the accelerated rate at which market change is taking place. The Powell River mill was built 100 years ago; life was simple and change was slow. In today's market there is no such thing as a 100 year investment horizon.

A renewal rate below the fading rate indicates a net loss of employment in an industry. The high fading and renewal rates for most industries indicate that over the forty year period of the analysis the plants in existence at the beginning of the period had been almost entirely replaced by new facilities by the end.

Researchers have concluded that business renewal and fading rates vary across industries because of market structure, changes in technology and differences in underlying possibilities for entrepreneurial activity. Industries with the lowest fading rates have economies of scale and concentrated market structure. Entry and renewal are sensitive to economic conditions.<sup>6</sup>

If a community is not experiencing significant levels of capital renewal or reinvestment in their major industries this suggests that all factors including property taxes must be considered as part of the reason

<sup>5</sup> Baldwin, J., & Brown, M. (2004), Four Decades of Creative Destruction: Renewing Canada's Manufacturing Base from 1961-1999, Statistics Canada ISBN 0-662-38274-9. p.3.

<sup>6</sup> Ibid., p. 9.

firms are reluctant to make a new investment in that community. However, it is important to note that property taxes alone are not likely to be the deciding factor in a firm's investment decision-making process.

Major industrial plants in British Columbia appear to be relatively long-lived compared to national averages, and therefore more likely to be exposed to multiple economic cycles. A sample of estimated plant life for industries similar to the major sectors in the Major Industrial Properties categories is shown below.<sup>7</sup>

**Figure 5-7 Average Length of Life of Industrial Plants**

<b>Average Length of Life of Industrial Plants</b>	
<b>Industry</b>	<b>Average length of life of new plants</b>
Wood	15.0
Paper and Allied Products	18.3
Primary Metal	22.6
Non-metallic mineral products	14.9
Refined Petroleum and Coal	16.2
Chemical and Chemical Products	17.4
All Industries	16.5

Many of the large industrial facilities in the province have survived much longer; though in many (if not most) cases their life has been extended either through reinvestment or financial restructuring, or escalation of commodity prices.

### 3.4 Economic Obsolescence

Plants may cease to be competitive for a number of reasons including:

- Resource depletion.
- Entry of new low cost firms.
- Exchange rates.
- Cyclical or secular (long term) price declines.
- Rising variable costs (labour, energy, etc.)
- Rising fixed costs (capital, insurance, property taxes, etc.)
- Obsolete technology.

Some of these are beyond the control of individual firms, and almost all of these are beyond the control of local governments.

The life of plants that have become uncompetitive may be extended through financial restructuring. Essentially this reduces the fixed costs related to the original investment (interest and amortization costs) through one of two methods:

- A write-down of the capital value of the plant.
- Sale of the assets to a new entrant or competing firm, often as a result of bankruptcy or receivership.

Following the restructuring the plant can be more competitive due to the lower level of fixed costs. However, in this case the property tax burden becomes a much larger share of fixed costs related to plant operations and may become a major issue for the plant owner.

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<sup>7</sup> Death in the Industrial World: Plant Closures and Capital Retirement p. 12. These estimates are weighted by employment.

### 3.5 Plant Closures

Plant closures are an inevitable feature of industrial operations.

*The death of industrial units is the final stage in a life-cycle—one that may either have been brutally short, as is the case for the majority of entrants, or one that may mark the passage of an era dominated by a mature producer that has been unable to adapt to changing circumstances. The death of producers marks a transition as resources are reallocated from one use to another.*<sup>8</sup>

Firms typically resort to plant closures only when it is clear there is no prospect of profitable operations in the future, or when they are unable to continue operations due to cash flow constraints. In addition to capital losses, firms may incur significant costs in closing major industrial plant including severance payments to the labour force and environmental remediation costs. Property taxes are one of the smaller components of the total cost structure of major industries operating in B.C. Plant closure decisions are influenced by not only the cost structure of the production facility but also the market outlook for the products being made and the company's investment criteria. A company's equity investors have a higher sensitivity to the impact of all components of a firm's total cost structure because their capital is at risk.

### 3.6 Conclusions

The majority of industries in the Class 4 category share similar market and cost structures:

- They are price takers in global commodity markets which are subject to cyclical downturns.
- Capital investment requirements for new plants are high.

Under these circumstances we would expect the following decision patterns:

- Property taxes are not a significant factor in investments in major capital investments because anticipated costs are small relative to total operating costs and the revenue potential over the economic life of the new investment. These projects tend to be undertaken in periods of high commodity prices when investors see a potential for extraordinary profits. Therefore a business decision to undertake a major capital investment is most sensitive to the major factors that contribute to either revenue or cost uncertainty. It is not possible to measure the full impact that property taxes have in major investment decisions because there is no way of identifying projects that did not proceed due to a higher cost structure in the province.
- Property taxes do affect decisions on re-investment in existing facilities. If firms decide not to re-invest the long term viability of operations may be threatened. In the forest sector, firms are requiring rapid payback of capital when undertaking investments due to the industry downturn. A payback of 1 year for minor capital projects and 5 to 10 years for major projects is typical. Firms are seeking exemptions from taxation for their new investments to provide additional certainty for their capital recovery and to meet their investment objectives.
- Property taxes will have a larger impact on investment decisions for firms with multiple locations. Capital renewal and business expansion decisions are based on opportunity costs. While re-investment in a plant may be profitable, firms with multiple locations will optimize their allocation of capital to the projects which have the highest overall return on an incremental basis. Since capital is scarce those jurisdictions with high fixed costs will receive relatively fewer investment dollars than competing alternatives. In addition to the internal rate of return on their capital, firms will consider the differential revenue and cost implications to existing production and sales. Other things being equal, firms have an incentive to favour investment in mills located outside of municipal boundaries or other political jurisdictions with lower major industrial tax rates.

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<sup>8</sup> Death in the Industrial World: Plant Closures and Capital Retirement John R. Baldwin, Statistics Canada Catalogue no. 11F0027MIE — No. 033 May 2005 p. 5.

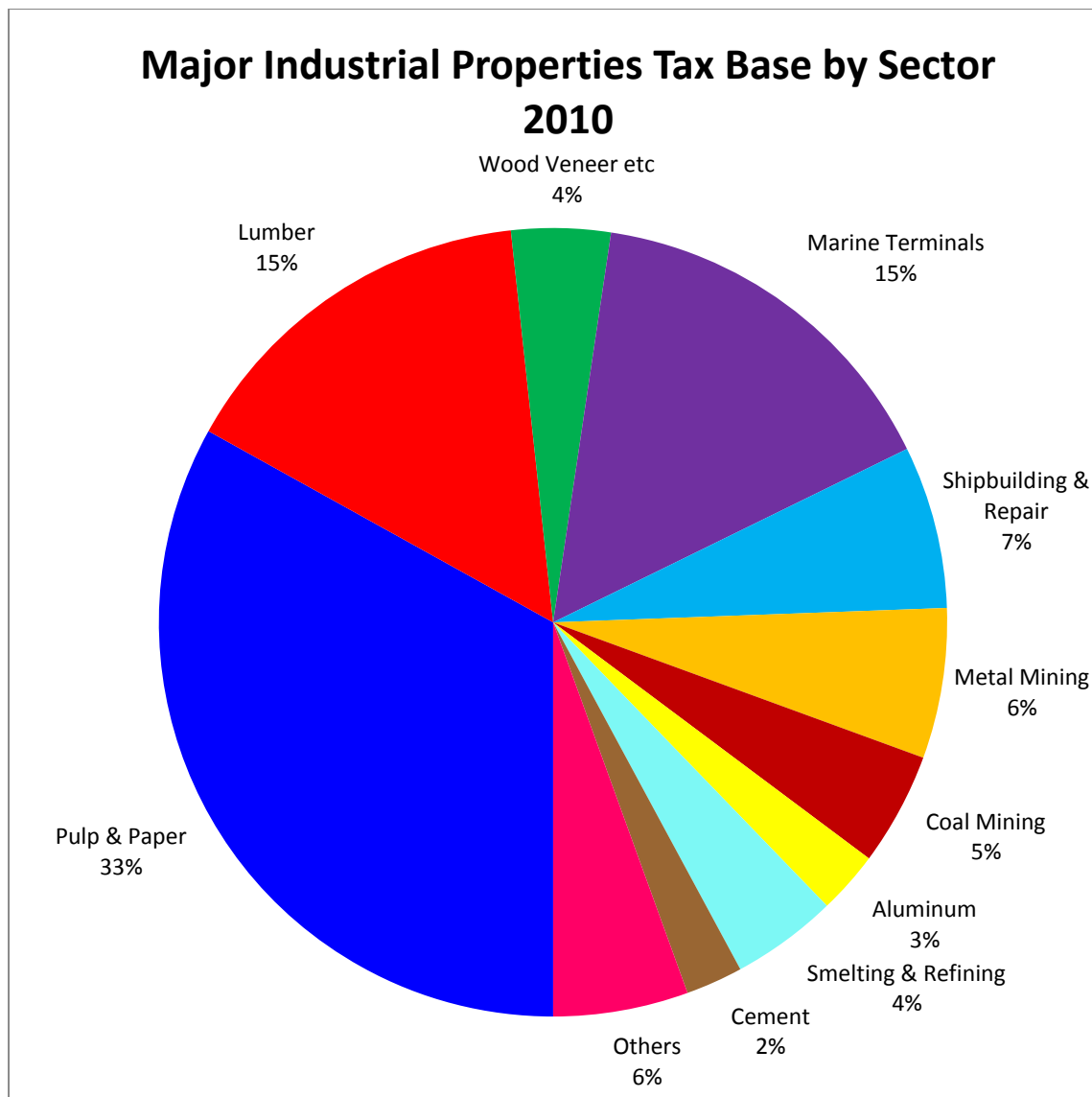
- Property taxes become a major factor for firms in financial distress due to structural or cyclical factors, because property taxes may constitute a large portion of firms' fixed costs. The "tipping point" may be the decline in profitability to the point where revenue is insufficient to cover the weighted cost of capital. Since debt is a legal obligation that must be paid this leaves the shareholder's equity investment in either retained earnings or share capital at risk. Firms and equity investors become very concerned about the level of property taxes when their rate of return is insufficient in relation to the risk. Investors look to see what incremental operating improvements can be made to make the rate of return acceptable.

## 4 Tax Policy and Industry Cycles

### 4.1 Major Industrial Properties Tax Base by Category

The Major Industrial Properties total assessment by sector for 2010 is shown below.

**Figure 4-1 Major Industrial Properties Tax Base by Sector 2010**



The forest products sector accounts for 52% of the total. Pulp, paper and linerboard facilities account for 33% of the total tax base, followed by sawmills with 15%. The metals and minerals sector (metal and coal mining, aluminium production, and smelting and refining) accounts for an additional 18%. Together the forest products and metals and minerals sectors account for 70% of the total assessed value of Class 4 properties. These resource-based industries are subject to cyclical market downturns which can have a significant impact on their short term financial viability.

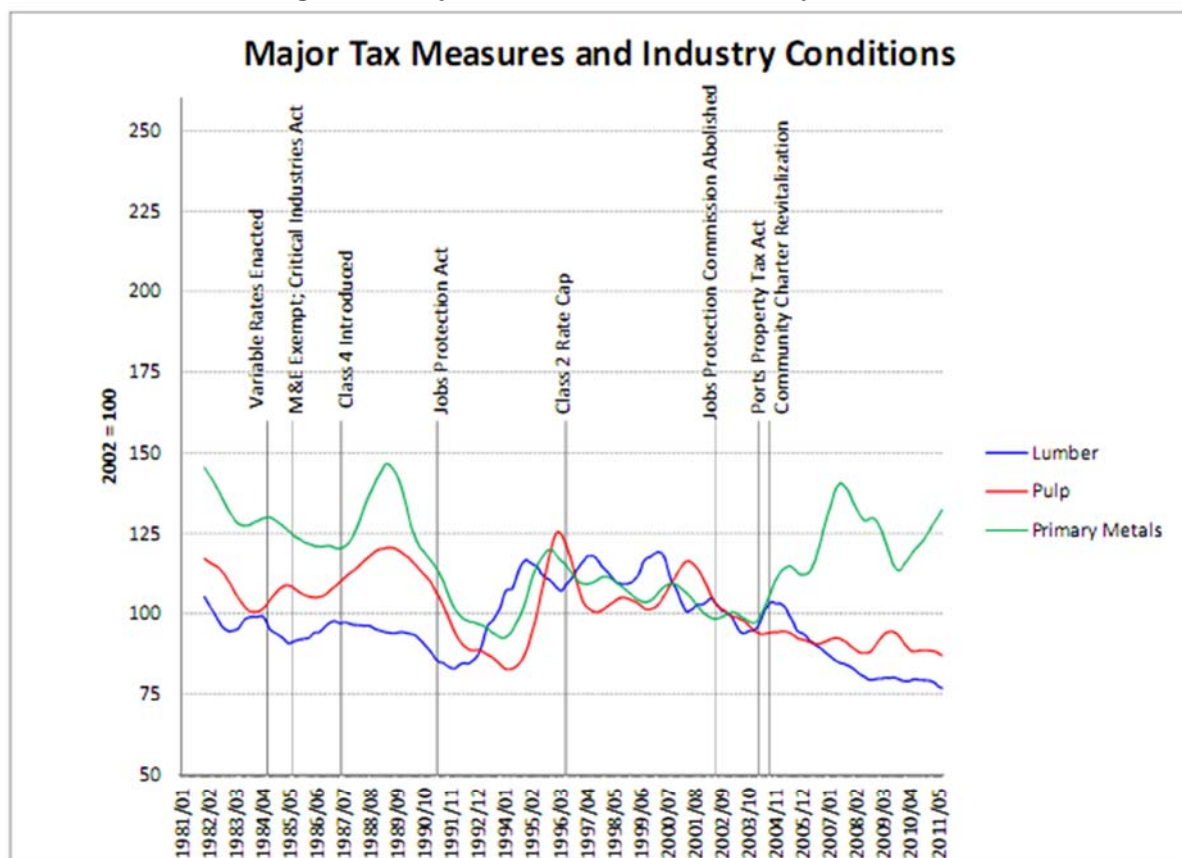
Marine terminals (including grain terminals) account for 15% of total Class 4 assessed value. These operations are also subject to variations in business volume which can substantially affect their financial results.

## 4.2 Property Tax Policy and Economic Cycles

Over the last thirty years tax policy related to Major Industrial Properties has evolved in response to cyclical downturns in the resource industries which comprise the largest portion of the tax base. In periods of depressed industry conditions, the Province has used legislation outside of the property taxation system to assist industries in financial difficulty.

A chart illustrating the timeline of major events in Class 4 tax policy relative to industry conditions is shown below.<sup>9</sup>

**Figure 4-2 Major Tax Measures and Industry Conditions**



<sup>9</sup> The depictions of industry conditions in the figure above are based on Statistics Canada Producer Price Indexes which estimate the prices received by producers in major North American Industrial Classification (NAICS) industry categories. For purposes of analysis, the data has been deflated using the Consumer Price Index to adjust for inflation and smoothed using a 12 month moving average to show trends more clearly.



The data shows the significant downturns in industry fortunes which have occurred over the last 30 years: the recession in the early 1980's which bottomed out around 1985; and the recession in the early 1990's beginning in around 1991. The current situation is somewhat unique in that conditions in the forest and mining sectors have diverged, with forest products (especially lumber) suffering a severe downturn due to the collapse of the US housing market, while metal prices remain high based on robust demand from China.

- The current system of province-wide assessment based on depreciated replacement cost rather than market value was implemented in response to the large tax refunds that arose as result of appeals against assessments placed on industrial plants following the collapse of industrial property values in 1982. The intent was to ensure a more predictable revenue stream by making property tax costs become fixed costs rather than market variable costs. However, the new system allowed municipalities to vary tax rates. The variable tax rates system was implemented following passage of the Property Tax Reform Act in 1983.<sup>10</sup>
- In response to continuing weakness in resource industries the Province removed Machinery and Equipment from the property tax base in 1986. The Province also passed the Critical Industries Act which provided for a Commissioner who could assist in negotiating measures (including property tax reductions) to assist failing industries.
- In 1987 Class 4 Major Industry Properties was introduced to provide a more stable industrial tax base for municipalities, and the Major Industrial Properties Manual was developed for valuation of properties.
- In 1992 the Jobs Protection Act provided for appointment of a Jobs Protection Commissioner to carry on the work previously undertaken under the Critical Industries Act to assist failing industrial enterprises. Major industrial enterprises which received assistance (including renegotiation of property taxes) from the Jobs Protection Commission in the early 1990's included the Cominco (now Teck) smelter at Trail.
- In 1996 the Province passed BC Regulation 329/96 imposing limits on the tax rate which applies to Class 2 (Utilities) property for general municipal purposes.
- In 2002 assistance from the Jobs Protection Commission was found to be a countervailable subsidy by the United States Department of Commerce's "final determination" in the subsidy and dumping cases involving Canadian exports of softwood lumber products. The Commission was abolished by the Province the same year.
- In 2004 the Province passed the Ports Property Tax Act which limited tax rates on port terminals in the Lower Mainland and Prince Rupert.
- Also in 2004 the Community Charter gave municipalities the power to exempt properties from municipal property taxes under section 226. To use this authority, a Council must establish a revitalization program (with defined reasons for and objectives of the program), enter into agreements with property owners, and then exempt their property from taxation once all specified conditions of the program and the agreement have been met. Exemptions may apply to the value of land or improvements, or both. Councils are free to specify, within their revitalization programs, the amounts and extent of tax exemptions available. Revitalization tax exemptions are limited to municipal property value taxes (Section 197(1)(a) of the

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<sup>10</sup> A more detailed discussion of the evolution of Class 4 property tax policy can be found in Municipal property tax in BC: Principles and provincial strategies to shape local tax distribution policy Kate Berniaz; Advanced Management Report Prepared for Ministry of Community and Rural Development July 31, 2009.

Community Charter only) and do not extend to school and other property taxes, such as parcel taxes. An exemption may be granted for up to 10 years. The authority to provide a revitalization tax exemption is not subject to section 25 of the Community Charter (prohibition against assistance to business).<sup>11</sup>

- In 2007, new regulations regarding the assessment of facilities on port property were implemented, and amendments to the Community Charter were passed to make revitalization program options more flexible.
- Starting in the 2009 taxation year, an Industrial Property Tax Credit reduced provincial school property tax on major industrial (class 4) and light industrial (class 5) properties by 60%.

### 4.3 Municipal Tax Concessions

Municipalities are authorized to charge different tax rates for different classes of properties, but are required to charge the same rate to individual properties within each class<sup>12</sup>. However, this is not a barrier to municipalities with a single Class 4 taxpayer adjusting their tax rate to assist businesses in financial distress.

Revisions to the Community Charter in 2004 provided additional flexibility for municipalities in taxation matters. Section 226 of the Community Charter provides authority to exempt property from municipal property value taxes. To use this authority, a Council must establish a revitalization program (with defined reasons for and objectives of the program), enter into agreements with property owners, and then exempt their property from taxation once all specified conditions of the program and the agreement have been met. Exemptions may apply to the value of land or improvements, or both. Councils are free to specify, within their revitalization programs, the amounts and extent of tax exemptions available. Municipalities have taken advantage of the revitalization tax exemptions for a variety of purposes. Some have provided exemptions for Class 4 properties in order to encourage investment or maintain industrial activity.

#### 4.3.1 City of Powell River

In 2001 the Pacifica pulp and paper mill in Powell River was taken over by NorskeCanada as part of a transaction which included the four former Fletcher Challenge mills on the Coast: Powell River, Port Alberni, Crofton and Elk Falls. The kraft mill at Powell River was closed in 2001 and the City of Powell River was approached by NorskeCanada for tax relief on the pulp and paper mill located in the community. Property taxes on the mill at the time totalled \$5.2 million and accounted for over 50% of the City's tax revenue. In 2003 council passed a motion to reduce major industry taxes by \$200,000 annually for five years to help the company lower costs and maintain employment.<sup>13</sup> The company also successfully renegotiated its collective agreements with Locals 76 and 1 of the Communications, Energy and Paperworkers Union. The company was renamed Catalyst Paper in 2005.

Catalyst's financial performance was substantially affected by the recession which began in 2008. On July 1, 2009, Catalyst paid \$1.5 million to each municipality where its mills are based, along with school and other taxes collected by the municipality on behalf of other governments, and advised the municipalities it would not pay the balance of taxes owing.<sup>14</sup> The company launched an unsuccessful court challenge against the municipalities to appeal its tax bills. In 2010 Catalyst announced it would pay its full municipal

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<sup>11</sup> Revitalization Tax Exemptions A Primer on the Provisions in the Community Charter Ministry of Community Services January 2008 p2.

<sup>12</sup> Specific agreements were authorized by the Province under the Municipalities Enabling and Validating Act.

