

GREEN ECONOMIC INVESTMENT STUDY



SHAPING OUR
FUTURE

Preface

This Community Sustainability Strategy is one in a series of plans and strategies being prepared as part of the City of Abbotsford's Community Sustainability Planning Initiative (CSPI). The CSPI describes the City's ongoing effort with our community partners to grow and function in an integrated way to support the community's fiscal, economic, environmental and social needs today and in the future.

The intent of the CSPI is to develop high-level plans and strategies that support the community in moving toward sustainability. As high-level documents that identify sustainability opportunities and potential responses (e.g. initiatives, actions, policy, approaches, etc.), CSPI plans and strategies do not commit the City or community partners to specific actions or outcomes. Plan and strategy implementation will require participating organizations to consider a variety of factors (e.g. available resources, priorities, work plans, strategic plan alignment, timelines etc.) before committing to action.

The CSPI is guided by the Community Sustainability Strategy which establishes Abbotsford's sustainability vision and supporting framework for integrating sustainability into City policy, plans, strategies, and decision-making, and supports community sustainability efforts. The Green Economic Investment Study helps to achieve the vision of the CSS by outlining strategies to advance Abbotsford's green economy.

Prepared by: Stantec Consulting Inc., Vancouver, BC
Earthvoice Strategies, North Vancouver, BC
LOCO Business Network Society of BC, Vancouver, BC
Eric Vance and Associates, Port Moody, BC

© 2013 City of Abbotsford. All Rights Reserved

The preparation of this Green Economic Investment Study, which is part of a sustainable community planning initiative, was carried out with assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.

EXECUTIVE SUMMARY

Introduction

The Green Economic Investment Study (GEIS) is one element of the City of Abbotsford's Community Sustainability Planning Initiative (CSPI). The purpose of the CSPI is to develop plans and strategies that guide Abbotsford in growing and functioning in an integrated way where the community's fiscal, economic, environmental and social needs are met today and in the future.

The GEIS examines both direct and indirect means for the community to foster a green economy in which local businesses lower the environmental impact of their operations and develop green goods, services and technologies that promote efficient and innovative resource use and pollution prevention. This study outlines strategies that can be taken to move Abbotsford towards a greener economy. Some strategies will be relatively easy to put into place because they require little change and will cost little to implement (e.g. promoting external programs) while others will require more significant change (e.g. neighbourhood plans). Fundamentally important to the successful implementation of the GEIS is the understanding that it is a community effort and its success will ultimately depend on inspired community action. This includes identifying opportunities for the businesses, community stakeholders, and the City to work collaboratively towards a greener economy for the community. Success will require that stakeholders of Abbotsford understand, value, and practice principles of sustainability, and strong sustained leadership from all parts of the community is paramount.

Abbotsford Economic Overview

Strengths

Abbotsford is part of a rapidly growing metropolitan region of the province with a strong and diverse economy. It is strategically located within the Fraser Valley Regional District on its western boundary with the Metro Vancouver Regional District. Even if the City were to take a relatively passive approach to promoting economic development, its economy would continue to grow and diversify. However, by taking a more active role, Abbotsford is able to gain even greater benefits.

In terms of its strengths, Abbotsford's large land base is one of its most important assets in a region with a rapidly declining supply of land for residential, commercial and industrial development. However, even Abbotsford has limits on its developable land base given the Agriculture Land Reserve (ALR) and environmental and topographical constraints. It is therefore critical that the City carefully consider how its lands can be most effectively and efficiently utilized

over the long-term to ensure an adequate and affordable supply, especially for housing its growing population.

Abbotsford also has strong institutional and transportation infrastructure, which enhance quality of life and attract residents, businesses and visitors. Examples include the University of the Fraser Valley (UFV), TRADEX, Abbotsford International Airport, Abbotsford Entertainment & Sports Centre (AESC) and Abbotsford Regional Hospital and Cancer Centre.

Weaknesses

While Abbotsford is part of a major metropolitan region, it is at its periphery. This is a challenge in attracting certain kinds of businesses and industries that prefer a more central location in the region to better connect with suppliers and customers. The relatively limited public transit system that comes with being on the periphery further exacerbates the situation since it is difficult to attract workers from other communities by any means except the private automobile.

An area where Abbotsford needs to consider placing greater focus is on improving the education levels of its resident labour force, which are below the regional average. This will be important in attracting certain types of employers to the community who are seeking a well-educated and skilled labour force. The presence of the UFV and its plans for expansion act as major catalysts for improving local education and skill levels.

Opportunities

Abbotsford has a wide range of economic development opportunities, nearly all of which require a sustained effort over the long-term in order to be fully realized.

Some of the opportunities are relatively broad, such as attracting more light industrial, storage and distribution businesses as the price of industrial and quasi-industrial land continues to climb in more central areas of the region. The potential opportunities in agriculture have been well studied by the City and there are already a number of initiatives underway or planned to boost the contribution of this sector to the local economy.

There is a significant opportunity to link to certain programs and research being undertaken by UFV. By forging a close working relationship with the University, the City can become a "living laboratory" for green development in much the same way UniverCity serves as a model for sustainable development at Simon Fraser University (SFU) and is closely linked to a number of university programs.

Threats

Abbotsford is operating in a very competitive environment where many other municipalities are aggressively pursuing the same economic development opportunities that Abbotsford is seeking.

In terms of sector specific threats, agriculture is viewed as most at risk. Food production is a global business and there are other jurisdictions able to profitably sell products at lower prices, including into the local market, than many Abbotsford producers are able to offer. There are ways to address this in part through strategies such as focusing on value-added specialized products and buy local campaigns, but agriculture will continue to be one of the most challenging sectors of the economy. The challenge is made even more difficult by the aging of the agricultural business owners and the lack of interest by many younger members of the labour force in pursuing farming as an occupation.

Economic Development in Other Municipalities

There is heavy competition amongst the region's municipalities for certain types of economic development opportunities, with particular focus on those businesses and sectors where there is some flexibility in where they choose to locate. This has implications for the amount and type of growth that Abbotsford might experience in the coming years. The economic development foci of each of the Lower Mainland's major municipalities (100,000+ population) were reviewed to provide a sense of the competitive economic development environment in which Abbotsford is operating. These municipalities are Burnaby, Coquitlam, Delta, Langley Township, Richmond, Surrey and Vancouver. Chilliwack has also been included because of its proximity to Abbotsford.

The common theme amongst all eight municipalities is a desire to attract businesses in high growth and emerging sectors of the economy, such as clean light industry, high technology and professional services, while also trying to retain and expand existing businesses in their communities. In those municipalities where resource based activities such as agriculture are important parts of the economic base, there is a strong desire to get more local value added out of the resource. However, while the economic development goals of many of the municipalities are similar, the strategies that they employ to pursue opportunities and overcome barriers vary considerably. This includes the organizational model that each has chosen to promote and pursue economic development. There is no one right model for economic development and the City of Abbotsford needs to choose the one that best suits its particular set of goals.

Greening Abbotsford's Economy

Aside from the obvious environmental benefits, the green economy is predicted to be a major contributor to sustainable economic growth within the Lower Mainland, BC and the Pacific Northwest.

A 2010 study by the Globe Foundation¹ found that BC's green economy contributed roughly \$15 billion to the province's economy in 2008, representing about 10% of total provincial Gross Domestic Product (GDP), and that it could grow to between \$20 billion and \$27 billion by 2020.

The 2012 West Coast Clean Economy report² commissioned by the province of BC and the states of California, Oregon and Washington found that clean economy jobs have grown on average 2-3 times faster than total jobs in the economy over the last decade, and they are more resilient to market volatility and vulnerabilities. Furthermore, the report's analysis indicates that by 2020, the West Coast region's clean economy could grow by more than 200%. The report identifies five high growth sectors: Clean Energy Supply, Clean Transportation, Energy Efficiency & Green Building, Environmental Protection & Resource Management, and Knowledge & Support.

Green Economic Development in Other Municipalities

The concept of a green economy and green jobs is a relatively recent one. Many cities are now integrating sustainability into their economic development strategies, planning to attract and retain green industries and to green existing businesses as a means to grow a greener economy. Within the Lower Mainland, many smaller municipalities in the Metro Vancouver region do not have an economic development function. Until recently, even the City of Vancouver had no economic development body or strategy. The Vancouver Economic Commission (VEC) has been working for several years to create the strategy that was launched in September 2011. Although the VEC is specifically pursuing green economic development, most municipalities are not using these terms. Even so, Surrey is pursuing green economic development in the intersection of its Sustainability Charter, Economic Development and Clean Energy Plans. Several other municipalities have economic development staff or strategies, and may also have other plans (e.g. Official Community Plan, Sustainability Plan, Agricultural Plan, etc.) that are related to green economic development.

Very few Lower Mainland municipalities have an integrated approach to green economic development. In many cases it seems that economic development operates in isolation from other sustainability goals. And in other cases, even when sustainability goals exist, there is no clear plan and accountability for how to address them or measure performance. Only the large municipalities of Vancouver and Surrey are approaching green economic development in a more integrated way, targeting both green jobs and sector development along with the greening of existing businesses. In many cities, it still remains that jobs and business are the purview of the economic development office, while other strategic plans (e.g. sustainability plan, official

¹ *British Columbia's Green Economy*, Globe Foundation, February 2010, p. 12.

² *West Coast Clean Economy*, Globe Advisors and the Institute for Climate Studies, March 2012, p. 9.

community plan, GHG reduction plan), corporate policies (e.g. green procurement, green building policies) and targets (e.g. energy reduction, GHG reduction, waste diversion) work towards sustainability goals. In this case, a lack of integration of the economic pillar with the other pillars of sustainability is unlikely to lead to the creation of a more sustainable economy.