<sup>13</sup> "Powell River: The mill that could and did" Powell River Living April 2011

<http://www.prliving.ca/Issue1104.pdf>

<sup>14</sup> Catalyst Paper website <http://www.catalystpaper.com/about/municipal-property-taxation>

property tax bill in three of the four municipalities that host its BC paper mills, but sought leave from the Supreme Court of Canada to appeal a recent court decision involving North Cowichan.

The taxation issue at Powell River was resolved through signing of an agreement in principle with Catalyst in April 2010 that had the objective of reducing major industrial taxation paid by Catalyst while assisting the City in reducing its capital expenditures for future municipal service infrastructure. The company agreed to sell the City the unoccupied mill administration office building and associated lands for a nominal price and the City and Catalyst agreed to explore a variety of joint economic development initiatives. The agreement also includes a four-year mortgage extension to the PRSC lands, a three-way partnership with Catalyst, The City and Tla'Amin First Nation. The agreement resulted in a \$1,470,000 reduction in major industry taxes in 2010. Over the next five years the City will continue to reduce taxation levels for major industry with a goal of achieving average provincial taxation levels for this tax class.

Since 1999, the City has achieved a cumulative total of \$13 million in tax reductions in the Major Industrial class. The tax reductions are credited with facilitating investment in the Powell River mill to diversify production from newsprint to higher grades on paper, including installation of a new bleach plant in 2005 and development of new brighter grades of paper.<sup>15</sup>

#### 4.3.2 Grand Forks

In May 2005 the City of Grand Forks passed a bylaw to enact a Major Industrial Revitalization Tax Exemption Area and Program for Class 4 properties in a specified area encompassing three Class 4 properties: the Pope and Talbot sawmill, the Roxul Inc. rock wool manufacturing facility, and the Canpar Industries particle board mill. The program provided for a 5 year tax exemption (2005 to 2010) for major improvements greater than 10% of the current assessed value, with taxes to be phased in over the following 5 year period. The program included provisions for a 5 year extension which has been implemented.

The only firm which took advantage of the incentive was Pope and Talbot. In October 2005 the company announced consolidation of production from its two Boundary sawmill operations to one facility in Grand Forks, B.C., with closure planned for the Midway mill. Pope and Talbot filed for bankruptcy protection in Canada and the U.S. in November 2007. In January 2008 Interfor purchased three Pope and Talbot mills for \$69 million, including the mills in Castlegar and Grand Forks and associated timber tenures, and a mill in Spearfish, South Dakota which was subsequently sold for \$14 million.<sup>16</sup>

Following the Interfor acquisition, the Grand Forks mill operated at a reduced level of production through 2008 and 2009. In 2010, Interfor announced plans for a \$40 million modernization project for the Grand Forks mill. A cogeneration plant was also proposed for the Grand Forks site, but Interfor was unsuccessful in winning a contract with BC Hydro for the sale of electricity.

#### 4.3.3 Castlegar

In July 2009 Zellstoff Celgar notified the City of Castlegar that it was suing the city for unjust taxation and refusing to pay the \$3.2 million the company owed that year. The pulp mill accounted for approximately 45% of Castlegar's tax revenue. The taxation dispute was resolved in March 2010 when the two parties signed a Memorandum of Understanding (MOU) with five key points:<sup>17</sup>

- Celgar agreed to withdraw its court action against the city;

<sup>15</sup> Powell River Living April 2011

<sup>16</sup> "Interfor buys Pope & Talbot mills, sells one immediately" Vancouver Sun January 8, 2008.

<sup>17</sup> "Councillor votes 'no' on budget; Celgar deal signed" The Castlegar Source March 2010  
<http://castlegarsource.com/node/5119>

- Celgar agreed to pay all outstanding taxes, penalties and interest;
- Castlegar agreed to reduce taxes by \$350,000 this year; \$110,000 over the next two years and will then consider another \$190,000 reduction thereafter.
- Both parties agreed to approach the province to jointly request the city be allowed to increase taxation on dams within city limits, then using said funds partly for general city revenue and partly to further reduce major industry taxes;
- The city agreed to pass a revitalization tax exemption bylaw discounting, for major industry operations, the increased assessed value resulting from capital investment.

In October 2010 the City of Castlegar adopted Revitalization Taxation Exemption Bylaw No. 1130. The bylaw sets out conditions for a tax exemption for a maximum period of 10 years based on a minimum annual investment of \$500,000. The amount of the exemption is 100% of the difference between the 2010 tax level and the tax payable in the year for which the exemption is granted.

#### 4.3.4 Mackenzie

The District of Mackenzie was among the communities hardest hit by the forestry downturn in 2008. All of the community's mills were shut down, including two sawmills and paper mill owned by Abitibi Bowater, the Pope and Talbot pulp mill, and the Canfor lumber mill.

In 2009 the District negotiated a tax reduction with Canfor to facilitate reopening of the Canfor sawmill. The Canfor Revitalization Tax Exemption Bylaw No. 1245 was passed in October 2009. It specified that in return for continuing operations at the plant the City would grant a tax exemption sum of the lesser of the actual municipal property taxes payable for that year or \$150,000; and 100% of the municipal property taxes payable in respect of any increase in the assessed value of land or improvements on the Parcels in a calendar year of the Term over the previous year.

In exchange, Canfor agreed to minimum levels of employment and operations at the mill over the 2 year term of the agreement. A minimum employment level of 50 full time employees, and 43 weeks of operation per year, were specified.

In July 2010 Conifex acquired the former Abitibi sawmills and associated timber tenures, and the paper mill. Conifex indicated they intended to dispose of the paper mill assets. The former Pope and Talbot pulp mill was acquired by Paper Excellence in 2010. Tax reduction agreements similar to the Canfor agreement were subsequently negotiated with these companies as well.

#### 4.4 Ports Property Tax Act

The 2004 Ports Property Tax Act is an example of the Province trying to stimulate investment in a priority sector through targeted property tax legislation.<sup>18</sup> The *Ports Property Tax Act* limits the property tax rate on selected port properties in the Major Industry Class 4 category. The legislation exempts berth corridor improvements at specific facilities, places a cap on municipal tax rates for most major terminals in Class 4 and lowers the cap rate on new investment. Properties covered by the PPTA are specified in the Ports Property Tax Act Eligible Port Property Designation Regulation, and include essentially all major cargo terminals in the Lower Mainland and Prince Rupert.

Following passage of the PPTA in 2004 the property tax rate on existing port property was capped at \$27.50 per \$1,000 of assessed value for five years, and the tax rate on new investment was capped at

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<sup>18</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/00\\_04007\\_01#section1](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_04007_01#section1)

\$22.50 per \$1,000 of assessed value for 10 years from the initial assessment. In 2008, the Province extended the limit on port property taxes to 2018 and the limit on the tax rate for new investment to 2019.

The Province provided compensation to municipalities affected by the legislation. When the limits were renewed in 2008 the compensation was extended to 2018 with increases based on inflation.

Since the PPTA came in place there have been numerous and substantial port investments including the Deltaport Third Berth Project, expansions of Vanterm and Centerm in the Inner Harbour, construction of Fairview Container Terminal in Prince Rupert, and expansions of bulk operations including Neptune Terminals in North Vancouver and Westshore Terminals in Delta. The major portion of these investments consisted of machinery and equipment which is exempt from property taxes. Based on BC Ministry of Community, Sport and Cultural Development information, these investments increased the Class 4 tax base by approximately \$30 million, representing an increase of 11% over the 2004 assessed values at these facilities. Stakeholders interviewed for this study indicated that the PPTA had a major impact on their investment decisions. The investments also took place in a period of rising commodity prices and port traffic.

The PPTA does not include Class 4 marine terminals on the Mid-Coast, Vancouver Island and those locations where a marine terminal is part of the industrial complex used in the manufacturing process such as a sawmill, or pulp and paper mill.

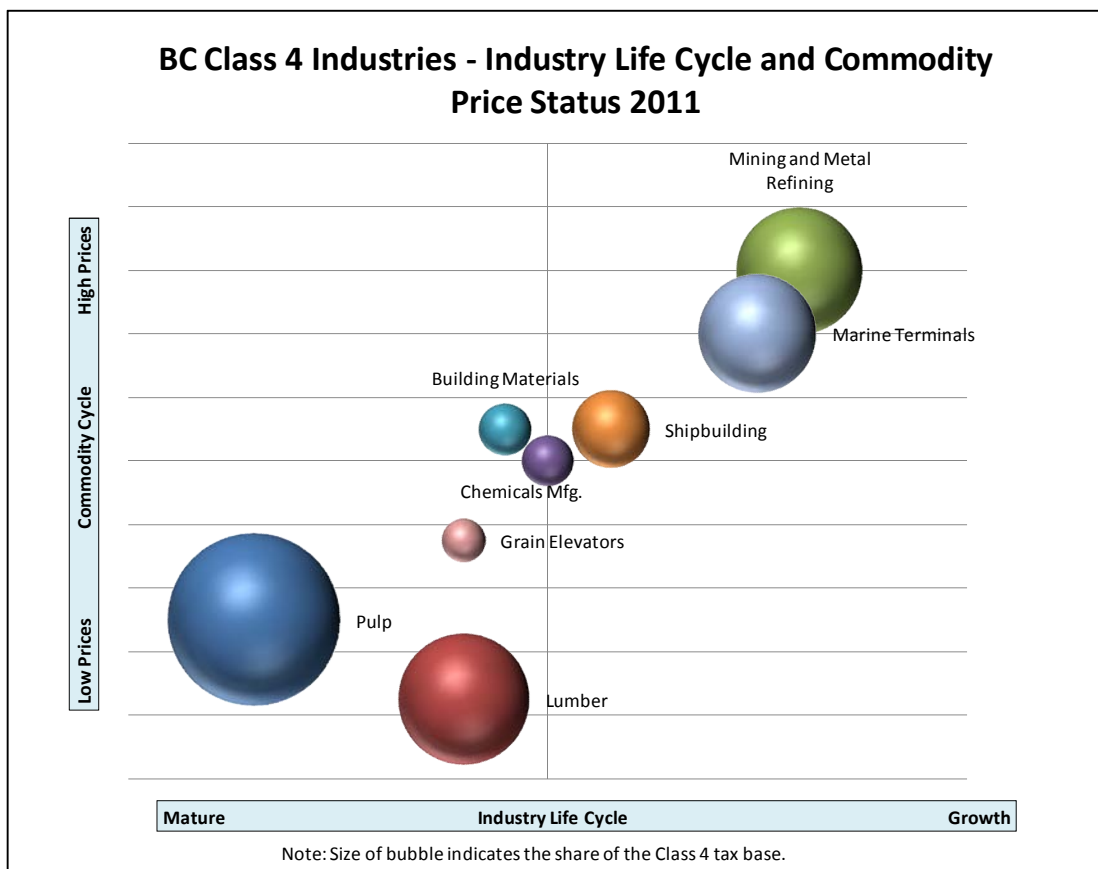
## 5 Major Industrial Properties - Case Study Approach

The study team used the BC Assessment data to identify and categorize properties by industry sector, location, product profile, and other structural characteristics. The categories which have been analyzed include:

- Pulp and Paper
- Sawmills
- Mining
- Aluminum and Refining
- Shipbuilding
- Marine and Grain Terminals

The analysis of the impact of industry life cycle and commodity price cycles on business response to property taxes is a major focus of this study. Each case study provides a sector overview including analysis of competitive factors, industry life cycle, major firms, and a summary of observations from stakeholder interviews. Information for these studies was obtained from existing industry reports, investment and market outlooks and Statistics Canada, Industry Canada and British Columbia Statistics data. The analysis of the forestry sector outlook benefitted from the recent study Research and Analysis Related to BC and North American Forest Products Exports prepared for the BC provincial government. The individual case studies include tables that summarize the major industry's markets, products and relative life cycle stage and growth trends. The diagram below provides a qualitative summary of our views on the current status of each of the major Class 4 industry sectors relative to industry life cycle and commodity price cycles.

**Figure 5-1 Class 4 Industries Industry Life Cycle and Commodity Price Status 2011**



## 6 Pulp & Paper

### 6.1 Industry Life Cycle and Cost Structure

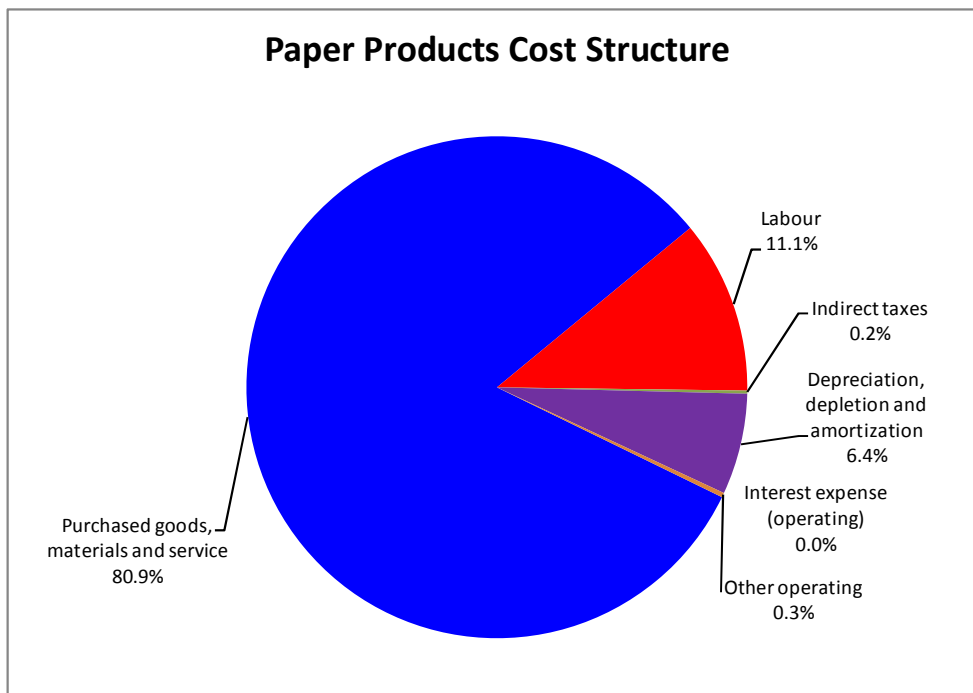
Pulp remains the second largest export product for the BC forest sector. The most significant development over the past decade has been the emergence of China as a major market for BC pulp exports as sales to other traditional markets such as the U.S. and European Union have declined. China has been the largest export destination for BC pulp since 2004. Paper products exports declined by 50% between 2001 and 2010. While the decline in paper and paperboard exports since 2008 can be attributed to the recession, the decline in newsprint began earlier and reflects a longer term decline in overall market demand. In spite of the decline in U.S. demand following the recession, Canadian exporters became more dependent on the U.S. market. The diagram below provides a qualitative assessment of market trends in major geographic markets.

**Figure 6-1 Pulp and Paper Major Markets and Life Cycle Stages**

Pulp & Paper 33% of Major Industrial Tax Base			
Major Industry (Markets)	Product	Life Cycle Stage	Growth Trend
United States	Pulp	Mature	→
	Paper	Decline	↘
Japan	Pulp & Paper	Mature	↘
European Union	Pulp	Mature	→

The typical cost structure of Canadian paper producers from 2005 through 2009 is profiled below.

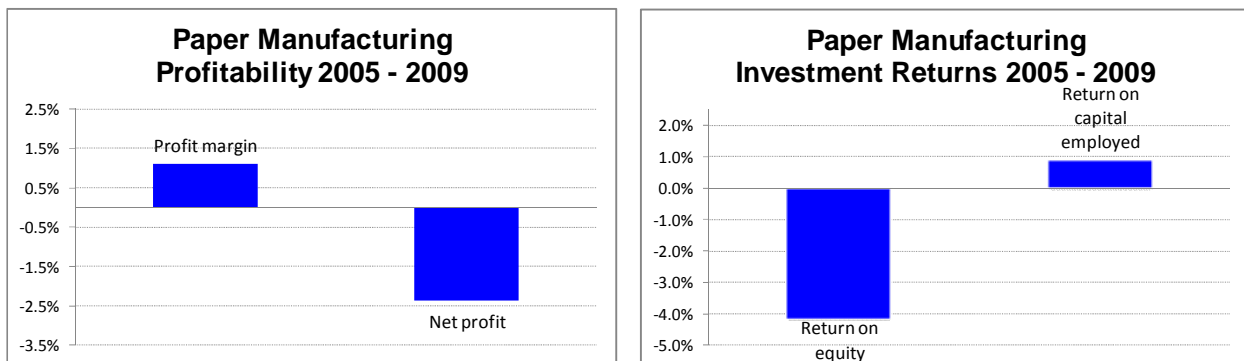
**Figure 6-2 Paper Products Cost Structure**



Based on average costs reported by Canadian producers from 1995 to 2009, purchased goods and services and labour accounted for 92% of total operating costs. Capital costs (depreciation, depletion and amortization) accounted for an additional 6.4%. This figure is relatively low compared to other industries, and may be attributed to the age of the capital stock, the limited investment which has occurred over the last 20 years, and the fact that much of the capital stock has been written off due to poor financial returns.

Profitability and investment returns of the paper products sector over the same period are profiled below. The industry performed poorly, with a profit margin of only around 1% and a return on equity of -4%.

**Figure 6-3 Paper Manufacturing Profitability and Investment Returns**



## 6.2 Competitive Factors

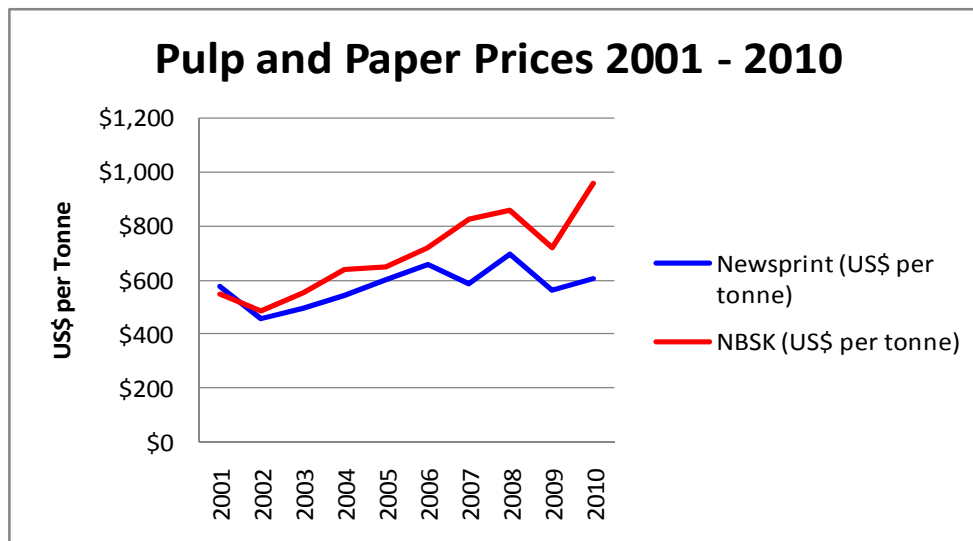
**Resource depletion** - The largest cost for pulp producers is fibre. The primary source of fibre for production of pulp and paper products is byproduct wood chips from sawmill operations. This is supplemented by chipping of whole pulp logs at a higher cost. The cyclical reduction in sawmill activity in the Interior, and downward trend in activity on the Coast has increased the reliance on whole log chipping. Coastal mills have become increasingly dependent on wood chips from the Interior which are trucked from Interior mills to the Lower Mainland where they are loaded into barges for transport to the pulp mills. Current volumes are estimated at 4.5 million tonnes per year.

**Entry of New Low Cost Firms** – International competition in the pulp and paper sector has increased substantially over the last twenty years due to the construction of new plants in the Southern Hemisphere which rely on rapid growing plantation forests as the source of fibre. These plants produce an inferior grade of pulp (Bleached Softwood Kraft or BSKP) compared to BC pulp (Northern Bleached Softwood Kraft or NBSK pulp) but have much lower costs than BC mills. Customers typically mix a small portion of NBSK pulp with the lower cost BSK pulp to improve paper quality.

**Exchange Rates** – Pulp and paper prices are denominated in US dollars so the sector has been affected by the increasing value of the Canadian dollar in the same way as the lumber sector.

**Cyclical Price Declines** – The pulp and paper sector is subject to price instability. Newsprint prices remain low due to long term declines in demand. Pulp and paper prices from 2001 to 2010 are shown below.



**Figure 6-4 Newsprint and Pulp Prices 2006 – 2010**

**Obsolete Technology** – The majority of pulp mills in BC were built prior to 1970. Only two have had major investments in the last twenty years: Howe Sound Pulp and Paper in the late 1980's and Celgar in the early 1990's.