Building Blocks for a Green Economy in Abbotsford

Analysis of the GDP of the different sectors of the Abbotsford economy and consultation with City staff was used to identify six key sectors on which to focus in developing strategies to foster a green economy in Abbotsford. The six sectors are:

1. Agricultural
2. Development
3. Commercial
4. Manufacturing
5. Transportation Infrastructure
6. Research/Education

A survey was developed to identify Abbotsford companies and organizations in those sectors already supplying green products and services or employing green business processes in their operations. The survey was circulated to the GEE Advisory Group plus additional stakeholders suggested by City staff. The results of the survey supplemented by Internet research were used to develop a preliminary picture of existing green business capacity in Abbotsford with whom the City could potentially partner. Existing capacity was identified in each sector and is described in Section 5.

Recommendations for Greening Abbotsford's Economy

Analysis of the green economy building blocks was carried out to develop a draft set of recommendations for greening the Abbotsford economy. These were then presented to the GEE Advisory Group³. Based on their feedback, the recommendation set was expanded and refined and then supplemented with additional Internet research and interviews to arrive at the final set of recommendations summarized in the table below. Details on each recommendation may be found in Section 6.

³ The GEE Advisory Group is comprised of 14 members from organizations including the University of the Fraser Valley (staff and student), Community Futures South Fraser/Chamber of Commerce, School District, BC Hydro, Fortis BC, ARDCorp, and local architects, developers, industry and business.

Recommendations for Greening Abbotsford's Economy

No.	Recommendation	Partners ¹	Outcomes
General			
G.1	Inventory Green Businesses in Abbotsford	Rotary Club of Abbotsford-Matsqui, ACOC, ADBA	Provide a solid understanding of existing green economy.
G.2	Highlight Best Practices in All Sectors	Rotary Club of Abbotsford-Matsqui, ACOC, ADBA	Gather knowledge to influence other businesses.
G.3	Consider Developing Green Economic Catalyst Initiatives	TRADEX, Airport	City spending leverages growth of green businesses, products/services.
G.4	Support Green Business Programs	BC Hydro, Fortis BC, Province (Livesmart), ACOC, RCAM, ADBA, Small Business BC, NGOs (e.g. Climate Smart), CME	Support, connect and promote businesses to green their operations.
Agricultural			
A.1	Promote Development of an Agricultural Leadership Centre	BCMAL, Tourism Abbotsford, UFV, NGOs (e.g. Young Agrarians, WEDC)	Showcase achievements, research and attract funding to support the sector.
A.2	Support Programs to Enable Youth Farming	BCMAL, Young Agrarians, Farm Start, Young Farmers	Support agriculture and green jobs development.
A.3	Investigate Opportunities to Expand Local Food and Food Products	WEDC, CME, Tourism Abbotsford, BCAC, ACOC, BCATA, Marketing boards	A larger and more competitive sector.
A.4	Support for Utilization of Agricultural Waste	BCMAL, Fortis BC, Cowpower, UFV	Improved water quality and energy production opportunities.
Development			
D.1	Promote Use of Green Building Technologies		Improved opportunities for green technology.
D.2	Encourage Demonstration of New Technologies in City Projects		Demonstrated leadership and support for the sector.
D.3	Encourage Green Development		Demonstrated leadership and support for the sector.
D.4	Investigate District Energy System Potential		Revenue stream for the City; clean energy source for dense areas.
D.5	Densify Abbotsford City Centre		Improved quality of life, better air quality and increased economic opportunities.
D.6	Support the Development of Green Jobs within the Development Sector	UFV, Building sector associations	Understanding of the opportunities for further development.
Commercial			
C.1	Promote Spending in the Local Economy	Rotary Club of Abbotsford-Matsqui, ACOC, ADBA, LOCO BC, 10% Shift	Increased consumer awareness of what products/shops are local and why it's important to support them. Increased

No.	Recommendation	Partners ¹	Outcomes
			civic pride.
C.2	Examine Opportunities for Industrial Land Intensification		Awareness of opportunities.
Manufacturing			
M.1	Assess Potential for Attracting Green Light Industry		Awareness of strategies to pursue.
M.2	Support Eco-industrial Networking	CME, FVRD	Awareness of strategies to pursue.
M.3	Support Build-Out the Food Manufacturing Sector	WEDC, CME	Awareness of strategies to pursue.
Transportation			
T.1	Promote Improved Transit Linkages	BC Transit, Translink	Protects air quality, quality of life.
T.2	Make Abbotsford a Leader in Green Aviation Technologies and Processes	UFV, GARDN	Protects air quality, quality of life, develops niche.
T.3	Facilitate the Advancement of the Alternative Fuel Industry		Protects air quality, quality of life, develops niche.
Research/Education			
R.1	Promote Sustainability Achievements of Educational Institutions	FVRD, UFV, School District #34	Builds up the area as a centre for green economic activity.
R.2	Encourage Research and Training	UFV	Provides support for further green economic development.