#### **Impact of Competitive factors on the Pulp and Paper Industry**

The cumulative impact of these factors on the pulp and paper industry has resulted in low returns on capital for an extended period. Almost all mills have undergone financial restructuring or closure. Mills which have been permanently closed or financially restructured include:

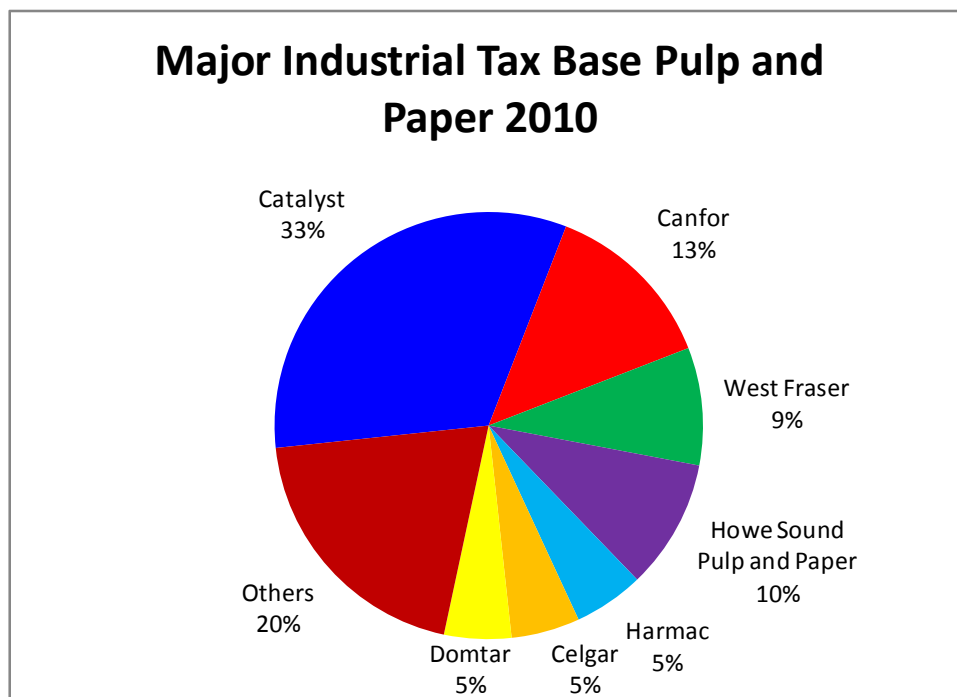
- The Gold River pulp mill closed in 1998 following its acquisition by Bowater from Avenor. The mill had no fibre agreement tied to it and was plagued by high production costs.
- Skeena Cellulose in Prince Rupert closed in 2001. Sun Wave Forest Products, a division of China Paper Group, purchased the mill in 2006. The City of Prince Rupert offered property tax relief from the nearly \$6.5 million in back taxes to Sun Wave, provided the mill was operational by the end of 2007. However, the mill was never restarted and taxes never paid, so on Sept 29, 2009 the City of Prince Rupert took over the mill ownership, and ultimately hopes to find a buyer or operator for the mill site.
- Western Forest Products' Woodfibre mill in Squamish closed permanently in 2006.
- Canfor's investment in Howe Sound Pulp and Paper (50% share) was written off in 1998 and the mill was sold to Paper Excellence BV, a subsidiary of the Chinese firm Sinar Mas, in 2010.
- An investment of \$850 million was made in the Celgar pulp mill in the early 1990's. In 1998 the mill's owner, Stone Venepal, went into receivership. The mill was purchased out of receivership by Mercer International in 2005 for US\$210 million.
- Slocan Forest Products Ltd. wrote off its investment in the Fibreco mill at Taylor in 1999. The mill is currently owned and operated by Canadian Forest Products.
- Harmac Pacific in Nanaimo closed due to the bankruptcy of Pope and Talbot in 2008 and reopened under partial employee ownership in 2008.

- The Mackenzie pulp mill was also affected by the bankruptcy of Pope and Talbot and shut down in 2008. The mill was purchased by Paper Excellence and restarted in 2010.
- The Abitibi pulp and paper mill in Mackenzie was permanently closed in 2008. It was purchased by Conifex in 2010; the company has no plans to reopen it.
- The Port Alice specialty pulp mill closed in 2006 and was reopened by Neucel Specialty Cellulose. Neucell was purchased by the Chinese firm Fulida Group Holdings Ltd. in 2011.
- Catalyst Paper's Elk Falls mill in Campbell River closed permanently in 2010. The fate of Catalyst's remaining pulp and paper plants at Powell River, Port Alberni and Crofton is uncertain. The company's asset value is currently less than their debt, a major portion of which comes due in 2014.
- West Fraser's Eurocan pulp and linerboard plant in Kitimat was permanently closed in 2010.

### 6.3 Pulp & Paper Major Firms

The shares of the total provincial tax base for pulp and paper properties by company are shown below.

**Figure 6-5 Pulp and Paper Assessment by Company 2010**



These estimates are based on data provided to the consulting team by the Ministry of Community, Sport and Cultural Development for use in this study. However, the data for 2010 contains values for a number of plants which have now been permanently closed, including Elk Falls, Eurocan, the Abitibi Mackenzie newsprint mill, Catalyst's paper recycling facility in Coquitlam, and Sun Wave Forest Products (the former Skeena Cellulose mill) in Prince Rupert. Collectively these account for approximately 17% of the total tax base for pulp and paper mills, and approximately 6% of the total Class 4 tax base.

### 6.3.1 Catalyst Paper

Following closure of the Elk Falls mill in 2010, Catalyst Paper operates three coastal mills producing paper (Crofton, Powell River and Port Alberni).

In 2010, Catalyst recorded a total charge of \$304.2 million attributable to permanent closure of the Elk Falls mill in Campbell River, B.C., and the Coquitlam paper recycling facility. This was comprised of \$294.5 million for asset impairment and closure costs and \$9.7 million for related severances. The Elk Falls mill was closed in light of persistent weak markets for commodity paper grades, combined with uncompetitive manufacturing costs, including labour, municipal taxes, fibre, and other input costs. The company stated that the closure is expected to deliver annualized fixed-cost savings of approximately \$13 million in 2011 with the balance of the savings to be realized as the assets are disposed of.

Catalyst's property tax bill was \$23 million in 2008<sup>19</sup>. The company has indicated that property taxes accounted for about half of their financial losses over the past five years. On July 1, 2009, Catalyst paid \$1.5 million to each municipality where its mills are based, along with school and other taxes collected by the municipality on behalf of other governments, and advised the municipalities it would not pay the balance of taxes owing.<sup>20</sup> The company launched an unsuccessful court challenge against the municipalities to appeal its tax bills. In 2010 Catalyst announced it would pay its full municipal property tax bill in three of the four municipalities that host its BC paper mills, but sought leave from the Supreme Court of Canada to appeal a recent court decision involving North Cowichan. In July 2011 Catalyst Paper paid over \$10.7 million of its outstanding property tax bill to North Cowichan, leaving Catalyst Paper owing just under \$400,000 to the municipality for the rest of 2011. Catalyst is continuing with its appeal to the Supreme Court over the 2009 tax bill from North Cowichan.

Catalyst does not release cost information in their annual reports. Based on the reported sales for 2008 of \$1.9 billion and operating loss of \$138.9 million, property taxes of \$23 million accounted for approximately 1.1% of total costs.

### 6.3.2 Canfor and Canfor Pulp Limited Partnership

Canfor's pulp and paper holdings include three mills in Prince George (Intercontinental, Northwood and Prince George Pulp and Paper operated by Canfor Pulp Limited Partnership) and a mill in Taylor operated by Canfor. The predecessor organization to Canfor Pulp Limited Partnership was Canfor Pulp Income Trust which was created by Canfor to acquire and hold, through a wholly owned trust, the Canfor Pulp Trust investments in Canfor's pulp mills. The Trust was converted to a corporation in 2011. Canfor continues to hold a 50.2% ownership share of CPLP.

Financial data for CPLP is shown below.

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<sup>19</sup> Consumption Tax Gap in Municipal Services Main Report Phase 1 Rob Fitzgerald, Tex Enemark and Norm Stickelman for Catalyst Paper 2008 p. 4.

<sup>20</sup> Catalyst Paper website <http://www.catalystpaper.com/about/municipal-property-taxation>

**Figure 6-6 Canfor Pulp Financial Performance 2006 – 2010**

<b>Canfor Pulp Limited Partnership Financial Data 2006 - 2010 (\$ Millions)</b>							
	<b>Operating Income</b>	<b>Sales</b>	<b>Cost of Product Sold</b>	<b>Freight and Distribution Costs</b>	<b>Amortization</b>	<b>Selling, General and Admin.</b>	<b>Business Interruption Insurance</b>
2006	131	830	513	114	49	23	
2007	134	922	598	111	53	26	
2008	69	826	596	109	48	25	-19
2009	12	817	611	121	49	23	
2010	183	1001	622	123	47	26	

Based on the data provided by the Ministry of Community, Sport and Cultural Development the tax payable on CPLP's 3 mills in 2010 was approximately \$12.5 million, approximately 1.5% of total costs.

### 6.3.3 West Fraser Timber

West Fraser is the largest producer of softwood lumber in North America. In 2008, the company owned 10 lumber mills in BC with a total capacity of 2.4 billion board feet; 3 pulp mills (Eurocan, Quesnel River Pulp Company, and a 50% share of Cariboo Pulp and Paper); and veneer, plywood, panel and utility pole mills<sup>21</sup>. In addition, the company owns major mills in Alberta and the U.S. Southeast region. The company has a major cluster of facilities in Quesnel, including two lumber mills, two pulp mills, and a plywood, panel and veneer plant.

West Fraser's financial performance from 2005 to 2010 is highlighted below. Based on data supplied by the Ministry of Community, Sport and Cultural Development, property taxes totalled \$15.4 million in 2010 or approximately .6% of total costs. Taxes on the pulp and paper facilities accounted for approximately 50% of West Fraser's total property taxes.

**Figure 6-7 West Fraser Financial Performance 2005 – 2010**

<b>West Fraser Financial Data 2005 - 2010</b>									
	<b>Operating Earnings</b>	<b>Sales</b>	<b>Cost of Product Sold</b>	<b>Freight and Distribution Costs</b>	<b>Export Taxes</b>	<b>Amortization</b>	<b>Selling, General and Admin.</b>	<b>Asset Impairment and Restructuring Costs</b>	<b>Duty Refund</b>
2006	406	3,025	2,074	487	17	226	103	38	-325
2007	-133	3,022	2,294	444	84	239	94		
2008	-141	2,863	2,117	477	54	254	100		
2009	-181	2,353	1,725	396	47	245	99	22	
2010	257	2,886	1,807	441	60	181	140		

The major change since 2008 is the closure of the Eurocan linerboard and kraft paper mill in Kitimat which was announced in October 2009 and implemented in January 2010. Reasons cited for the decision to close the mill included the following:

- Declining prices due to the global recession.
- Impact of the rising value of the Canadian dollar.

<sup>21</sup> Source: BC Major Timber Processing Facilities 2008 BC Ministry of Forests.

- Reduction in availability of residual chips from sawmilling due to sawmill shutdowns and production curtailments. This resulted in increased fibre costs due to increased use of whole log chipping.
- The need for long term, secure customers for residual wood chips from West Fraser's sawmills. With the closure of Eurocan, residual chips from West Fraser's sawmills in Houston, Smithers and Fraser Lake will now go to pulp mills in Prince George and Quesnel.
- The Mountain Pine Beetle infestation is expected to have a long-term negative impact on the province's softwood lumber production, which will reduce the availability and increase the cost of fibre for the pulp and paper industry in the Northern Interior.

The closure resulted in the loss of approximately 535 jobs.<sup>22</sup> Financial data related to the Eurocan operation is provided below.

**Figure 6-8 Eurocan Financial Performance 2009 and 2010**

<b>Eurocan Financial Performance (Million \$)</b>		
	<b>2009</b>	<b>2010</b>
Sales	\$259	\$71
Operating Loss	-\$211	-\$20
Other Income	\$0	\$15
Loss before Income Tax	-\$211	-\$5
Income Tax Recovery	\$65	\$1
Loss	-\$146	-\$4
Production (000 Tonnes)	\$422	\$29
Shipments (000 Tonnes)	\$401	\$121

West Fraser reported an operating loss of \$211 million in 2009 related to the Eurocan operation of which approximately \$29 million was related to the manufacture and sale of linerboard and kraft paper. The remainder of the operating loss relates to asset impairment and restructuring charges that were recorded as a result of the closure of the mill. The estimated property tax payable on the Eurocan mill in 2010 was \$5.5 million, or approximately 1.2% of the mill's operating costs in its final year of operations.

## 6.4 Pulp & Paper Interviews

A broad range of pulp and paper companies were interviewed for this project to solicit their views on the impact of property taxes on their business decisions. A summary of their responses is shown below.

### 6.4.1 New Investments

None of the companies interviewed are currently investing in greenfield projects.

### 6.4.2 Ongoing Operations

All of the companies interviewed indicated that property taxes are not a factor in determining production levels or the allocation of production among their mills. However, many noted that the downturn in the pulp market has resulted in an enhanced effort to manage fixed costs due to financial losses on current operations.

### 6.4.3 Capital Re-Investment

Due to the industry downturn, firms are requiring rapid payback of capital when undertaking investments. A payback of 1 year for minor capital projects and 5 to 10 years for major projects is typical. Firms are seeking

<sup>22</sup> Backgrounder to October 28, 2009 News Release Eurocan Mill Closure West Fraser October 28, 2009.

exemptions from taxation for their new investments to provide additional certainty for their capital recovery. Major firms have production facilities in other regions and jurisdictions that provide a greater choice in their capital re-investment decisions.

Major investments in pulp mills have been limited to expansion of cogeneration facilities that can provide additional revenue through the sale of electricity. A large portion of this investment was financed by an aid package of C\$1 billion by the federal government to offset the impact of US subsidies on use of “black liquor” as fuel for pulp mills. The federal contributions are being provided to pulp and paper companies over a three-year period to promote environmentally friendly projects, including green power projects and cogeneration plants.

## 7 Sawmills

### 7.1 Industry Life Cycle and Cost Structure

The BC forest industry consists of two distinct regional sectors, due to the different tree species predominating in each region. The Interior and Coastal segments of the industry have diverged with respect to markets, capital investment and market performance.

The B.C. Interior forest industry has maintained its competitiveness through investments in state of the art equipment and large scale automated mills. The sector benefited from the Forestry Revitalization Plan in 2003 that reduced regulation and streamlined procedures, and mergers and acquisitions over the past ten years have transformed it. However, the full impact of the Mountain Pine Beetle (MPB) infestation has yet to be faced. In recent years, harvesting was accelerated to salvage the timber damaged by the infestation. As this activity winds down, the availability of timber will decline and many Interior producers will face major challenges. Lumber production in the Interior totalled approximately 10 billion FBM in 2010, 89% of the BC total.

The Coastal forest sector has faced significant economic challenges over the last 15 years due to the decreasing availability of old-growth timber, high fibre and manufacturing costs, and shifts in market demand. Lumber production in the Coastal sector declined almost 50% from 2004 to 2008. The turmoil has resulted in a substantial restructuring of the industry. A single firm, Western Forest Products, now dominates the lumber sector on the Island. Western Forest Products now accounts for over 80% of total lumber capacity and almost 90% of mills with capacity greater than 10 million board feet. The Coastal pulp and paper industry has also faced significant challenges.

Sawmilling activity has been the driver of forest industry activity in BC. Returns from processing of the higher value sawlogs are critical to the economics of logging operations, and enable harvesting of lower value pulp logs and the byproducts of sawmilling – wood chips and sawdust – are used in the production of pulp and panel products.

**Figure 7-1 Softwood Lumber Major Markets and Industry life cycle**

Sawmills 15% of Major Industrial Tax Base			
Major Industry (Markets)	Product	Life Cycle Stage	Growth Trend
United States	Softwood Lumber	Mature	↗
China	Softwood Lumber	Growth	↑
Japan	Softwood Lumber	Mature	↘
European Union	Softwood Lumber	Mature	→

The US market has been the dominant market for BC softwood lumber exports, accounting for an annual average of 78% of lumber exports by volume from 1988 to 2006. Softwood lumber demand is linked to housing starts. The decline and subsequent collapse of residential construction activity that began in 2006 resulted in a decline of over 50% in softwood lumber consumption from the peak 2005 level to 2009. Considerable uncertainty exists regarding the extent and timing of recovery in the US housing market due to weak consumer confidence, and public sector debt levels. Hopes for a recovery in 2011 have diminished due to continuing weakness in the first half of the year. BC producers are effectively prevented from increasing their share of the U.S. softwood lumber by the provisions of the 2006 Softwood Lumber Agreement until the market recovers and lumber prices rise. Exports to China have recently increased to levels rivalling those to the US.

Typical industry costs and returns from 2005 to 2009 are profiled below.

Figure 7-2 Wood Products Manufacturing Cost Structure

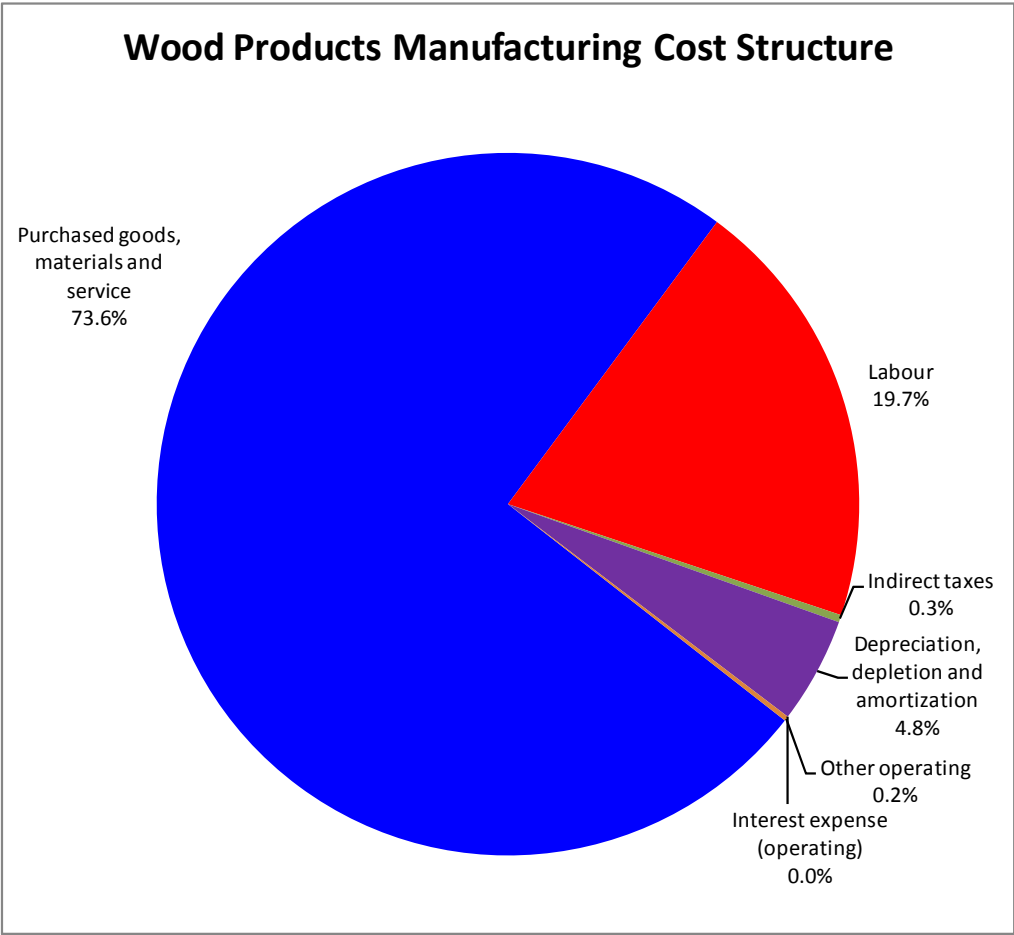
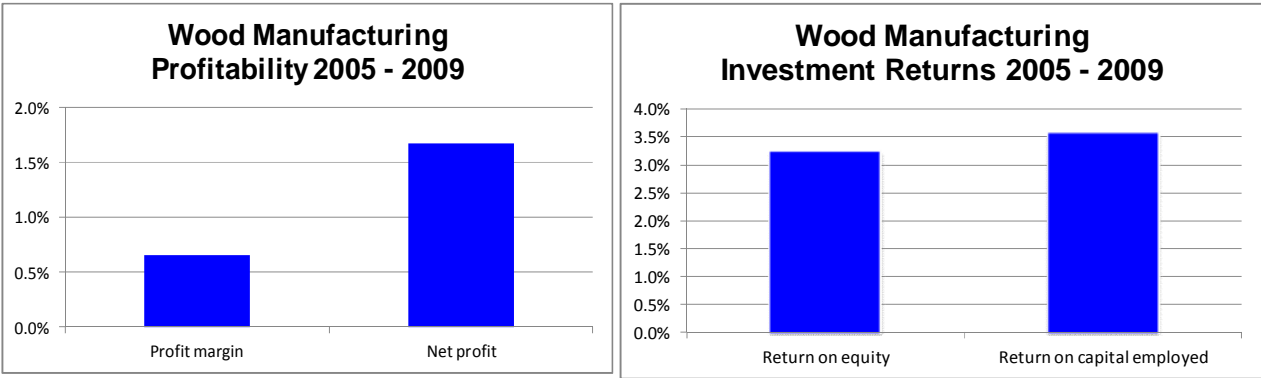


Figure 7-3 Wood Products Manufacturing Profitability and Investment Returns





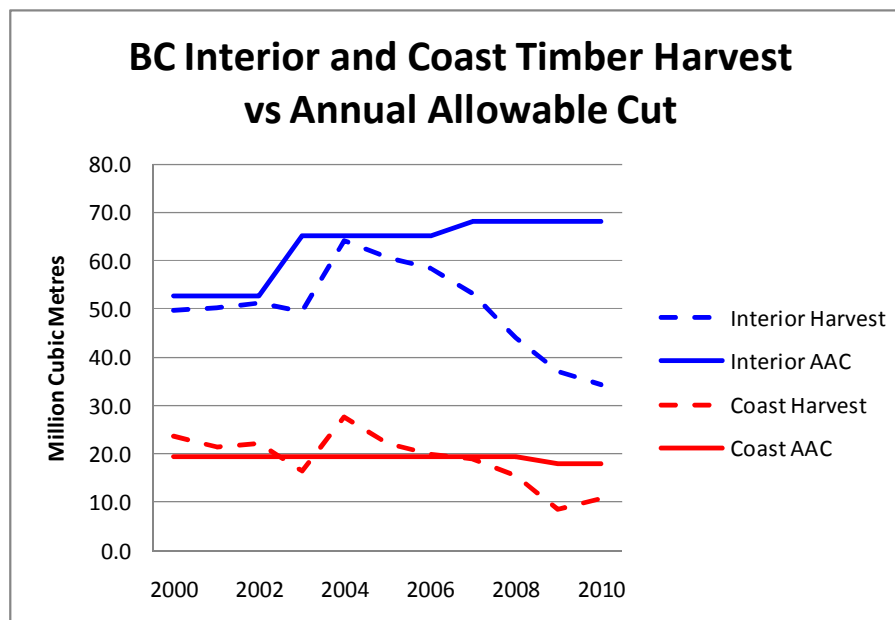
## 7.2 Competitiveness Factors

**Resource depletion** - The primary determinant of the location of sawmilling in the interior will be the impact of the Mountain Pine Beetle epidemic on timber supply. B.C. Ministry of Forests, Lands and Natural Resource Operations estimates that over 50% of the province's mature lodgepole pine has already been killed by the MPB, and by 2020, a cumulative total representing 67% will have been killed. It is anticipated that Annual Allowable Cuts will begin to decline in around 5 years following a period of accelerated harvesting to salvage the damaged timber. Industry experts have forecast this may result in the permanent closure of 16 out of a total of 77 major sawmills in the Interior by 2020<sup>23</sup>.