¹ Partners abbreviations: ACOC – Abbotsford Chamber of Commerce, ADBA – Abbotsford Downtown Business Association, CME – Canadian Manufacturers and Exporters, BCMAL – British Columbia Ministry of Agriculture, UFV – University of the Fraser Valley, TLC – The Land Conservancy, WEDC – Western Economic Diversification Canada, BCAC – BC Agriculture Council, BCATA – BC Agriculture Tourism Association, GARDN – Green Aviation Research and Development Network, FVRD – Fraser Valley Regional District

Implementation

This Study outlines strategies that can be taken to move towards a greener economic base for the City of Abbotsford. Some strategies will be relatively easy to put into place, because they require little change and will cost little to implement (e.g. promoting external programs) while others will require more significant change (e.g. investigation of District Energy potential). Fundamentally important to the successful implementation of the GEIS is the understanding that it is a community effort and its success will ultimately depend on inspired community action. This includes identifying opportunities for the businesses, community stakeholders, and the City to work collaboratively towards a greener economy for the community. Success will require that stakeholders of Abbotsford understand, value, and practice principles of sustainability, and strong sustained leadership from all parts of the community is paramount.

CONTENT

PREFACE

EXECUTIVE SUMMARY

1 INTRODUCTION	3
1.1 Background	3
1.2 Alignment with City Plans and Initiatives	3
1.3 Methodology	4
2 ABBOTSFORD OVERVIEW	5
2.1 Geography	5
2.2 Transportation	6
2.3 Abbotsford Economic Profile	7
2.4 Existing Green Objectives and Strategies	19
3 ABBOTSFORD'S ECONOMIC FUTURE	21
3.1 Population Projections	21
3.2 Labour Force Growth	21
3.3 The Drivers of Economic Growth	22
4 THE COMPETITIVE ENVIRONMENT	26
4.1 Strengths, Weaknesses, Opportunities and Threats	26
4.2 Economic Development in Other Municipalities	29
4.3 Green Economic Development in Other Municipalities	29
5 BUILDING BLOCKS FOR A GREEN ECONOMY	32
5.1 Agriculture Sector	32
5.2 Development Sector	35
5.3 Commercial Sector	36
5.4 Manufacturing Sector	37
5.5 Transportation Infrastructure	39
5.6 Research/Education	41

6 | GREENING ABBOTSFORD'S ECONOMY 43

6.1	Principle Objectives	43
6.2	Recommendations	44

7 | IMPLEMENTATION 56

APPENDICES

Appendix A	Economic Development in Other Municipalities
Appendix B	Green Economic Development in Other Municipalities
Appendix C	Best Practices in Greening Business
Appendix D	Green Jobs Training Programs

LIST OF TABLES

Table 1:	Population Growth	7
Table 2:	Population Age Distribution - 2006	8
Table 3:	Highest Level of Education Attained - 2006	9
Table 4:	Immigrant Population - 2006	9
Table 5:	Labour Force by Industry - 2006	10
Table 6:	Labour Force by Occupation - 2006	11
Table 7:	Abbotsford 2011 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments	13
Table 8:	2011 Tax Class Multiples Comparison of Larger Lower Mainland Municipalities	14
Table 9:	Housing Starts - 2010 and 2011	15
Table 10:	Estimate of Abbotsford Commercial Floor Space	16
Table 11:	Major Shopping Centres	16
Table 12:	Lower Mainland Industrial Market Summary - Fall 2011	17
Table 13:	Abbotsford's Existing Green Objectives and Strategies Related to Green Economic Development	19
Table 14:	Projected Abbotsford Population Growth	21
Table 15:	Summary of Abbotsford's Competitiveness	28
Table 16:	Selected Green Agriculture Businesses in Abbotsford	33
Table 17:	Selected Green Development Businesses in Abbotsford	35
Table 18:	Selected Green Retail Businesses in Abbotsford	36
Table 19:	Selected Green Manufacturing Businesses in Abbotsford	37
Table 20:	Other Green Oriented Businesses in Abbotsford	39
Table 21:	Green Oriented Transportation Business in Abbotsford	39

1 | INTRODUCTION

1.1 Background

The BC Green Economy Plan defines the green economy as “any economic activity that grows our economy and creates jobs, while also preserving or enhancing our environment. It is not separate from our economy at large, but rather a growing trend of activities across all of BC’s most important sectors”⁴. It identifies the following key elements of the green economy:

- renewable energy,
- green buildings,
- clean transportation,
- water management,
- waste and pollution control, and
- land and resource management

These key elements can be found within all of BC’s foundational industries (tourism, natural gas, forestry, agrifoods, transportation, and mining) and within the industry sectors of development, manufacturing, retail/commercial, and research.