The major resource issue in the Coastal industry is the declining supply of old growth timber.

Timber harvests and Annual Allowable Cuts for the Interior and Coast industries are shown below.

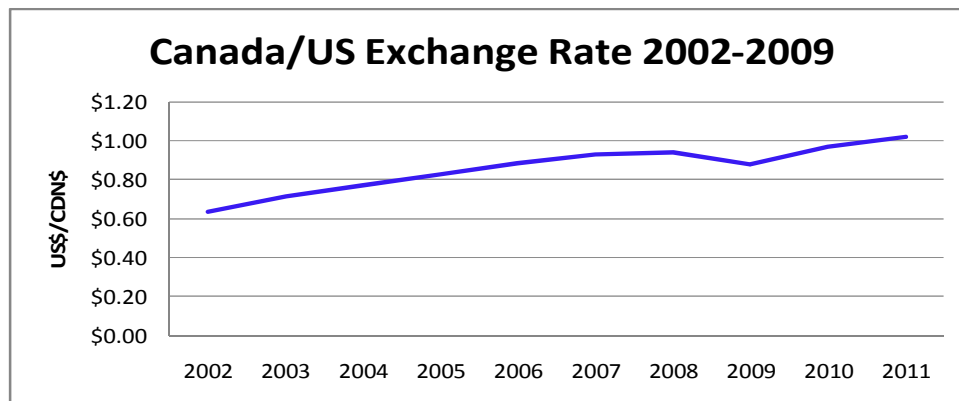
**Figure 7-2 Timber Harvest and Annual Allowable Cut Interior and Coast**



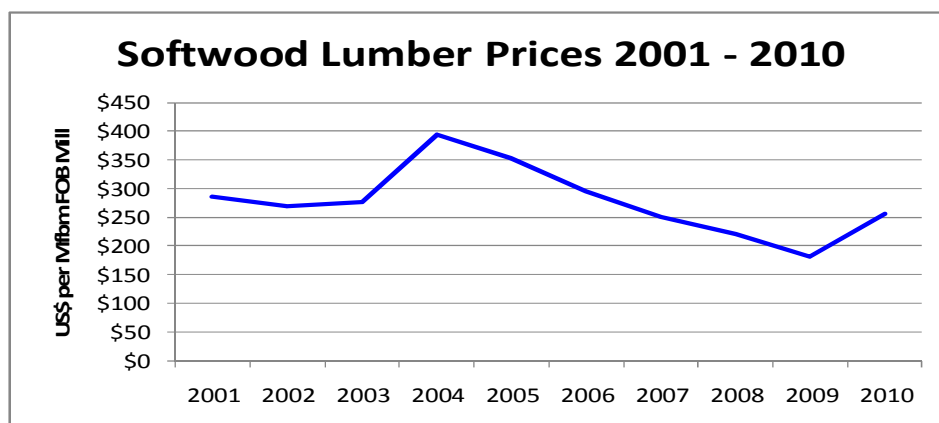
The surplus of the harvest over the AAC for the Coast represents timber harvested from private lands. The increase in AAC in the Interior from 2003 represented the uplift for accelerated harvesting as a means of salvaging beetle-damaged timber.

**Exchange rates** – The US has been the major market for BC softwood lumber and sales are denominated in US dollars. The Canadian dollar has risen by almost 60% since 2002.

<sup>23</sup> "Midterm Timber Supply and BC's Wood Products Industry A Summary of International WOOD MARKETS Group Inc. Report" BC Forest Professional May-June 2011 p. 17.  
[http://www.abcfp.ca/publications\\_forms/BCFORmagazine/documents/BCFORPRO-2011-3.pdf](http://www.abcfp.ca/publications_forms/BCFORmagazine/documents/BCFORPRO-2011-3.pdf)

**Figure 7-4 Canada – US Exchange Rate 2002 – 2011**

**Cyclical Price Decline** – The collapse of the US housing market has led to a dramatic decline in softwood lumber prices.

**Figure 7-5 Softwood Lumber Prices 2005 – 2010<sup>24</sup>**

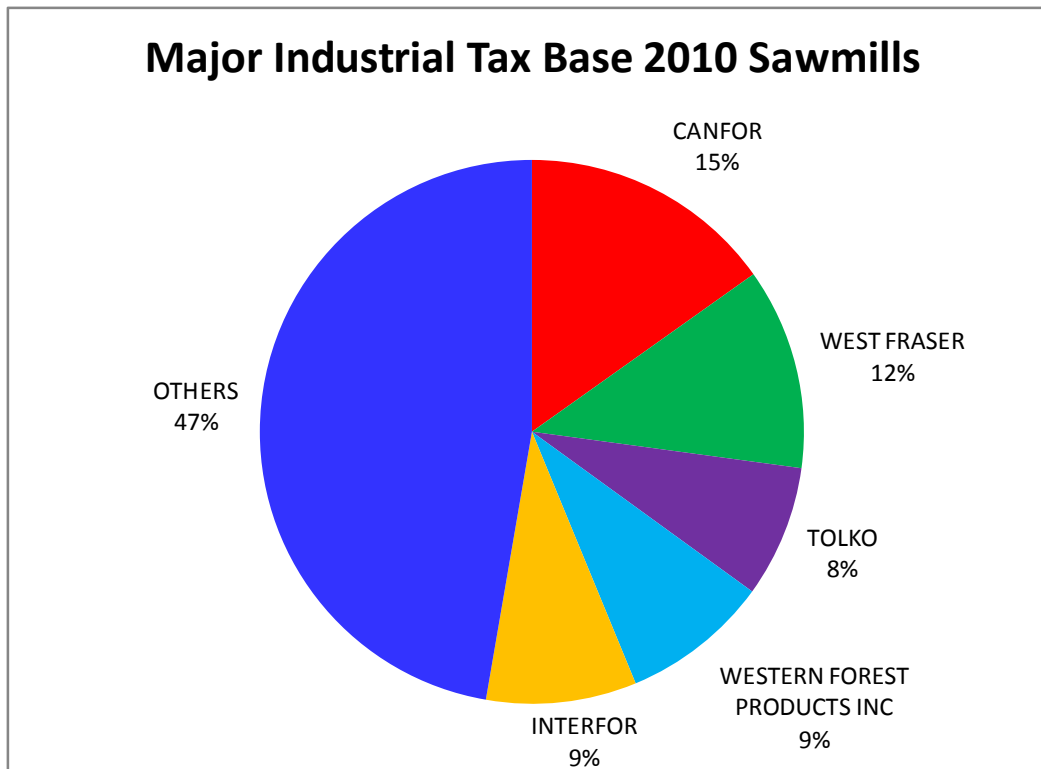
Historically the location of sawmills was determined by appurtenancy requirements for local processing of Crown timber. However, appurtenancy was eliminated in 2003 and the major factor affecting the location of sawmills is now access to timber.

<sup>24</sup> Source: Random Lengths price statistics – 2x4, #2 & Better – Net FOB mill; quoted in West Fraser Annual Reports 2006 and 2010.

### 7.3 Major Firms

The distribution of assessed values by company in 2010 is shown below. The lumber sector is much less concentrated than pulp and paper.

**Figure 7-6 Sawmills Assessment by Company 2010**



It is worth noting that three of the largest producers – Canfor, West Fraser and Interfor – also have sawmills in competing jurisdictions including Alberta, the US Southeast and the US Pacific Northwest.

#### 7.3.1 Canfor

Canfor is a leading integrated forest products company based in Vancouver with operations in BC, Alberta, Quebec, Washington State, and North and South Carolina. The Company produces primarily softwood lumber and also produces oriented strand board (OSB), remanufactured lumber products and specialized wood products. The main operating company is Canadian Forest Products Ltd., from which the name Canfor is derived. Canfor also owns a 50.2% interest in Canfor Pulp Limited Partnership, which is one of the largest producers of northern softwood kraft pulp in Canada and a leading producer of high performance kraft paper.

Canfor has an annual production capability of approximately 5 billion board feet of lumber, 270 million square feet of plywood, and 1 billion square feet of OSB. Canfor also has approximately 11.6 million cubic meters of allowable annual cut for solid wood operations under its forest tenures, 96.7% of which is CSA SFM certified. As of March 2011, Canfor and Canfor Pulp directly employ approximately 4,690 people as well as an additional 2,200 contractors.

Financial data for Canfor from 2005 to 2010 is shown below. Based on data supplied by the Ministry of Community, Sport and Cultural Development, property taxes totalled \$6.3 million in 2010 or approximately .3% of total costs.

**Figure 7-7 Canfor Financial Data 2006 – 2010**

Canfor Financial Data 2005 - 2010 (\$ Millions)									
	Operating Income	Sales	Cost of Product Sold	Freight and Distribution Costs	Export Taxes	Amortization	Selling, General and Admin.	Restructuring and Mill Closure Costs	Countervailing and Antidumping Refund
2006	635	3,842	2,950	598	110	183	79	7	-718
2007	-273	3,249	2,557	565	102	184	73	41	
2008	-158	2,560	1,901	476	55	171	61	54	
2009	-210	2,076	1,585	410	49	155	57	30	
2010	169	2,430	1,541	428	40	156	63	33	

### 7.3.2 West Fraser Timber

Financial statistics and details on West Fraser's sawmill operations in BC are presented in section 8.3.3 under the Pulp and Paper case study. In addition to their BC mills, West Fraser has mills in Alberta and the Southern US from Texas to North Carolina and Florida.

West Fraser maintains an aggressive capital investment program for its wood products division, with expenditures of \$230 million planned at its operations in BC, Alberta and the Southern US. Investment priorities are determined based on project returns on investment and strategic considerations.<sup>25</sup>

### 7.3.3 Conifex

Conifex Timber Inc. is a publicly listed softwood forest products company operating in the Northern Interior region of British Columbia. In August 2008 the company purchased the Fort St. James assets from the Pope Trustee for \$12.8 million plus assumed liabilities. The Fort St. James mill was idled by Pope and Talbot in September 2007. Conifex resumed on a one shift operation basis in March 2009. Prior to resuming production the firm spent \$1.3 million in capital expenditures and maintenance. In March 2010 the company purchased the former Abitibi assets in Mackenzie for \$33.5 million plus assumed liabilities. The company did not reopen the paper mill in Mackenzie.

To date, Conifex's operating results have been hampered by its low operating rate of 23%. The company has incurred fixed costs capable of supporting near capacity operations of approximately 745 million board feet. The company is expected to reach an operating rate of over 70% during the second half of 2011. The higher production volume is expected to meaningfully reduce unit manufacturing costs.

In September 2011 the company entered into a non-binding letter of intent to acquire the commodity lumber distribution business owned and operated by Welco Lumber Corp. and the transportation and logistics business owned and operated by Navcor Transportation Services Inc.

Conifex has entered into a property tax agreement under the revitalization provisions of the Community Charter with the District of Mackenzie. The agreement is patterned after the agreement signed with Canfor in 2009.

<sup>25</sup> "Big Sawmill Investments for West Fraser" Logging and Sawmilling Journal 2011  
[http://www.forestnet.com/LSJissues/Jan\\_11/West\\_frasier.pdf](http://www.forestnet.com/LSJissues/Jan_11/West_frasier.pdf)

## **7.4 Sawmills Interviews**

A broad range of forest companies were interviewed for this project to solicit their views on the impact of property taxes on their business decisions, from a sample which included large and small companies and new entrants; and representatives from the lumber, pulp and paper, and remanufacturing sectors. A summary of their responses is shown below.

### **7.4.1 New Investments**

None of the companies interviewed are currently investing in greenfield projects.

### **7.4.2 Ongoing Operations**

All of the companies interviewed indicated that property taxes are not a factor in determining production levels or the allocation of production among their mills. However, many noted that the downturn in the lumber market has resulted in an enhanced effort to manage fixed costs due to financial losses on current operations.

### **7.4.3 Capital Re-Investment**

Companies continue to invest in sawmill facilities. However they have taken steps to reduce both variable and fixed costs through renegotiation of labour agreements, and negotiation of property tax exemptions or rate reductions with municipalities under the revitalization provisions of the Community Charter. One producer indicated a reluctance to take advantage of selective tax exemptions due to the risk that they may be ruled to be countervailable under the Softwood Lumber Agreement.

Due to the industry downturn, firms are requiring rapid payback of capital when undertaking investments. A payback of 1 year for minor capital projects and 5 to 10 years for major projects is typical. Firms are seeking exemptions from taxation for their new investments to provide additional certainty for their capital recovery. Major firms have production facilities in other regions and jurisdictions which provides a greater choice in their capital re-investment decisions.

### **7.4.4 Plant Closures**

The downturn in the lumber sector has resulted in a significant number of plant closures and industry restructuring through the sale of distressed assets. One of the major casualties was Pope and Talbot which declared bankruptcy in 2008. The company operated lumber mills at Midway, Grand Forks and Castlegar in the Southern Interior; a pulp mill at Mackenzie and sawmill at Fort St. James in the Northern Interior; and the Harmac Pacific pulp mill in Nanaimo. The assets were disposed of as follows:

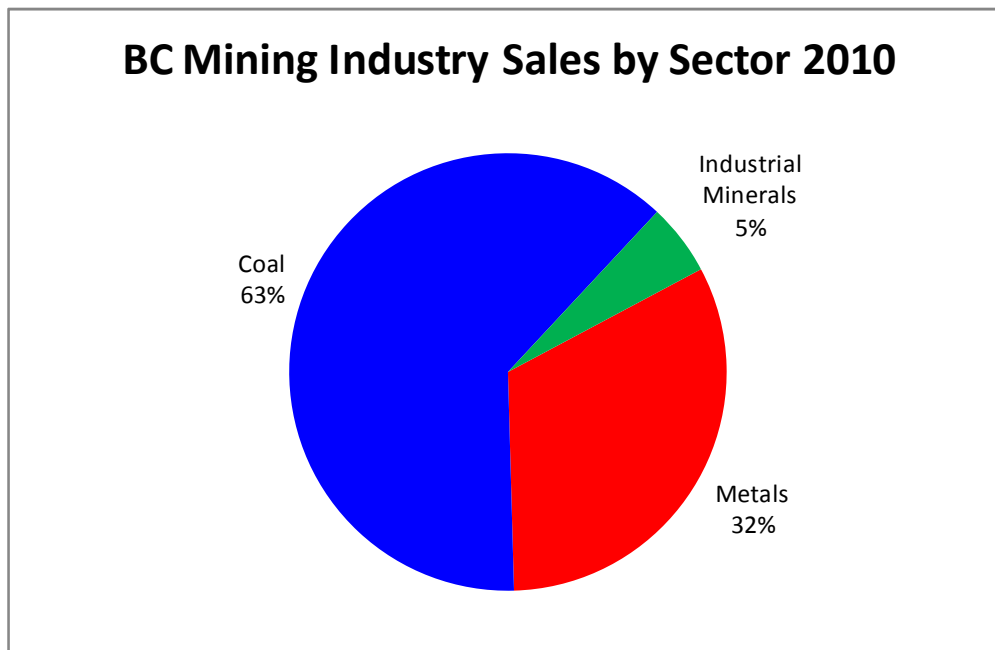
- The Grand Forks and Castlegar mills, and timber tenures in the Southern Interior, were acquired by Interfor in 2008.
- The Fort St. James sawmill and associated timber tenures were acquired by Conifex in 2008, and the mill restarted on a one-shift basis in 2009.
- The Midway mill was acquired by Fox Lumber in 2008. Recently the Village of Midway is leading a plan to reopen the mill through a purchase agreement with Fox Lumber and an operating agreement with Vaagen Brothers, a sawmill operator based in Colville Washington. The plan would see the sawmill reopening in October 2011.

For the new entrants, property taxes are a significant factor due to their limited capital resources and potential cash flow constraints.

## 8 Mining

British Columbia has a long history of mining activity. The major sectors included in the Class 4 category include coal, metallic minerals and industrial minerals. The relative size of each sector based on 2010 total sales is illustrated below.<sup>26</sup>

**Figure 8-1 BC Mining Industry Sales by Sector 2010**



### 8.1 Industry Life Cycle & Cost Structure

The mining industry is a mature industry with well established markets and large global firms.

**Figure 8-2 Mining Major Markets and Life Cycle Stages**

Mining (Coal & Metal) 11% of Major Industrial Tax Base			
Major Industry (Markets)	Product	Life Cycle Stage	Growth Trend
International	Coal	Mature	↑
International	Metal	Mature	↑

Typical industry costs and returns are profiled below.

<sup>26</sup> Source: BC Ministry of Energy and Mines Mineral Economy Snapshot  
<http://www.empr.gov.bc.ca/Mining/MineralStatistics/MineralEconomySnapshot/Pages/default.aspx>

Figure 8-3 Mining Cost Structure

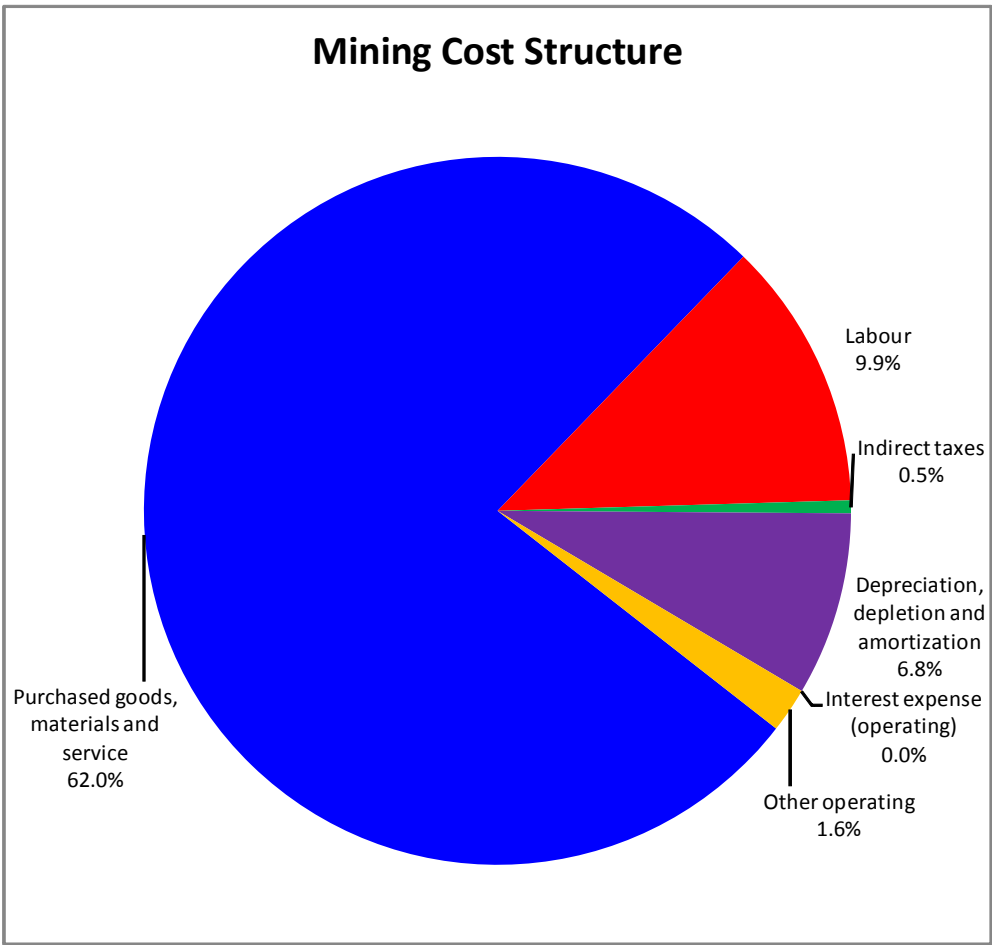
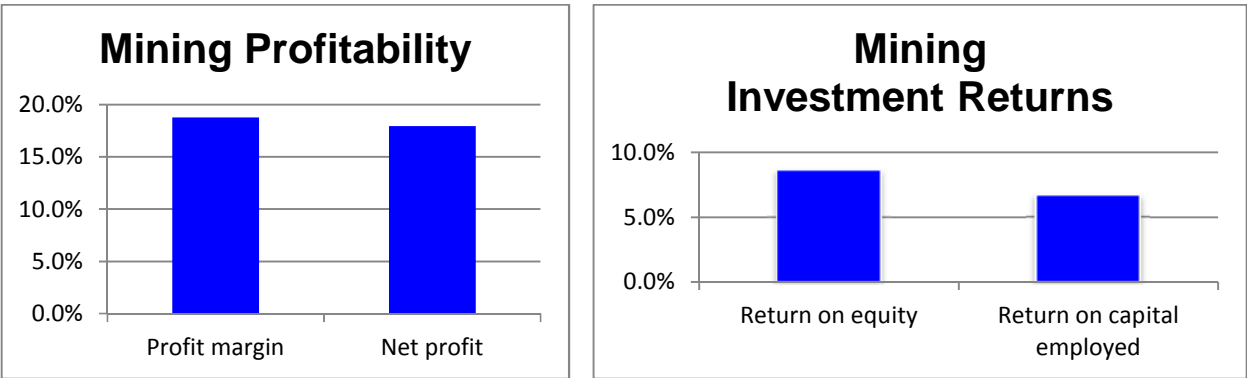


Figure 8-4 Mining Industry Profitability and Returns on Investment



The mining and quarry sector has a relatively high degree of profitability and a rate of return that attracts new investment into the sector.

## 8.2 Competitive Factors

Seven key minerals account for over 85% of BC's exploration spending and mine production (i.e., copper, lead, zinc, molybdenum, silver, gold and metallurgical coal). Exploration and development of new mining properties is critical to sustaining industry activity. Exploration spending in BC is highly correlated with metal prices. Over the last 7 years escalating metals prices have driven strong and persistent growth in exploration spending. Metal prices and exploration spending dipped moderately in 2008 as the world financial crisis began. As the seriousness of this crisis took hold in 2009, both prices and exploration spending dropped significantly. However, as China and other emerging economies recovered, the demand for mineral commodities accelerated and prices rose significantly. Exploration spending in BC jumped by approximately 63% in 2010 over 2009. The recent years of exceptional exploration activity have provided strong expectations for new mine developments over the next few years.

In December 2008 the Premier of British Columbia announced the creation of a Mining Economic Task Force (Task Force) to identify key opportunities and make recommendations to help mitigate the effects of the global economic downturn on British Columbia's mineral exploration and mining industry. The Task Force identified a number of tax policy actions specific to the mining industry which had already been taken to support the sustainable growth of BC's minerals and metals industry.<sup>27</sup> These included:

- Introduction of the Mineral Exploration Tax Credit Program and consistent renewals of the super-flow-through program.
- Extension of the New Mine Allowance.
- Enhancement of the Mineral Exploration Tax Credit in pine beetle affected areas

The Task Force Report emphasized the impact of the downturn on the ability of mining sector to sustain its contribution to the provincial economy:

*The significant short-term declines in commodity prices, expected to persist through to the end of 2009 or longer, could threaten the viability of currently operating mines even though their long term competitiveness is strong. If these companies fail, the ability of the industry to contribute to British Columbia's recovery once the eventual upturn begins will be jeopardized. The government can help ensure BC's mines continue to operate and protect jobs by taking a number of measures in the area of taxation and programs. At the same time, the government can make certain policy changes to enhance the long term competitiveness of the BC industry.<sup>28</sup>*

Tax policy recommendations included a permanent reduction in the rate for the British Columbia Mineral Tax (BCMT) to 10% per cent with short term reductions to 6% for 2009, and 8% for 2010; deferral of BCMT payments for 2 years; and expansion of the PST exemption to encompass all equipment used on site. Property taxes were not specifically identified in the Task Force recommendations. However, the Task Force called for creation of a Jobs Protection and Critical Industries Commission similar to the previous Provincial organization which could assist viable industries in surviving the downturn, with tools including the ability to negotiate provincial and local governments' property tax remission or deferral programs.<sup>29</sup>

The Mining Association of British Columbia has identified infrastructure, rising energy costs, professional development, skills and trade training, First Nation issues related to consultation and accommodation and the complex review process as issues impacting the competitiveness of the industry in the province.

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<sup>27</sup> Mining Economic Task Force Report January 2009 p. 8.

<sup>28</sup> Mining Economic Task Force Report p. 10.

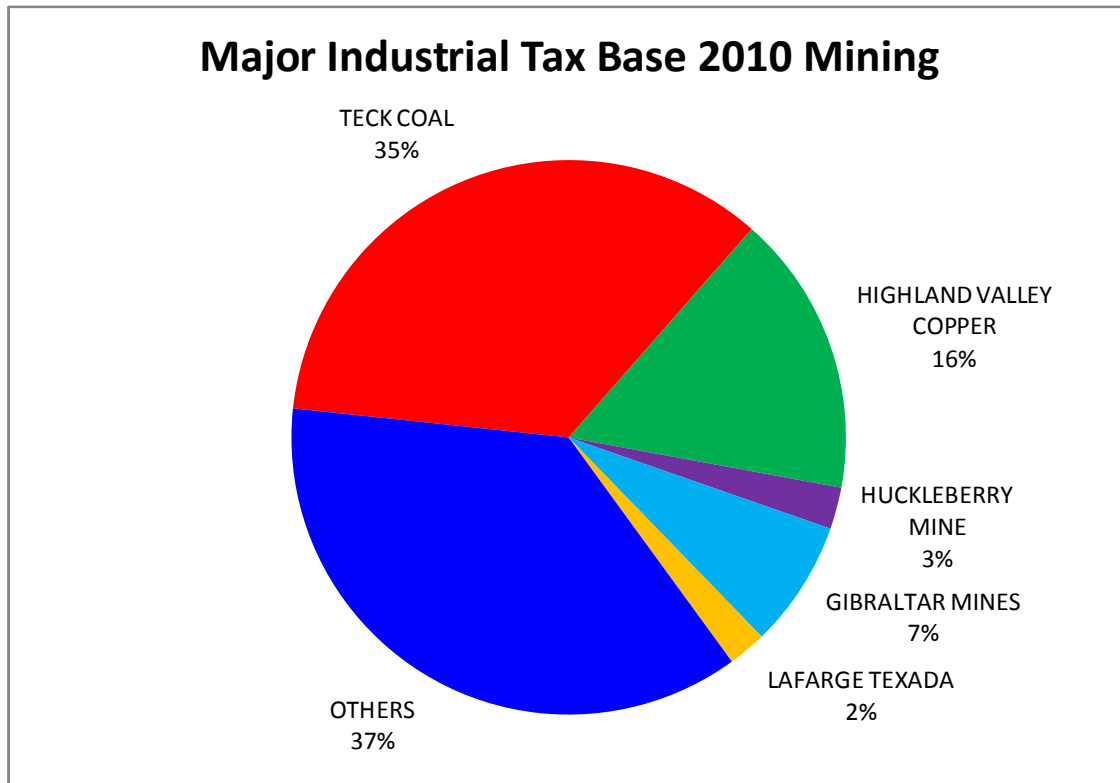
<sup>29</sup> Mining Economic Task Force Report p. 13.



### 8.3 Major Mining Firms

The shares of the total provincial tax base for mining properties by company are shown below.

**Figure 8-5 Mining Assessment by Company 2010**



Teck Resources holds 51% of the provincial tax base through its coal mines in the Crowsnest Pass and its 97.5% share in Highland Valley Copper.

#### 8.3.1 Mining - Teck Coal

There are five coal mines in the BC section of the Crowsnest Pass – Fording River, Greenhills, Line Creek, Elkview and Coal Mountain – all majority owned and operated by Teck Coal. Combined total 2010 coal production at Teck's BC coal operations is estimated at 22.4 Mt of clean coal (predominantly metallurgical). This compares with an actual production total of 18.0 Mt in 2009. The mines directly employ 3160 people.<sup>30</sup>

#### 8.3.2 Mining – Highland Valley Copper

Highland Valley Copper, located in south central British Columbia, Canada, produces copper and molybdenum concentrates. Teck has a 97.5% interest in the mine. A new life of mine plan has recently been developed, which has extended the mine life to 2025, assuming additional permit amendments. Highland Valley Copper is an open pit operation. The processing plant uses produces metal in concentrate from the ore. Concentrates are transported first by truck to Ashcroft, BC, then by rail and to a port in

<sup>30</sup> Exploration and Mining in BC 2010 Ministry of Forests, Mines and Lands and Ministry of Natural Resource Operations January 2011 p. 104.

Vancouver for export overseas. The majority of concentrates are sold under long-term sales contracts to smelters in several countries.

### 8.3.3 **Copper Mountain Mining**

The major recent development in the mining sector is the reopening of the Copper Mountain Mine by Copper Mountain Mining Corporation. The mine is located 15 km south of Princeton on Highway 3. The Copper Mountain mine began production in the 1920's as an underground mine. In 1957 the mine was converted to open pit operations. Copper Mountain Mining Corporation ("CMMC") is a BC resource company that is developing the Copper Mountain Project located 15 km south of the town of Princeton in southern British Columbia. The Project is owned 75% by Copper Mountain Mining Corporation and 25% by Mitsubishi Materials Corporation. The mine is designed to produce approximately 105 million pounds of copper (approximately 48,000 tonnes) per year in copper concentrate. The mine is expected to be in full production by November 2011.

### 8.3.4 **Mining- Huckleberry Mines Ltd.**

Imperial Metals has a 50% interest in Huckleberry Mines Ltd., owner of the Huckleberry mine. Huckleberry is an open pit copper/molybdenum mine located in central British Columbia, 123 km southwest of Houston. Huckleberry's proven and probable reserves [Dec 31/08] were 8.37 million tonnes ore grading 0.362% copper and 0.005% molybdenum, with the Main Zone Extension being the only pit actively operating.

In June 2009 Huckleberry Mines Ltd. approved an extension of Huckleberry's mine plan to include the Saddle Zone resource, which will provide for mill feed to extend milling operations from 2010 to the end of 2011.

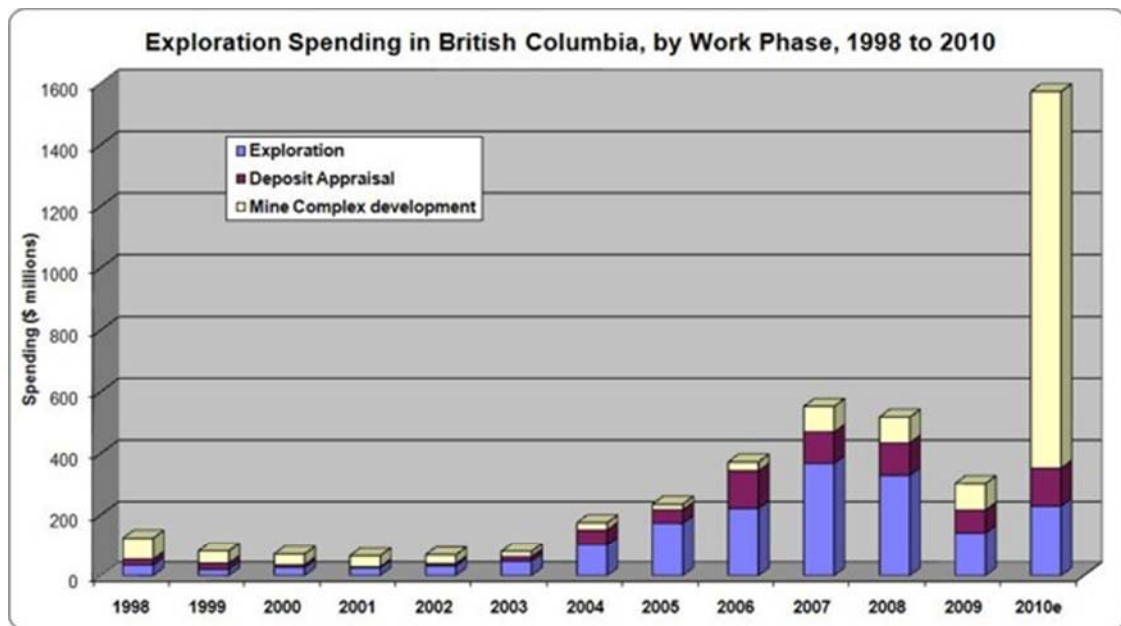
## 8.4 **Mining Interviews**

### 8.4.1 **New Investments**

New investments in mining can be characterized by the development life cycle phase of the project. The table below shows expenditure on exploration, deposit appraisal and mine complex development from 1998 to 2010. Mine Complex Development spending exceeded \$1 billion in 2010. Nearly \$1 billion of this spending is attributed to two major mine expansions, Endako and Highland Valley Copper, and two major mine developments, Copper Mountain and Mount Milligan. In addition, the accelerating exploration spending of earlier years (2001 to 2005) led to the discovery and evolution of advanced exploration and mine development projects. These advanced-stage projects are big spenders on deposit appraisal and mine complex development activities, as witnessed from 2006 onwards<sup>31</sup> Both greenfield development of a new site and the reopening or expansion of an existing mine site generate large expenditures.

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<sup>31</sup><http://www.empr.gov.bc.ca/Mining/MineralStatistics/IndustryOverviews/Pages/BCProvTrends2009.aspx>

**Figure 8-6 Mineral Exploration and Mine Development Expenditures in BC 1998 – 2010**

Interviews with mining industry representatives indicated that property taxes do not play a significant role in business decision making during a new greenfield development, or mine reopening. Property taxes represent a small percentage of operating costs, and the financial returns from mining investments are more sensitive to commodity prices and exchange rates than to costs.<sup>32</sup>

#### 8.4.2 Ongoing Operations

Mining industry representatives indicated that property taxes do not play a significant role in business decisions during ongoing mining operations. The reason is that property taxes represent a small percentage of their operating costs. However, it is important to note that within the mining sector, plant closure may occur more than once. The mine closure decision occurs in response to commodity prices. BC mines compete internationally and are price takers. When revenue falls below the cost of operation a decision will be made to close a mine. Mining companies with multiple properties will shut down high cost operations.

The impact of property taxes in the mining sector is felt most acutely when a mine is temporary closed. During this phase of the business cycle there is no revenue to support business activity and property taxes become one of the fixed costs that the firm must support from retained earnings. During a significant and prolonged downturn in the market a mining company may elect to remove the existing mining equipment and close the mine as a way to remove the property from the Class 4 Major Industry designation. Thus the current system of property taxes for the mining sector acts to discourage the holding of closed mines in the hopes of a price recovery. This has the impact of increasing the cost and delaying the timing of capital renewal in the industry.

#### 8.4.3 Capital Re-Investment

Mining industry representatives indicated that capital re-investment decisions in this sector are similar to new investments. However, development of greenfield mines seldom occurs in British Columbia. A significant portion of mining industry capital renewal comes into the form of reopening of existing properties

<sup>32</sup> As an example see Wardrop (2007), 'Technical Report Mount Milligan Property-Northern BC', prepared for Terrane Metals Corp. p.24-3.

which were previously closed. For example, the major recent development in the mining sector is the reopening of the Copper Mountain Mine by Copper Mountain Mining Corporation. This mine was originally developed in 1923 and operated until 1957 by the Granby Consolidated Mining, Smelting and Power Company. It was subsequently acquired by Newmont Mining Corporation of Canada (Newmont) who began production again in 1972. In 1988 Cassiar Mining Corporation (later to become Princeton Mining Corp.) purchased Similco Mines Ltd. which owned the property. Production continued until the mine closed down in late 1993 and stayed on a "care and maintenance" basis until copper prices improved in mid 1994. A lack of low strip ratio reserves, rising production costs and necessary capital expenditures resulted in the mine closing down in November of 1996. Copper Mountain Mining Co. has recently restarted production on the site.<sup>33</sup>

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<sup>33</sup> Copper Mountain Mining Co. <http://www.cumtn.com/site/project/history.html>

## 9 Aluminum and Smelting

### 9.1 Industry Life Cycle and Cost Structure

Smelting and refining is a mature industry with well established markets and large global firms.

**Figure 9-1 Aluminum and Smelting Major Markets and Life Cycle**

Aluminum & Smelting 7% of Major Industrial Tax Base			
Major Industry (Markets)	Product	Life Cycle Stage	Growth Trend
Global	Aluminum	Growth	↑
Global	Smelting	Growth	↑

Due to the very small number of firms in the aluminum smelting and metal refinery sector in Canada, detailed data on the industry's structure is not released by Statistics Canada due to data confidentiality restrictions. However it is possible to compare the cost structure of the sector at a higher level of data aggregation such as the primary metal manufacturing level. Industry Canada data<sup>34</sup> indicates that in general, the three most important categories for manufacturing costs (and their shares among costs in these categories) are:

- cost of materials and supplies – 80%;
- production worker wages – 11%; and
- cost of energy, water and vehicle fuel – 9%.

Indirect tax costs (including property tax costs) cannot be assessed due to the data confidentiality restrictions. Manufacturing costs in the Primary Metal Manufacturing subsector were dominated in 2009 by the costs of materials and supplies. Considering these costs are the major factor in its manufacturing activities, this subsector is vulnerable to any fluctuation in the prices of materials and supplies.

The cost structure for the Alumina and Aluminum Production and Processing sector differs due to the higher share of energy costs in the total. Industry Canada data<sup>35</sup> indicates that in general, the three most important categories for manufacturing costs (and their shares among costs in these categories) are:

- cost of materials and supplies – 75%;
- cost of energy, water and vehicle fuel – 13%; and
- production worker wages – 12%.