The GEIS examines both direct and indirect means for the City and its partners to foster a green economy in which local businesses lower the environmental impact of their operations and develop green goods, services, and technologies that promote efficient and innovative resource use and pollution prevention. Key recommendations and next steps to advance the expansion of Abbotsford’s green economy are outlined. The study will be used to inform the development of the City’s Economic Development Strategy and Action Plan.

1.2 Alignment with City Plans and Initiatives

The GEIS is one component of the Community Sustainability Planning Initiative (CSPI), which includes three other projects: the Community Sustainability Strategy, Green Community Plan and Green Energy Plan. The purpose of the CSPI is to develop plans and strategies that guide Abbotsford in growing and functioning in an integrated way where the community's fiscal, economic, environmental and social needs are met today and in the future.

⁴ BC’s Green Economy: *Growing Green Jobs*, British Columbia Ministry of Environment. Accessed 7 July 2012; http://www.bcge.ca/BCs_Green_Economy.pdf.

The CSPI is guided by the Community Sustainability Strategy (CSS) which establishes Abbotsford's sustainability vision and supporting framework for integrating sustainability into City policy, plans, strategies, and decision-making, and supports community sustainability efforts. The Community Sustainability Strategy expresses a sustainability vision for the community through a series of 'future states' that describe what a sustainable Abbotsford looks like and outlines how the City and its community partners can collectively move toward the desired 'future states'. The following 'future states' were developed:

- Our community is healthy and enjoys a good quality of life
- Our community's resources and assets are managed effectively and efficiently
- Our natural environment thrives
- Our local economy is prosperous
- Our community is compact, connected and complete

The GEIS supports each of these future states in helping the City achieve its vision to grow and function through an integrated approach where the community's, fiscal, economic, environmental and social needs are met today and in the future. The GEIS also supports the City's Official Community Plan (OCP) vision which states "Abbotsford will be a liveable, sustainable and prosperous City in the Country". The GEIS will also support the Economic Development Strategy and Action Plan.

1.3 Methodology

The study began with a background review in two parts. The first part was the compilation of a snapshot of Abbotsford's current economy, summarizing key areas such as community demographics, the physical environment, natural resources, transportation and the local economy. This is complemented by an analysis of the regional development context, which evaluates how Abbotsford fits into the overall Lower Mainland economy and its strengths and weakness compared to other local economies. The second part was a literature review to:

1. ascertain best practices in greening business operations,
2. identify emerging green business opportunities relevant to Abbotsford informed by the Abbotsford economic snapshot and the regional development context, and,
3. review green economic development strategies established by other Lower Mainland municipalities.

An initial consultation with the Green Energy and Economy (GEE) Advisory Group was held to share the key findings of the aforementioned pieces of work and seek their input on useful directions to be considered in developing the GEIS.

Analysis of the GDP of the different sectors of the Abbotsford economy and consultation with City staff was used to identify key sectors on which to focus in developing strategies to foster a green economy in Abbotsford. A survey was developed to identify Abbotsford companies and organizations in those sectors already supplying green products and services or employing green business processes in their operations. The survey was circulated to the GEE Advisory Group plus additional stakeholders suggested by City staff. The results of the survey supplemented by Internet research were used to develop a preliminary picture of existing green business capacity in Abbotsford.

Analysis of these green economy building blocks was then carried out to develop a preliminary set of recommendations for greening the Abbotsford economy. These were then presented during a second consultation with the GEE Advisory Group. Based on their feedback, the recommendations set was expanded and refined and then supplemented with additional Internet research and interviews to arrive at the final set of recommendations in this report.

Please note that due to the use of various sources, this report makes reference to both imperial and metric measures.

2 | ABBOTSFORD OVERVIEW

2.1 Geography

Abbotsford is located in the Fraser Valley, 70 km east of Vancouver. Much of the community is the flat valley bottom of the Fraser Valley, with some elevated areas in the central and north east portions of the community – notably Sumas Mountain. The City covers a large land area – over 36,600 ha – but about 74% is agricultural land and most of this is preserved within the Province’s Agricultural Land Reserve (ALR).

At the core of the community is a relatively dense urban core – surrounded on three sides by ALR lands and steep mountainous terrain on the fourth. Only a comparatively small portion of the City is designated for urban development. ALR land, steep terrain, and other environmental constraints will limit the amount of land available for development.

The City has a natural boundary to the north of the Fraser River, and a southern boundary of the United States (US) border. Municipal boundaries to the west are the Township of Langley, and to the east the City of Chilliwack and some unincorporated areas of the Fraser Valley Regional District (FVRD).

2.2 Transportation

2.2.1 Facilities

Abbotsford is well served by transportation connections within the Fraser Valley. These include road, rail and air links.