A business will be judged successful if its profits are high enough to provide adequate return on investment. Profits will only be stable or increase if expenses do not outstrip revenues. Net revenues in the Alumina and Aluminum Production and Processing industry group have decreased from \$2.7 billion in 2000 to \$988.5 million in 2009 or by 0.1% per year on average. In 2009 net revenues decreased by 33.1% as a result of the recession.<sup>36</sup>

### 9.2 Competitive Factors

The Industry Canada publication 'Canadian Aluminum Industry Technology Roadmap' notes that the three most significant needs for the Canadian Aluminum Industry are:

<sup>34</sup> <http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic331cote.html>

<sup>35</sup> <http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic3313cote.html>

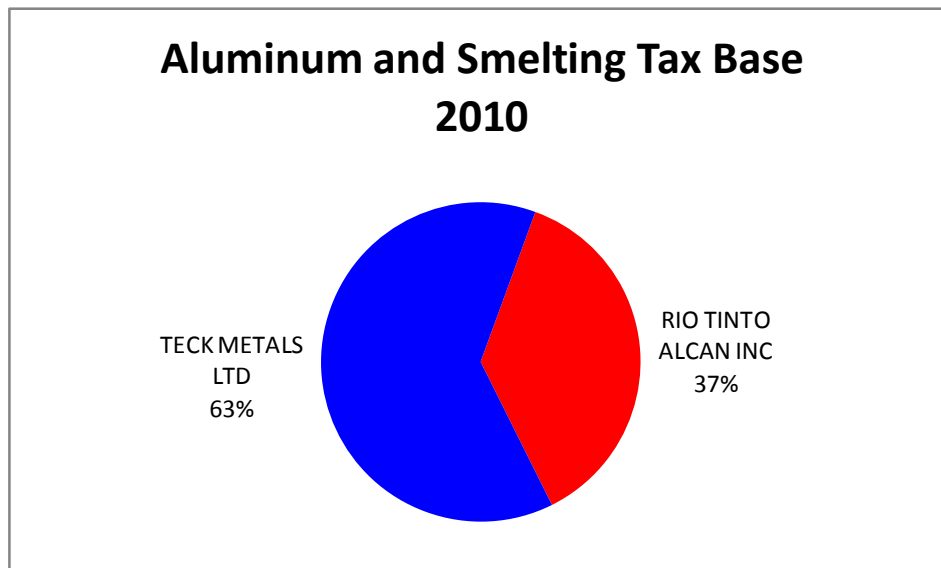
<sup>36</sup> <http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic3313pere.html>

- **Reduce costs and increase productivity:** The construction of new and more efficient aluminum smelters throughout the world increases the need to reduce aluminum production costs. Cost reduction is also necessary for manufacturing aluminum products, including the design stage.
- **Develop and diffuse knowledge:** In an increasingly knowledge-based economy, intellectual capital replaces natural resources as one of the leading determinants of a country's economic strength and competitiveness. In the construction industry, for example, there exists a lack of knowledge of available aluminum technologies, and there is little relevant research in the field. Companies need to increase their understanding of the intrinsic characteristics and various applications of aluminum.
- **Develop markets:** In addition to improving characteristics of aluminum products, the development of new applications and new markets constitute significant steps in ensuring the future growth of the industry.

### 9.3 Major Firms

There are two major properties in the Aluminum and Smelting sector in BC: Rio Tinto Alcan at Kitimat and the Teck smelter at Trail.

**Figure 9-2 Aluminum and Smelting Tax Base by Company 2010**



#### 9.3.1 Teck Cominco Metals Trail

The major industrial operation in Trail is the lead-zinc smelter. Following the merger of Teck Corporation with Cominco in 2001, the smelter is operated by Teck Cominco Metals Ltd. It includes one of the world's largest fully integrated zinc and lead smelting and refining complexes and the Waneta hydroelectric dam and transmission system. The metallurgical operations produce refined zinc and lead and a variety of precious and specialty metals, chemicals and fertilizer products. The major source of concentrates for refining at the smelter is the Red Dog mine in Alaska. Concentrates from Red Dog totalled approximately 1.4 million tonnes in 2009. Additional concentrates are imported from other sources.

The Trail smelter experienced a financial crisis in the early 1990's due to low metal prices and production problems related to new technology which was installed in the mid 1980's. In 1993 the Jobs Protection Commissioner assisted the firm in renegotiating property taxation levels with the City of Trail to limit the

smelter's taxes to 50% of the city's total tax revenue<sup>37</sup>. The share of Trail tax revenue attributable to the smelter has since increased to 63%.<sup>38</sup>

### 9.3.2 Rio Tinto Alcan

Rio Tinto Alcan is the aluminum product group of Rio Tinto. Rio Tinto Alcan's four business units include: Bauxite and Alumina; Primary Metal - Europe, Middle East and Africa; Primary Metal - North America, and Primary Metal - Pacific.

With 24,000 employees in 27 countries Rio Tinto Alcan is a global supplier of high-quality bauxite, alumina and primary aluminum. In the first half of 2010, Rio Tinto Alcan reported underlying earnings of US\$358 million, producing 16.1 million tonnes of bauxite, 4.5 million tonnes of alumina and 1.8 million tonnes of aluminum.

In Canada, with some 8,000 employees Rio Tinto Alcan has extensive operations in Quebec and British Columbia, including some of the lowest cost aluminum smelters in the world. The company is also an industry leader in aluminum production technology, and self-generated energy, particularly hydroelectric power.

The Kitimat smelter is one of 23 smelters in the global network. The company has had a major presence in British Columbia for over half a century. The Kitimat facility is one of the largest manufacturing complexes in the province. The aluminum smelter is located alongside a deep-water port immediately south of the community. It has an annual rated production capacity of 282,000 tonnes of value-added primary aluminum products that are shipped to numerous Pacific Rim markets.

Rio Tinto Alcan announced its intention to make a CAN\$2.5-billion investment in the modernization of the Kitimat smelter, thus securing the operation's future for at least the next 35 to 50 years. The modernized smelter would increase production capacity by some 40 per cent relative to its rated production capacity, reduce environmental emissions by more than 40 per cent, and would be designed to use virtually all of the firm power from Kemano. This project remains subject to final approval by Rio Tinto's board of directors.

## 9.4 Smelting and Refining Interviews

Due to the limited number of companies in this sector the study team interviewed a number of professional advisors and other related industry personnel with strong knowledge of British Columbia and other relevant jurisdictions to obtain a broader perspective of both current and historical business decision making issues as it related to property taxes within the refining and smelting industries. The observations recorded in this section of the report should not be construed as being company specific.

### 9.4.1 Ongoing Operations

Interviews with stakeholders knowledgeable in this sector indicated that, similar to other industries, property taxes do not play a significant role in business decision during ongoing operations due to the cost structure of the sector. However, stakeholders noted that BC competes internationally so the firms are price takers. Because these companies own multiple properties around the world they have some ability to shut down capacity at locations with the highest cost structure. This cost structure includes property taxes but because of the relatively minor contribution to total costs it is not a main determinant in operating decisions. Firms in this sector are also susceptible to changes in commodity prices.

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<sup>37</sup> Municipalities were authorized to enter into specific tax agreements through a Jobs Protection Commission Economic Plan under the Municipalities Enabling and Validating Act.

<sup>38</sup> Municipal Amalgamation Study Discussion Paper Results of Analysis Urban Systems for City of Trail and Village of Warfield July 2011 p. 19.

An issue for firms in this segment of the Class 4 category is the fact that while the plants may have a long physical life, market conditions and technological innovation can render them economically obsolete. As a result of British Columbia's cost based tax structure for major industries, economically obsolete buildings on large industrial sites are subject to taxation even when they are not contributing any income. Such aging buildings may be used for incidental purposes but are not directly related to current technology and production decisions. Nevertheless because of the tax system these buildings remain taxable whereas a market-based system of assessment would recognize the economic obsolescence. As global competition, technology and innovation now occurs more quickly than in the past the present system fails to capture this impact on the operating results of firms. When commodity prices are high and when there is a strong market demand it becomes less of an issue. Nevertheless when commodity prices fall in the face of reduced demand these fixed costs can become an issue.

#### 9.4.2 **Capital Re-Investment**

Stakeholder interviews indicated that capital renewal decisions in this segment are similar to new investment decisions but the location decision is not usually among greenfield sites but between smelters or refineries in competing countries or political jurisdictions. The most significant portion of capital renewal comes into the form plant modernization as illustrated by the decision allocate large amounts of capital to the smelter in Kitimat. Since these large firms have the ability to allocate capital amongst multiple locations it is important that the total cost structure including property taxes be set at a level that does not discourage reinvestment



## 10 Shipbuilding and Repair

### 10.1 Industry Life Cycle, Cost Structure & Profitability

Market cycles pervade the shipbuilding and repair industry. The stages of a typical shipping cycle include a trough, recovery, peak and collapse. The new commercial shipbuilding sector is currently in a trough. This is a result of the collapse in demand caused by the 2008 recession, the uneven pace of economic recovery and the uncertainty caused by the level of public debt in many countries. The current industry life cycle stage is characterized as having excess shipping capacity, weak freight rates and tight credit. This is not a surprise since prior to the recession ocean freight rates were near the peak for many of the trades and global trade was very robust. The table below provides a high level summary of the major markets and life cycle stage of the BC industry.

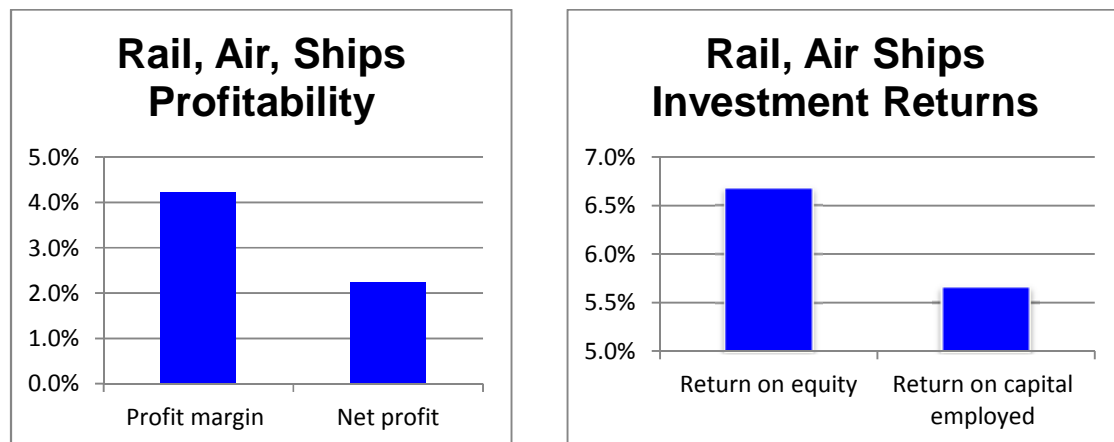
**Figure 10-1 Shipbuilding & Repair Major Markets and Life Cycle Stages**

Shipbuilding & Repair 7% of Major Industrial Tax Base			
Major Industry (Markets)	Product	Life Cycle Stage	Growth Trend
Canada	Shipbuilding	Mature	→
International	Ship repair	Mature	→
Alaska to Oregon	Coastal vessel repair & large yacht work	Mature	→

While the shipbuilding and repair industry is characterized by market cycles similar to those that impact BC's other major industries, there are some factors unique to this sector. A primary consideration is the fact that there are significant non-market forces which affect the shipbuilding and repair sector, from outright grants to tax programs. It is notable that unlike other countries, Canada does not have major policy measures addressing competitiveness in this sector. In contrast, the U.S., Canada's largest trading partner, employs some of the strongest government measures to protect its industry. The industry in Canada and British Columbia often relies on public sector procurement from the Department of Defence and Coast Guard. Consequently British Columbia Shipyards are not generally competing internationally for large sea-going vessels but have been active in the construction of new coastal vessels and large yachts. For example, at Victoria Shipyards there are two federal projects underway: the \$351-million, six-year frigate modernization program and the \$370-million, five-year submarine maintenance program. The frigate HMCS Calgary is four months into a 12-month refit that will see the ship modernized.<sup>39</sup>

Given the very small shipbuilding sector in Canada, Statistics Canada confidentiality restrictions prevent access to detailed data on the BC's industry cost structure. Nevertheless, it is important to note that this sector of the economy competes for labour, materials and other forms of industrial goods (machinery and electronics) as other form of transportation manufacturing such as the railway and aircraft industries. Thus to stay in business over the long term the shipbuilding and repair industry must be sufficiently profitable to generate the required rates on return. The table below provides an overview of the profitability and returns from the transport-manufacturing sector.

<sup>39</sup> Duffy, A. (2011), 'Plenty of action at Victoria Shipyards', Times Colonist September 15, 2011.

**Figure 10-2 Shipbuilding Manufacturing Profitability and Investment Returns**

## 10.2 Competitive Factors

Long-term contracts allow companies such as Victoria Shipyards to plan and invest in infrastructure. For example, Ottawa is in the process of evaluating bids from three large yards for federal government contracts under its National Shipbuilding Procurement Strategy: Seaspan, which owns Vancouver Shipyards, Vancouver Drydock and Victoria Shipyards; Irving Shipbuilding in Halifax; and Davie Yards near Quebec City, which is partnered with the Montreal engineering company SNC-Lavalin and Daewoo Shipbuilding of South Korea.

The federal government is expected to announce the winning bidders for those contracts shortly. Construction will be carried out over the next 20 to 30 years. Two yards will be chosen for two contracts: a roughly \$5-billion package to build a polar icebreaker and other non-combat vessels and a much larger \$25-billion contract to outfit the navy with new destroyers, supply ships and Arctic/offshore patrol vessels.

In British Columbia a significant portion of the work in this sector is related to repair of existing vessels ranging from cruise ships to coastal vessels. For example, Point Hope Maritime's whole business plan is predicated on ship repair and retrofit. The company is proposing to construct a 170-metre-long graving dock at an estimated cost of between \$50 million and \$60 million. The company intends its future focus to remain the same but is aiming for increased capabilities and capacity.<sup>40</sup>

Finally, it is important to note that in terms of competitive factors some of the firms in the major industry shipbuilding and repair sector are competing with boatbuilding and repair firms which are not classified as Major Industrial properties. Firms that are not classified as a major industry generally pay a lower property tax rate.

## 10.3 Major Shipbuilding and Repair Firms

British Columbia's major industry shipbuilding and repair sector is primarily located in the communities North Vancouver, Richmond, and the Greater Victoria area. This sector of the BC economy is notable by the presence of public sector involvement in the ownership of infrastructure. For example, BC Ferries has their own facilities in Richmond and the Government of Canada owns the graving dock in Esquimalt. The largest firm is Seaspan International including Victoria Shipyards. Other firms in the sector include Allied

<sup>40</sup> Wilson, Carla (20110), 'Point Hope Expansion could add 250 jobs,' Times Colonist September 11, 2011.

Shipbuilders Inc. and Point Hope Maritime. A number of smaller firms in British Columbia utilize the federally owned graving dock.

## 10.4 Shipbuilding and Repair Interviews

The consulting team completed interviews with three firms in this sector. Two of the firms are classified as being in the major industry category and the third firm regularly uses the federal government owned graving dock in Esquimalt which is a Class 4 major industrial property.

### 10.4.1 New Investments

The industry representatives all indicated that property taxes represent one of the costs that must be considered for a new investment. These total costs are all become part of the total cost structure of the business and more specifically the fixed cost portion of the firm's operation.

This Major Industry segment is not characterized by new greenfield investments and business entry. Investments consist primarily of capital renewal or the financial restructuring of existing firms. As an example Point Hope Maritime has spent \$17 million for improvements at their facility including a new marine railway with three spur lines, a new pier and installation of underground services, including a system to filter and recycle all wash and surface water. The shipyard and assets were purchased in 2003 following the bankruptcy of the previous owner for \$610,000.<sup>41</sup>

### 10.4.2 Ongoing Operations

The firms interviewed indicated that property taxes are not typically a major issue for ongoing operations. However, they also indicated that the shipyard business is very cyclical. For smaller firms in the industry it is not unusual to have one good year followed by a bad year. In bad years shipbuilding firms have to respond very quickly to address all elements of their cost structure. However, it is hard to make changes to fixed costs in the short run, and when activity levels are low fixed costs have a significant impact on the profitability of the firm.

### 10.4.3 Capital Re-Investment

Property taxes represent one of the costs that must be considered, similar to a new investment. These total costs are all rolled up as part of the total cost structure. Since market conditions change very quickly shipbuilding firms like other companies rely on retained earnings and cash flow to finance not only ongoing operations but also new capital expenditures in their business. Since the recession debt financing for shipbuilding has become more difficult to obtain. Thus, the only cash available to invest must come from retained earnings, revenue generated from existing operations, or equity investors. The cost of equity is higher than debt. A high cost structure discourages reinvestment in operations in times of tight debt financing. This impacts the competitiveness of the firm in the long run. Because some of the firms in this sector have multiple locations they can allocate capital to the location with a lower cost structure.

Smaller scale capital renewal investment decisions may also be impacted since they require a relatively short (five-year) payback period. Higher property taxes could act as a deterrent to these types of investment decisions since market cycles make it difficult to achieve a consistent return on investment. As a result equity investors of shipyard owners require a higher hurdle rate or financial return to offset the risk of doing business in this sector.

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<sup>41</sup> <http://www.pointhopemaritime.com/news/060904.htm>

## 11 Marine Terminals & Grain Elevators

### 11.1 Industry Life Cycle & Cost Structure

Marine terminals, including grain elevators, are part of a system that consists of waterways, ports, and intermodal landside connections (roads and railways) that allow the various modes of transportation to move people and goods to, from, and on the water. Of all the major industries in the Class 4 category for property tax purposes this group of industrial activity has the most diverse range of products. As transportation service providers marine terminals and grain elevators respond to the underlying demand for the products they handle. Consequently terminal operators have less control than other industry over their output levels.

Specialization is a defining feature of marine terminal operations. Marine container terminals handle higher value import and export cargoes. Grain elevators located in BC typically handle lower value export commodities, and breakbulk terminals handle a variety of both import and export cargoes, with vastly different economic characteristics such as steel, logs, lumber and pulp.

The tables below summarize the major markets, industry life cycle and growth trends for the BC industry.

**Figure 11-1 Marine Terminal Major Markets and Life Cycle Stages**

<b>Marine &amp; Bulk Terminals 15% of Major Industrial Tax Base</b>			
<b>Major Industry (Markets)</b>	<b>Product</b>	<b>Life Cycle Stage</b>	<b>Growth Trend</b>
International	Dry & Liquid Bulk	Mature	↗
International	Break-bulk	Mature	→
International	Container	Growth	↑

**Figure 11-2 Grain Elevators Major Markets and Life Cycle Stages**

<b>Grain Elevators</b>			
<b>Major Industry (Markets)</b>	<b>Product</b>	<b>Life Cycle Stage</b>	<b>Growth Trend</b>
International	Grains	Mature	↗

The table below shows the cost structure of transport services in Canada. Purchased goods and services, salaries and wages account for about 78% of the total costs. Depreciation, other operating expenses, indirect taxes and interest expenses account for the balance of the cost structure.

Figure 11-3 Transport Services Cost Structure

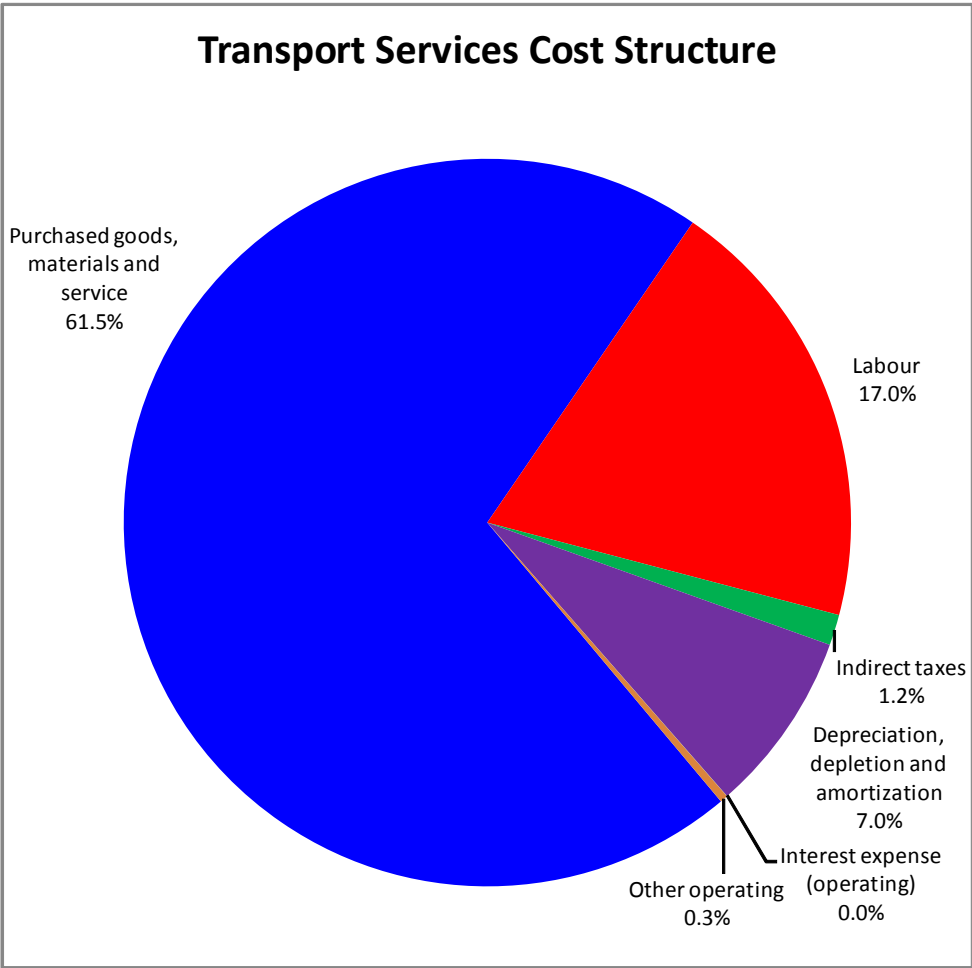
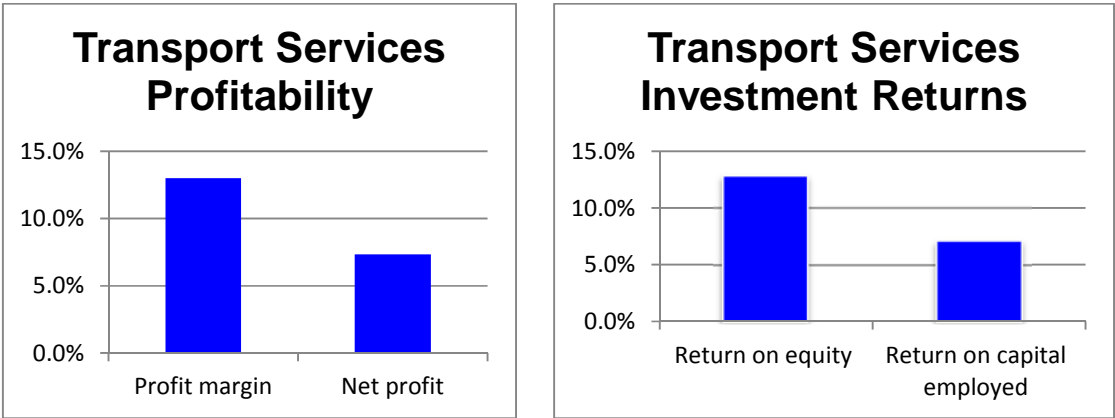


Figure 11-4 Transport Services Profitability and Return on Investment



## 11.2 Competitive Factors

Marine terminal operators are key players in ports and in world trade. Competition within the industry is global in nature but due to the scale economies and the cargo volume required for long-term success there are often just a few terminal types within a port or trading region.

The competitive factors in the marine terminal and grain elevator business depend on the specific segment.

Deltaport and Vanterm Terminals handle the largest share of container traffic in BC, followed by Centerm, Maher Terminals and Fraser Surrey Docks. This sector of the market is highly competitive on a global basis because most container terminals handle both import and export cargo. However, because there are relatively few terminals and world trade has been expanding over the last 20 years industry financial returns have been solid. In the container trades in 2009 the global container terminal operators posted margins of 30 to 40 percent in the face of very difficult container shipping markets. Container terminal operators have controlled their fixed costs and when cargo volumes drop so do terminals' variable cost for labour. Canadian container terminal operators are much like firms around the world: competition is relatively limited for local cargo, and often oligopolistic on nature. A key difference impacting the degree of competition in Canada is for the longer distance intermodal cargo that has a choice of port gateways in North America and the market influence of the Class 1 railways in Canada.<sup>42</sup> Service and reliability are key competitive attributes.

British Columbia dry bulk marine terminals and grain elevators generally handle lower value export commodities and few if any imports. The most important competitive factor therefor is competitiveness of the overall supply chain, because many of the commodities exported through BC terminals must be transported long distances to market. Thus, terminal handling charges and the fixed cost structure of this segment of the market are key competitive attributes.

British Columbia's break-bulk marine terminals were traditionally built to respond to the demand for forest products exports (pulp, paper, lumber) from the province. This segment of the market has contracted as the coastal forest industry has struggled and most of their traditional lumber cargo started moving by container. Competitiveness in this sector has depended on finding alternative import cargoes such as steel to generate the volume required for financial sustainability. As for dry bulk terminals, terminal handling charges and the fixed cost structure of breakbulk terminals are key competitive attributes.

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<sup>42</sup>Anderson, D. & Monteiro, J. (2010), '*Marine Container Terminal Operators: The Extent of Competition*', published in the 45<sup>th</sup> Annual Proceedings of the Canadian Transportation Research Forum. p. 530.

### 11.3 Marine Terminal and Grain Elevator Firms

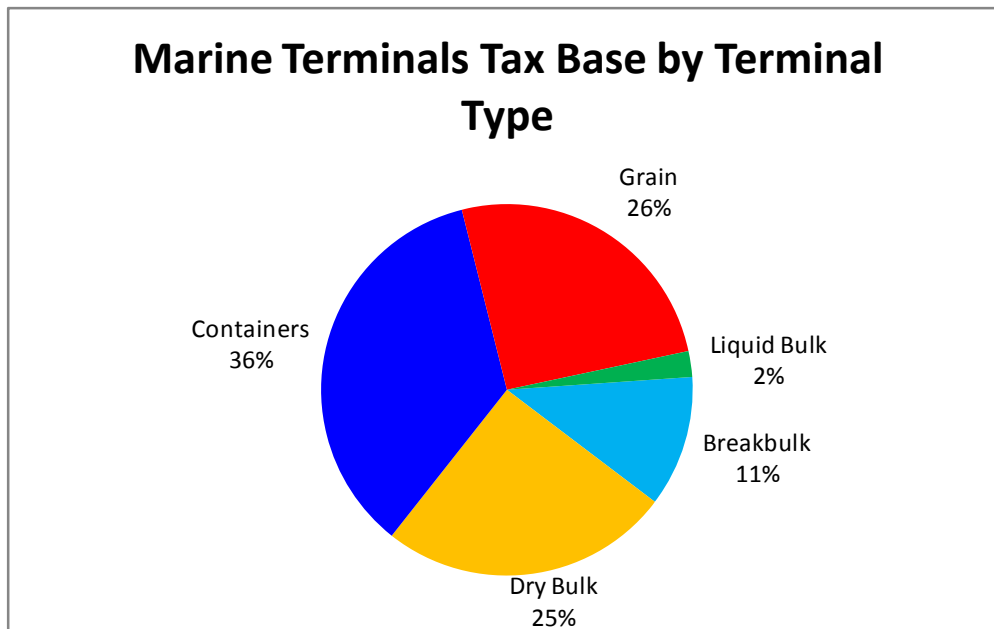
In British Columbia there are 41 sites in the Class 4 major industry category related to marine terminals and grain elevators, according to the BC Assessment Authority.

**Figure 11-5 Marine Terminals and Grain Elevators**

Marine Terminals and Grain Elevators		
# of Sites	BC Assessment Sub-category	Description
36	Loading Cargo – Sea Going Ships	Firms are located on Vancouver Island, the North Coast and the Lower Mainland of BC. Most of these sites are stand alone marine terminals but some are associated with manufacturing facilities primarily in the forestry or aggregate sectors. Commodities handled include containers, dry bulk, liquid bulk and break-bulk products.
1	Loading Cargo – Grain Elevators	Grain Elevator located on the North Coast at tidewater.
5	Grain Elevators	Grain Elevators located in the Lower Mainland at tidewater.

Total assessment shares by terminal type are shown below. Container terminals account for 36% of the total, followed by grain terminals with 26% and dry bulk with 25%.

**Figure 11-6 Marine Terminals Tax Base by Terminal Type**



## 11.4 Marine Terminal & Grain Elevator Interviews

The study team interviewed a number of marine terminal and grain elevators firms to gather their perspective on the role that property taxes play in business decision-making,

### 11.4.1 New Investments

The construction of a marine terminal or grain elevator requires a long-term market outlook on the volume of available cargo. Due to the cycle demand for commodities investment in terminal capacity often involves a trade-off between meeting peak demand and handling a lower volume of cargo based on some statistical estimate of the average cargo volume in a given year. Property taxes represent one element of the total cost structure of the business operation that must be considered. Given the long-term nature of the investment decision and the size of the capital investment there is considerable risk to owners of marine terminals. Thus, at the new investment decision-making stage owners look to both the total amount of property taxes and the taxation trends as important indicators of the possible degree of investment risk related to the fixed cost nature of their investment. A total cost structure that is competitive with alternative investment options and stability in property tax policy among other factors act to reduce the level of investment risk. A lower level of investment risk and a quicker payback period act to encourage new investment decisions. The converse is also true.

The industries are also characterized as having few new greenfield development opportunities since suitable locations are limited. Thus, ongoing operations or capital re-investment decisions would be the more frequent form of business decision impacted by property taxes.

### 11.4.2 Ongoing Operations

Once a marine terminal is built it is very expensive to convert to another type of use. Thus, this segment of the major industry is susceptible to both short-term changes in the market outlook (i.e. changes in crop volume due to weather) and structural changes in the industries they service (i.e. decline in the pulp and paper sector). Conversely, profitability and return on investment in this sector can be strong in periods of robust economic activity. Discussions with a grain industry participant noted that the volume of cargo through their facility changes year-to-year as the result of crop and market conditions. In a good year property taxes may be in the neighbourhood of 3% of total revenue. However, in a bad crop year or poor market conditions property taxes could be as much as 10% of total revenue. In a period of low operating volume the fixed cost nature of property taxes becomes larger portion of the overall fees they charge their customer. Since grain is sold on the international market it is not possible to pass on higher fees to the customer in a period of low demand. As a result firms' profit margins fall and the returns on investment are reduced.

Marine terminals that rely on lower value export commodities in the dry bulk and break-break bulk sector are ones most impacted by the property tax issues. For example, the volume of forest products exports from Vancouver Island has decreased significantly for most of the last decade. Yet, these terminals continued to pay major industry property taxes (or Payments in Lieu of Taxes) based on a cost structure that was in place before traffic volumes declined. The impact of property taxes have less impact on ongoing business decisions in marine terminals where commodities prices are strong and demand is rising.

### 11.4.3 Capital Re-Investment

Property taxes represent one element of the total cost structure of the business operation that must be considered in a capital renewal or business expansion decision. The factors to consider are similar to a new investment except that the total dollar amount of the total investment is usually lower than for a new terminal. The ownership groups of marine terminals and grain elevators companies are faced with a range of reinvestment alternatives within their own firms and often amongst multiple locations. As such, scarce capital is allocated to those business decisions that represent the highest return for a comparable level of risk and that at least return the cost of capital. Property taxes set at a level that serves to increase the fixed



cost structure of a business act as deterrent to capital renewal investments. They also serve to shorten the project payback period since a quicker return of capital reduces the business risk. In weak commodities markets this acts to discourage investment.

It is important to note that capital renewal and business expansion decisions are based on opportunity cost decision-making criteria. While an investment may be profitable firms will allocate capital on an incremental basis based on the next best alternative. Since capital is scarce those jurisdictions with high fixed costs will receive relatively fewer investment dollars than competing alternatives.

While nevertheless striving for productivity and efficiency terminal operators and/or port authorities may be required to hold industrial lands for long periods of time so that future development options through existing terminal expansion can be realized. Higher holding costs act to increase the amount of cash and working capital required for the renewal or business expansion.

Property taxes payable by port terminals included under the Ports Property Tax Act have fallen considerably since the Act was passed in 2004. Since the PPTA came in place there have been numerous and substantial port investments including the Deltaport Third Berth Project, expansions of Vanterm and Centerm in the Inner Harbour, construction of Fairview Container Terminal in Prince Rupert, and expansions of bulk operations including Neptune Terminals in North Vancouver and Westshore Terminals in Delta.

## 12 Appendix A – Glossary of Terms

**Avoidable cost:** a cost that will not have to be paid if a firm does not proceed with a decision.

**Capital expenditure:** expenditure by a company that cannot be treated as a cost in a single accounting period. It thus has to be paid for either out of post-tax income, or by raising external finance. For example, the purchase of an existing business, or plant expansion.

**Cost accounting:** is the branch of accounting concerned with the cost of economic behaviour. This includes measuring the costs of activities already carried out, so that their profitability can be assessed, and estimating the likely costs of future activities.

**Financial accounting:** accounting systems that provide Balance Sheet and Income Statement results. Financial accountancy is used to prepare accounting information for people outside the organization or not involved in the day-to-day running of the company.

**Fixed costs:** part of the total cost structure of a firm that does not depend on the level of current production. This includes items such as management and property taxes.

**Hurdle rate:** the required rate of return in a discounted cash flow analysis. The hurdle rate should be equal to the incremental cost of capital.

**Incremental cost:** total cost to a firm to produce one more unit of a product.

**Internal rate of return:** annual rate of earnings on an investment.

**Microeconomics:** is concerned with analysing the behaviour of economic entities – firms, industries, individuals, consumers, and how interaction among these entities affect the pattern of production, behaviour and income. It considers questions such as: how is it decided, and how should it be decided, what enterprises should operate; what goods and services should be produced; what techniques of production should be used.

**Net profit:** is obtained from Operating profit by subtracting expenses for interest payments and income tax; and adding revenues from interest and dividends received gains (losses) on the sales of assets, equity in affiliates' earnings, and extraordinary gain.

**Opportunity cost:** price or rate of return that the best alternative course of action would provide.

**Operating profit margin:** operating profit divided by total operating revenue.

**Payback period:** length of time needed to recoup the cost of a capital expenditure.

**Return on equity:** profit before extraordinary gains divided by total equity.

**Return on capital employed:** Profit before extraordinary gains + interest on borrowing net of tax divided by borrowing + loans & accounts with affiliates + total equity.

**Return on investment:** relates to after-tax earnings to the firm's total asset base. Also called return on assets.

**Replacement cost:** the amount that would have to be paid at today's prices to purchase a similar item.

**Risk profile:** a measurement of the possibility of losing or not gaining value.

**Unavoidable cost:** a cost to the firm that will be incurred whether or not a decision is accepted or rejected.

**Variable cost:** the part of the cost structure of a firm that varies with the level of output.

**Weighted cost of capital:** All capital sources - common stock, preferred stock, bonds and any other long-term debt - are included and proportionately weighted.



## 13 Appendix B Stakeholder Interviews

Extensive interviews were conducted by the consulting team with 20 senior representatives from a selection of companies encompassing the major sectors in the Class 4 category to gather information and solicit their views on property tax impacts. The extent of consultations is summarized below.

**Figure 13-1 Stakeholder Interview Summary**

<b>Sector</b>	<b>Number of Interviews</b>
Forest Sector	2 President/CEO; 4 Executive; 2 Financial Managers
Marine Terminals	1 President/CEO; 1 Executive; 1 Financial Manager
Mining	1 President/CEO; 1 Executive
Shipbuilding	3 President/CEO
Smelting	1 Executive
Other	1 CAO; 1 Mayor; 1 Tax Lawyer

## 14 Appendix C – Major Industry Comparison Financial Results

	All Industries	Wood Products	Paper Manufacturing	Forestry Logging	Mining Quarry	Oil & Gas Extraction	Petroleum Coal Products	Basic Chemical	Non-Metallic Minerals	Air, Rail Ships	Transport Support
<b>Income statement</b>											
<b>Operating revenue</b>	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Sales of goods and services	91.38%	99.09%	99.77%	98.61%	99.31%	99.11%	99.45%	99.51%	99.47%	99.61%	97.72%
Interest and dividend revenue (operating)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other operating revenue	4.48%	0.91%	0.23%	1.39%	0.68%	0.89%	0.55%	0.49%	0.53%	0.39%	2.28%
<b>Operating expenses</b>	90.93%	98.63%	98.90%	96.92%	80.82%	83.79%	88.40%	91.77%	89.74%	95.78%	87.03%
Purchased goods, materials and service	68.44%	73.57%	80.90%	64.36%	61.97%	54.99%	78.83%	77.08%	65.58%	79.05%	61.49%
Wages, salaries and employee benefits	15.82%	19.69%	11.05%	24.45%	9.93%	7.95%	2.63%	9.06%	19.40%	12.60%	16.99%
Indirect taxes	0.54%	0.33%	0.22%	0.46%	0.47%	0.48%	0.17%	0.21%	0.32%	0.31%	1.19%
Depreciation, depletion and amortization	4.02%	4.83%	6.44%	7.26%	6.79%	16.03%	4.36%	5.02%	3.98%	3.59%	7.04%
Interest expense (operating)	1.20%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other operating expenses	0.92%	0.21%	0.29%	0.37%	1.65%	4.34%	2.42%	0.40%	0.45%	0.23%	0.30%
<b>Operating profit/loss</b>	9.07%	1.37%	1.10%	3.08%	19.18%	16.21%	11.60%	8.23%	10.26%	4.22%	12.97%
Interest and dividend revenue	0.85%	0.88%	0.61%	0.55%	4.48%	1.52%	0.45%	0.36%	0.41%	0.46%	1.39%
Interest expense on borrowing	2.61%	1.98%	4.58%	2.41%	5.28%	3.93%	0.70%	3.14%	1.36%	2.13%	6.80%
Gains/losses	0.28%	1.16%	-0.44%	1.76%	1.91%	-1.79%	0.09%	-0.39%	-0.14%	0.77%	0.83%
<b>Profit before income tax</b>	<b>7.60%</b>	1.43%	-3.31%	2.97%	20.30%	12.01%	11.44%	5.06%	9.17%	3.33%	8.39%
Income tax	1.73%	0.31%	-0.84%	0.49%	5.73%	2.93%	3.16%	1.12%	2.63%	1.00%	1.65%
Equity in affiliates' earnings	0.46%	0.67%	0.16%	0.14%	3.35%	1.03%	0.25%	-1.70%	0.09%	0.09%	0.59%
Profit before extraordinary gains	6.34%	1.79%	-2.31%	2.63%	17.91%	10.11%	8.53%	2.24%	6.63%	2.41%	7.34%
Extraordinary gains	0.00%	-0.13%	-0.04%	-0.03%	0.02%	-0.01%	0.00%	-0.01%	0.00%	0.00%	0.00%
<b>Net profit</b>	<b>6.33%</b>	1.67%	-2.36%	2.60%	17.93%	10.11%	8.53%	2.24%	6.63%	2.42%	7.34%
<b>Selected ratios</b>											
	All Industries	Wood Products	Paper Manufacturing	Forestry Logging	Mining Quarry	Oil & Gas Extraction	Petroleum Coal Products	Basic Chemical	Non-Metallic Minerals	Air, Rail Ships	Transport Support
<b>Selected ratios</b>											
Debt to equity (ratio)	1.03	0.64	1.09	1.17	0.60	0.67	0.32	1.14	0.65	1.18	2.07
Profit margin (percent)	9.08	0.66	1.10	2.90	18.76	15.96	11.48	8.44	10.22	4.22	13.02
Return on equity (percent)	12.10	3.26	-4.14	7.58	8.68	9.22	18.72	4.00	12.96	6.68	12.84
Return on capital employed (percent)	7.88	3.58	0.90	5.76	6.70	6.98	15.12	4.82	9.06	5.66	7.12
Net profit	6.33	1.67	-2.36	2.60	17.93	10.10	8.53	2.24	6.63	2.24	7.34
Working capital (ratio)		1.66	1.28	1.12	1.26	0.95	1.07	1.31	1.52	1.30	0.97
Quick ratio (ratio)		0.92	0.77	0.92	0.96	0.87	0.81	0.91	1.07	0.65	0.87
Inventory turnover (ratio)		6.51	8.08	21.54	6.49	29.50	22.56	11.53	9.10	4.22	31.93
Receivables turnover (ratio)		9.23	7.60	12.12	3.95	4.62	11.41	8.21	5.74	8.39	6.37
Income taxes to taxable income (percent)	29.34	28.26	29.90	20.46	34.82	32.32	32.92	30.76	30.64	27.88	30.36

Source: Adapted from: Statistics Canada, the publication Financial and Taxation Statistics for Enterprises, 2009 (61-219-X, free) <http://www.statcan.gc.ca/pub/61-219-x/61-219-x2009000-eng.htm>

## 15 Appendix D Relevant Sections of BC Assessment Act

Sections 20 (1),(2),(3) & (4) of the Assessment Act provide legislative authority with respect to Major Industrial Assessments:

**20** (1) In this section:

**"cost of industrial improvement"** means the cost of replacing an existing industrial improvement with an improvement that

(a) has the same area and volume as the existing industrial improvement,

(b) serves the same function that the existing industrial improvement was designed for or, if the existing industrial improvement is no longer used for that function, serves the same function that the existing industrial improvement now serves, and

(c) is constructed using current, generally accepted construction techniques and materials for the type of improvement being constructed;

**"industrial improvement"**, subject to subsection (2), means an improvement that is part of a plant, whether or not the plant can be operated as a going concern or is temporarily or permanently unprofitable, if the plant is designed and built for the purpose of one or more of the following:

- (a) mining, extracting, beneficiating or milling of metallic or non-metallic ore;
- (b) mining, breaking, washing, grading or beneficiating of coal;
- (c) producing of aluminum;
- (d) smelting or refining of metal from ore or ore concentrate;
- (e) producing, manufacturing, processing or refining of petroleum or natural gas;
- (f) manufacturing of lumber or other sawmill and planing mill products;
- (g) manufacturing of wood veneer, plywood, particle board, wafer board, hardboard and similar products;
- (h) manufacturing of gypsum board;
- (i) manufacturing of pulp, paper or linerboard;
- (j) manufacturing of chemicals;
- (k) manufacturing of chemical fertilizer;
- (l) manufacturing of synthetic resins or the compounding of synthetic resins into moulding compounds;
- (m) manufacturing of cement;
- (n) manufacturing of insulation;
- (o) manufacturing sheet glass or glass bottles;
- (p) building, refitting or repairing ships;
- (q) loading cargo onto sea going ships or barges, and associated cargo storage and loading facilities, including grain elevators.