Road: The city has a number of road connections out of the city. Primary connections include:

- Highway 1 access west to Vancouver and all points east via the Trans-Canada highway. Within the city there are seven (7) interchange (controlled access) locations.
- Fraser Highway providing additional access to the Township of Langley, City of Langley and City of Surrey.
- Mission Bridge providing untolled access over the Fraser River to Mission and connections with the Loughheed Highway.
- Highway 11 to a 24/7 border crossing to the US with connections to Bellingham and Seattle.

Rail: Both the CN and CPR lines run east west through the Fraser Valley – the CN rail line within the City bordering the Fraser River, and the CPR line on the other side of the Fraser River. The rail services are coordinated between the rail lines, with track sharing and directional service agreements in place.

Air: The City is served by access to (i) Abbotsford International Airport (YXX), providing regularly scheduled passenger flights regionally through BC and to Calgary, and (ii) Vancouver International Airport (YVR) 85 km to the west providing extensive passenger and cargo links directly. The YVR gateway strategy serves to capitalize on Vancouver’s position to Asian markets.

Marine: There are no port facilities on the Fraser River in Abbotsford.

2.2.2 Services

Inter-regional Transit: Transportation services between communities are limited and so almost all travel is done by private vehicle. Bus service to Vancouver and most other communities is only available by Greyhound service with a number of departures daily. There is bus service between Abbotsford and Mission (route 31), and to Aldergrove (route 21) through the Central Valley Transit System. Connections to Vancouver are possible via the West Coast Express commuter train from Mission. With the opening of the new Port Mann bridge a rapid bus from the Carvolth neighbourhood in Langley Township will connect to the Skytrain system at Braid St. station, or Lougheed Town Centre.

BC Transit is nearing completion of its Transit Future Plans for the region. This has identified transit connections through the Fraser Valley. As well, the goals for future transit objectives of this plan have identified that transit should support and enhance economic development, by integrating with land use.

Local and Regional Transit: Transit service within the community is provided by BC Transit operating 17 different routes including service to Mission and Aldergrove. The draft Transit Future Plan has identified as priorities a nodal development pattern with major transit facilities (e.g. along South Fraser Way) and with connections to the inter-regional and regional transit routes.

2.3 Abbotsford Economic Profile

2.3.1 Population Growth

At the time of the 2006 Census, Abbotsford had a population of 129,300, which was 5.2% of the Lower Mainland's population of 2,466,000.⁵ The City has been growing at about the same rate as the region as a whole, although it's pace of growth has been slightly lower than the regional average over the past several years⁶ (Table 1).

Table 1: Population Growth

Year	Abbotsford		Lower Mainland
	Population	Average Annual Change	Average Annual Change
1996	109,500	-	-
2001	122,800	2.4% (1996-2001)	1.9% (1996-2001)
2006	129,300	1.1% (2001-2006)	1.1% (2001-2006)
2011	140,000	1.3% (2006-2011)	1.6% (2006-2011)

Notes: Population numbers adjusted for net Census undercount. Abbotsford and Matsqui merged in 1995, so population data for years before that does not reflect the City's current geographical boundaries. Source: BC Stats

There are a number of factors driving Abbotsford's population growth, including that the City has:

- a large number of residents in the prime family formation stage of their lives;
- a relatively strong economy, which has created jobs and, in turn, attracted more people to live in the community; and

⁵ These population estimates include the net Census undercount. Except where noted, data in the tables in this section of the report do not include the undercount. For example, the 2006 Census population of Abbotsford was 123,860, which is 4.4% lower than the estimated 2006 population of 129,300 when the undercount is factored in by BC Stats and Statistics Canada.

⁶ The Lower Mainland region includes the Fraser Valley and Greater Vancouver (Metro Vancouver) Regional Districts combined.

- relatively affordable housing, which is attracting both families and seniors.

Each of these factors is elaborated upon below.

2.3.2 Population Demographics

As Table 2 shows, Abbotsford has a significant number of young residents, with those in the 0 - 19 age category comprising 27% of the population, compared to 21% for the region overall. As these young people move into the labour force, one of the challenges for Abbotsford will be to create employment opportunities that will keep them in the community rather than having to move or commute to jobs elsewhere in the region.

At the other end of the scale, the City's proportion of residents age 65+ (14%) is slightly higher than the regional average of 13%. The growing number of seniors has a range of implications for the community, including ensuring that the types of services required by an older population are available, as well as providing appropriate housing choices.

Table 2: Population Age Distribution - 2006

Age range	Abbotsford		Lower Mainland
	Population	Share	Share
0-4	7,880	6%	3%
5-19	26,090	21%	18%
20-44	43,025	35%	37%
45-64	29,555	24%	29%
65-74	8,480	7%	7%
75+	8,835	7%	6%
Total	123,860	100%	100%
Median Age	36.6	-	39.0

Source: Statistics Canada, 2006 Census

2.3.3 Education Levels

The share of Abbotsford's prime working age population (age 25 - 64) that does not have high school graduation is greater than the regional average (Table 3). Abbotsford also has a lower share of residents with a university education than the regional average. On a more positive note, the community's overall education levels are improving. For example, between 2001 and 2006, the proportion of the working age population without high school graduation declined by 31% and the proportion with a university education increased by 30%. If these trends have continued since 2006, the education data from the 2011 Census, when released, should show that Abbotsford is more in line with the regional picture.