(2) The Lieutenant Governor in Council may exempt from the definition of "industrial improvement" improvements in a plant or class of plant that has less than a prescribed capacity and may prescribe different capacities for different types of plants.

(3) Despite section 19, there is continued a class of properties consisting of

- (a) land used in conjunction with the operation of industrial improvements, and
- (b) industrial improvements.

(4) The actual value of properties to which this section applies is

- (a) the actual value of the land as determined under section 19 or 20.3, and

(b) the cost of industrial improvements less depreciation that is at a rate and applied in a manner prescribed by the Lieutenant Governor in Council, and the Lieutenant Governor in Council may prescribe different rates and different manners of application of depreciation for individual properties or classes or types of properties.

(5) For the purposes of the definition of "cost of industrial improvement" in subsection (1), subject to the prior approval of the Lieutenant Governor in Council, the assessment authority by order may establish or adopt by reference manuals establishing rates, formulas, rules or principles for the calculation of the cost of replacing an existing industrial improvement described in that definition.

(5.1) Copies, in print or electronic format, of the manuals established or adopted under subsection (5) must be

- (a) kept at the offices of the assessment authority, and
- (b) made available for public inspection at those offices during normal office hours.



## 16 Appendix E Depreciation Rates for Major Improvements

Schedule

[am. B.C. Regs. 303/90; 475/92, s. (c); 271/93.]

### INDUSTRIAL IMPROVEMENT DEPRECIATION RATES

(By Category as listed in section 20 of the Act)

Category	Annual Rate of Depreciation
(a) mining, extracting, beneficiating or milling of metallic or non-metallic ore.....	6.5
(b) mining, breaking, washing, grading or beneficiating of coal.....	4.0
(c) producing of aluminum.....	3.0
(d) smelting or refining of metal from ore or ore concentrate.....	3.0
(e) producing, manufacturing, processing or refining of petroleum or natural gas....	3.0
(f) manufacturing of lumber or other sawmill and planing mill products.....	4.0
(g) manufacturing of wood veneer, plywood, particle board, wafer board, hardboard and similar products.....	4.0
(h) manufacturing of gypsum board.....	3.0
(i) manufacturing of pulp, paper or linerboard.....	3.0
(j) manufacturing of chemicals.....	4.0
(k) manufacturing of chemical fertilizer.....	3.0
(l) manufacturing of synthetic resins or the compounding of synthetic resins into moulding compounds.....	3.0
(m) manufacturing of cement.....	3.0
(n) manufacturing of insulation.....	3.0
(o) manufacturing of sheet glass or glass bottles.....	3.0
(p) building, refitting or repairing ships.....	5.0
(q) (i) loading of cargo onto seagoing ships or barges, including associated cargo storage and loading facilities.....	5.0
(ii) the maritime structure of a grain terminal operation including piers, wharves, shipping galleries and loading gallery towers used to transport grain from a grain elevator to seagoing ships or barges, but excluding those things included in paragraph (q) (iii).....	5.0
(iii) grain elevators and associated structures.....	2.5

## 17 Appendix E Revitalization Tax Exemptions under the Community Charter

Under section 226 of the Community Charter, communities may provide tax exemptions for land or improvements. The relevant sections are shown below.

**226** (1) In this section:

"**exemption agreement**" means an agreement under subsection (7);

"**exemption certificate**" means a revitalization tax exemption certificate issued under subsection (8);

"**revitalization program bylaw**" means a bylaw under subsection (4).

(2) A council may, for the purpose of encouraging revitalization in the municipality, provide tax exemptions for land or improvements, or both, in accordance with this section.

(3) For a revitalization tax exemption under this section to apply to a particular property,

(a) the exemption must be in accordance with a revitalization program bylaw under subsection (4),

(b) an exemption agreement under subsection (7) must apply to the property, and

(c) an exemption certificate for the property must have been issued under subsection (8).

(4) A revitalization tax exemption program must be established by a bylaw that includes the following:

(a) a description of the reasons for and the objectives of the program;

(b) a description of how the program is intended to accomplish the objectives;

(c) a description of the kinds of property, or related activities or circumstances, that will be eligible for tax exemptions under the program;

(d) the extent of the tax exemptions available;

(e) the amounts of tax exemptions that may be provided under the bylaw, by specifying amounts or by establishing formulas by which the amounts are to be determined, or both;

(f) the maximum term of a tax exemption that may be provided under the bylaw, which may not be longer than 10 years.

(5) A revitalization program bylaw

(a) may include other provisions the council considers advisable respecting the program including, without limiting this,

(i) the requirements that must be met before an exemption certificate may be issued,

(ii) conditions that must be included in an exemption certificate, and

(iii) provision for a recapture amount that must be paid by the owner of the property to the municipality if the conditions specified in the exemption certificate are not met, and

(b) may be different for

(i) different areas of the municipality,

(ii) different property classes under the **Assessment Act**,

(iii) different classes of land or improvements, or both, as established by the bylaw,

(iv) different activities and circumstances related to a property or its uses, as established by the bylaw, and

(v) different uses as established by zoning bylaw.

(6) A revitalization program bylaw may be adopted only after

(a) notice of the proposed bylaw has been given in accordance with section 227 [**notice of permissive tax exemptions**], and

(b) the council has considered the bylaw in conjunction with the objectives and policies set out under section 165 (3.1) (c) **[use of permissive tax exemptions]** in its financial plan.

(7) The council may enter into an agreement with the owner of a property respecting

(a) the provision of a revitalization tax exemption under this section,

(b) any requirements that must be met before an exemption certificate is issued, and

(c) any conditions on which the tax exemption is to be provided.

(8) Once

(a) all requirements established in the revitalization program bylaw, and

(b) any additional requirements established in the exemption agreement

have been met, a revitalization tax exemption certificate must be issued for the property in accordance with the exemption agreement.

(9) An exemption certificate must specify the following in accordance with the revitalization program bylaw and the exemption agreement:

(a) the extent of the tax exemption;

(b) the amount of the tax exemption or the formula for determining the exemption;

(c) the term of the tax exemption;

(d) if applicable, the conditions on which the tax exemption is provided;

(e) if applicable, that a recapture amount is payable if the exemption certificate is cancelled, and how that amount is to be determined.

(10) So long as an exemption certificate has not been cancelled, the land or improvements, or both, subject to the exemption certificate are exempt from taxation under section 197 (1) (a) **[municipal property taxes]** as provided in the exemption certificate.

(11) An exemption certificate may be cancelled by the council

(a) on the request of the property owner, or

(b) if any of the conditions specified in the exemption certificate are not met.

(12) An exemption certificate or cancellation does not apply to taxation in a calendar year unless the exemption certificate is issued or cancelled, as applicable, on or before October 31 in the preceding year.

(13) The designated municipal officer must

(a) provide a copy of an exemption certificate to the relevant assessor as soon as practicable after it is issued, and

(b) if applicable, notify that assessor as soon as practicable after an exemption certificate is cancelled.

(14) The authority to provide a tax exemption under this section is not subject to section 25 (1) **[prohibition against assistance to business]**.

### **Notice of permissive tax exemptions**

**227** (1) A council must give notice of a proposed bylaw under this Division in accordance with section 94 **[public notice]**.

(2) Subject to subsection (3), the notice under subsection (1) must

(a) identify the property that would be subject to the bylaw,

(b) describe the proposed exemption,

(c) state the number of years that the exemption may be provided, and

(d) provide an estimate of the amount of taxes that would be imposed on the property if it were not exempt, for the year in which the proposed bylaw is to take effect and the following 2 years.

(3) In the case of a bylaw under section 226 (4) **[revitalization program bylaw]**, the notice under subsection (1) of this section must include a general description of each of the following:

(a) the reasons for and the objectives of the program;

(b) how the proposed program is intended to accomplish the objectives;

(c) the kinds of property, or related activities or circumstances, that will be eligible for a tax exemption under the program;

(d) the extent, amounts and maximum terms of the tax exemptions that may be provided under the program.

18      **Appendix F Regional Assessed Values**

Figure 18-1 Lower Mainland Major Industrial Assessed Values 2011

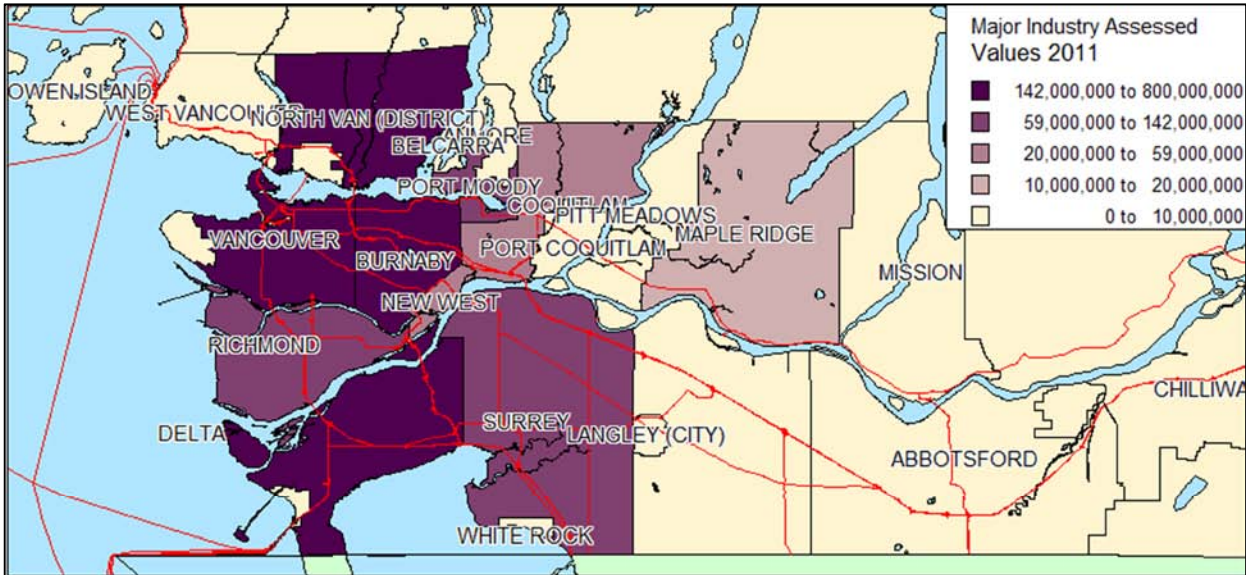
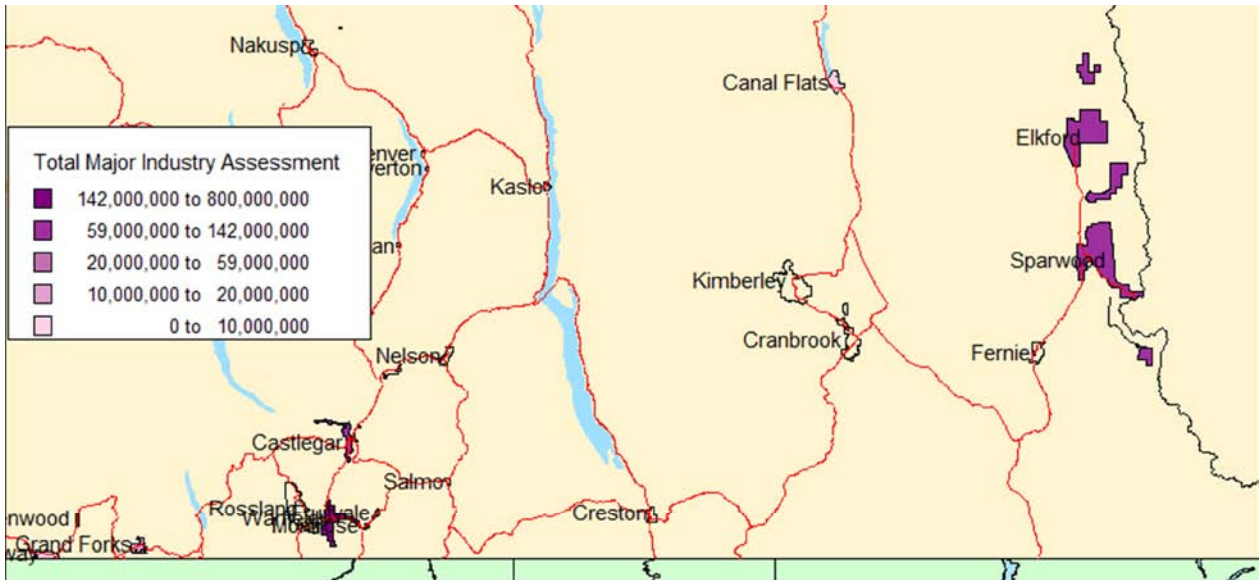


Figure 18-2 Southwest Interior Major Assessments 2011



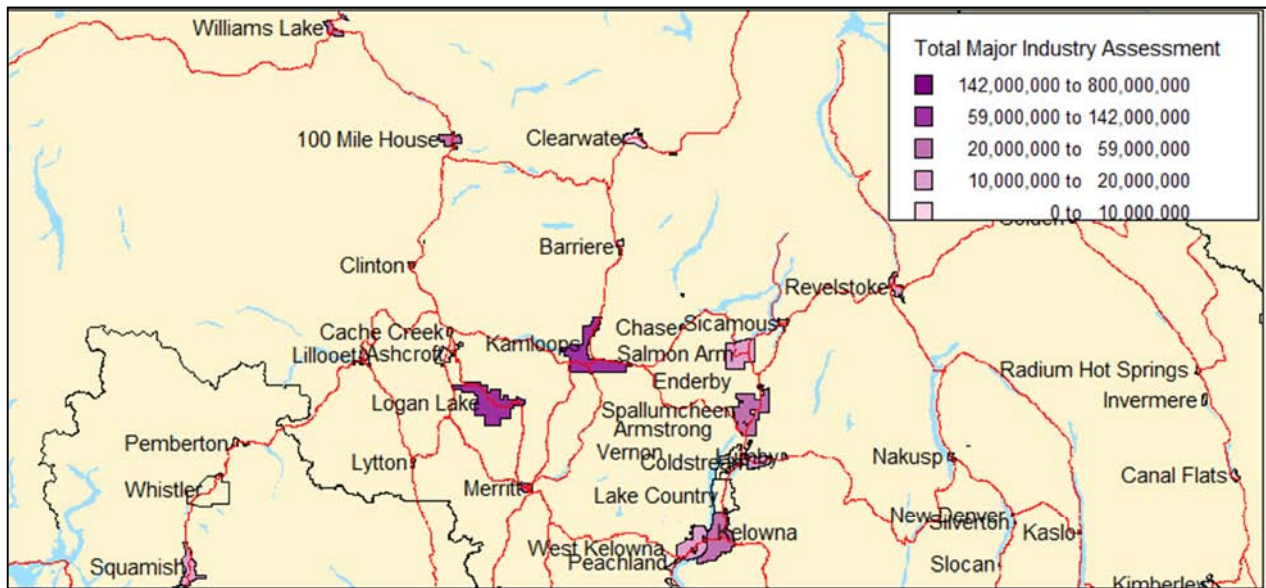
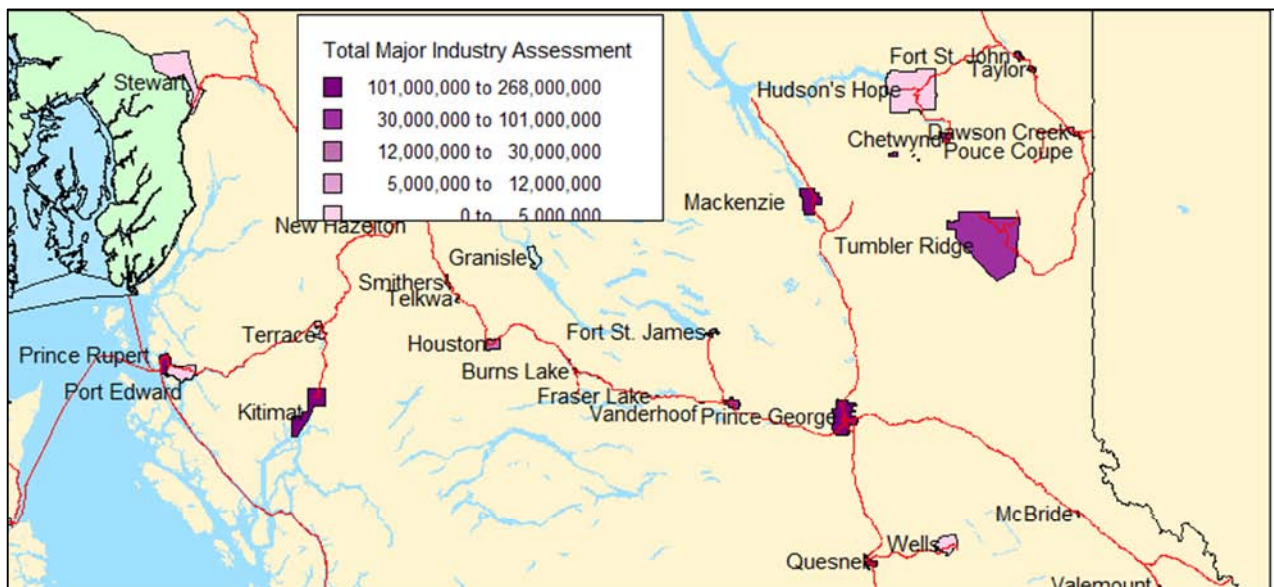
**Figure 18-3 Central Interior Major Assessments 2011****Figure 18-4 Northern Interior (Excl. Rocky Mountain) Major Assessments 2011**



Figure 18-5 North Vancouver Island Major Assessments 2011

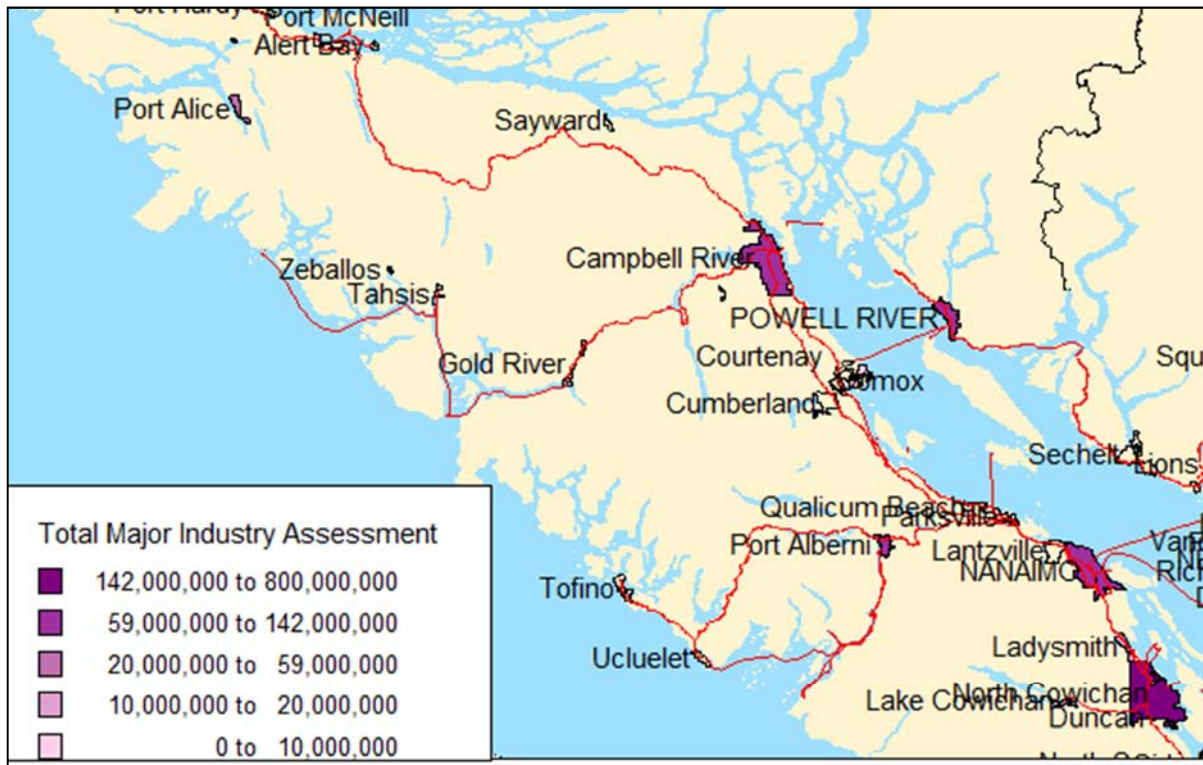


Figure 18-6 South Vancouver Island Major Assessments 2011