Continued improvement to the education levels of Abbotsford's resident labour force is an important part of attracting businesses seeking skilled workers. A better educated labour force is also a better compensated labour force, which generates more community wealth and spending activity.

Table 3: Highest Level of Education Attained - 2006

Level of Education	Abbotsford		Lower Mainland
	Population Age 25 - 64	Share	Share
No certificate, diploma or degree	11,205	18%	11%
High school certificate or equivalent	19,015	30%	25%
Apprenticeship/ trades certificate or diploma	7,795	12%	10%
College or other certificate or diploma	11,290	18%	19%
University certificate, diploma or degree	13,525	22%	35%
Total	62,830	100%	100%

Source: Statistics Canada, 2006 Census

2.3.4 Immigration Population

As of 2006, just over one-quarter (26%) of Abbotsford's population was composed of immigrants, compared to the higher regional figure of 37% (Table 4). The largest share (57%) of the community's immigrants came from Asia and the Middle East, whereas for the region overall the share was 64%.

Table 4: Immigrant Population - 2006

Immigrant Population	Abbotsford		Lower Mainland
	Population	Share of Total Population	Share of Total Population
Immigrated from Another Country	31,955	26%	37%
Place of Birth			
- Asia and Middle East	18,040	57%	64%
- Europe	8,950	28%	23%
- United States	1,535	5%	3%
- Africa	745	2%	3%
- Other	2,685	8%	7%
Total	31,955	100%	100%

Source: Statistics Canada, 2006 Census

What these figures show overall is that while Abbotsford is attracting a share of the region's immigrants, other areas of the Lower Mainland are gaining a larger proportion. If the City wishes to grow at a faster rate as one of its economic development objectives, particular attention will

need to be paid to how to attract a larger share of the immigrants to the region, especially those from Asia and the Middle East.

2.3.5 Labour Force

The industry sectors in which Abbotsford's resident labour force are employed, whether within the City or elsewhere, are shown in Table 5. A few points to note in particular:

- The vast majority (82%) of the 6,920 residents in the Primary Industries labour force in Abbotsford are in the Agriculture sector. Many of those who work in agriculture do so on a seasonal or part-time basis and have other jobs that are their primary source of income. Agriculture is therefore an even more important part of the economy than labour force data alone suggests.
- Abbotsford has an above average share of its labour force (12% versus 9%) involved in Manufacturing, the majority of which is in two sectors: Wood Products and Food.
- In most other industry sectors, Abbotsford's labour force profile matches that of the region overall. That is to be expected since a substantial share of labour force activity is tied to serving the local population in sectors such as Retail Trade, Educational Services, Health Care & Social Services, and Public Administration.

Table 5: Labour Force by Industry - 2006

Labour Force by Industry	Abbotsford		Lower Mainland
	Number	Share	Share
Primary Industries: Agriculture, Mining, Forestry, Fishing, Oil & Gas, Utilities	6,960	11%	3%
Construction	6,100	9%	6%
Manufacturing	7,980	12%	9%
Transportation & Warehousing	3,880	6%	6%
Wholesale Trade	2,975	5%	5%
Retail Trade	6,810	11%	11%
Accommodation & Food Services	4,015	6%	8%
Information & Cultural Industries	940	1%	3%
Finance, Insurance & Real Estate	2,985	5%	7%
Professional, Scientific & Technical Services	2,780	4%	9%
Educational Services	4,040	6%	7%
Health Care & Social Services	5,725	9%	9%
Public Administration	2,575	4%	4%
All Other	7,140	11%	13%
Total	64,905	100%	100%

Note: Includes all persons aged 15+ in the labour force, which is defined as those who are either employed or who have recently been employed and are actively seeking employment. Source: Statistics Canada, 2006 Census

The occupations within which Abbotsford's resident labour force are employed, whether within the City or elsewhere, are shown in Table 6. A few points to note in particular:

- Abbotsford has a smaller proportion (27%) of its resident labour force in Management, Business, Finance & Administration, and Natural & Applied Sciences occupations than the Lower Mainland as a whole (37%). This is consistent with the education levels of the City's working age population that were summarized in Table 3 and show smaller share of residents with a college or university education.
- Abbotsford has a substantially higher proportion (30%) of its resident labour force in Trades, Transport & Equipment Operation occupations, and occupations Unique to Primary Industry than the regional average (19%). This is largely due to the number of residents employed in Agriculture and at the Abbotsford International Airport.
- In most other occupations, Abbotsford generally mirrors the Lower Mainland averages.

Table 6: Labour Force by Occupation - 2006

Labour Force by Occupation	Abbotsford		Lower Mainland
	Number	Share	Share
Management	5,785	9%	11%
Business, Finance & Administration	9,665	15%	19%
Natural & Applied Sciences	2,255	3%	7%
Health	3,095	5%	5%
Social Sciences, Education & Government	4,845	7%	8%
Arts, Culture, Recreation & Sport	1,050	2%	4%
Sales & Service	14,695	23%	25%
Trades, Transport & Equipment Operation	12,750	20%	14%
Occupations Unique to Primary Industry	6,510	10%	5%
Occupations Unique to Processing, Manufacturing & Utilities	4,140	6%	5%
Total	64,790	100%	100%

Note: Includes all persons aged 15+ in the labour force, which is defined as those who are either employed or who have recently been employed and are actively seeking employment.

Source: Statistics Canada, 2006 Census

2.3.6 Average Incomes

The average income of Abbotsford residents filing a tax return in 2009 was \$35,667. This was slightly higher than the FVRD average of \$35,094, but lower than the Metro Vancouver Regional District (MVRD) average of \$41,176 and provincial average of \$39,754.

The average annual incomes of the City's resident labour force reflect its occupational profile, with a smaller share of workers in management and professional jobs that tend to pay higher wages on average.

2.3.7 Residents Working in the Community

Abbotsford has a much higher than average share of its resident labour force employed within the community. According to the *Commuting and Places of Work in the Fraser Valley Regional District* (June 2009) report, 62% of the City's employed labour force worked in the municipality in 2006, compared to the Lower Mainland figure of 35%. Abbotsford is already further along than many municipalities in becoming a complete community by bringing residents and jobs closer together.

Where Abbotsford does not do so well, however, is in how its employed residents commute to and from work. The 2006 Census shows that 93% commuted by private vehicle, with just 7% travelling by public transit, taxi, bicycle or foot. In comparison, for the Lower Mainland as a whole the share of workers commuting by private vehicle was lower at 76%. These patterns are largely a reflection of the level of availability of public transit as a viable alternative to the use of the private vehicles for travel to work.

2.3.8 Property Tax Burden

Table 7 shows Abbotsford's property taxation structure in 2011. Of particular note, just two classes of property - Residential and Business/Other - account for almost all (91%) of the property taxes collected for municipal purposes. The table also shows that the Business/Other class pays a multiple of 2.75 times the Residential class.

Table 7: Abbotsford 2011 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments

Property Class	Authenticated Roll General Taxable Values	Municipal Purposes Tax Rates	Tax Class Multiples	Total Municipal Variable Rate Taxes	Flat Taxes, Split Rate Taxes, Ports Property Taxes, Tax Sharing	Total Municipal Taxes	% Total Taxes	% Total Assessment
Residential	14,680,745,362	4.7715	1.00	70,049,030	(170,088)	69,878,942	63	83
Business /Other	2,366,366,550	13.1379	2.75	31,089,063	(543)	31,088,520	28	13
Utilities	81,568,288	40.0000	8.38	3,262,732	(11,697)	3,251,035	3	0
Supportive Housing	0	0.0000	0.00	0		0	0	0
Major Industry	0	0.0000	0.00	0		0	0	0
Light Industry	379,843,326	12.2116	2.56	4,638,510	(10,415)	4,628,095	4	2
Managed Forest	0	0.0000	0.00	0		0	0	0
Recreation	10,938,200	8.0622	1.69	88,186		88,186	0	0
Farm	139,081,869	18.7407	3.93	2,606,489	(948)	2,605,541	2	1
Totals	17,658,543,595			111,734,010	(193,691)	111,540,319	100	100

Source: Tax Rates and Tax Burdens, BC Ministry of Community, Sport and Cultural Development

Table 8 compares the tax multiples for a number of the other larger Lower Mainland municipalities (100,000+ population) to show how Abbotsford compares in terms of the distribution of its property tax burden. While not as large, population-wise (78,000), Chilliwack has also been included because of its proximity to Abbotsford.

The data show that in terms of the Business/Other class multiple, Abbotsford has the second lowest, with only Chilliwack lower. This suggests that, from a municipal property taxation perspective, Abbotsford is relatively attractive for businesses.

Table 8: 2011 Tax Class Multiples Comparison of Larger Lower Mainland Municipalities

Property Class	Abbotsford	Burnaby	Chilliwack	Coquitlam	Delta	Langley Township	Richmond	Surrey	Vancouver
Residential	1.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Business/Other	2.75	4.22	2.22	4.85	3.19	3.08	3.72	3.12	4.32
Utilities	8.38	14.54	9.28	13.12	12.20	8.85	17.20	13.84	17.89
Supportive Housing	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Major Industry	0.00	18.39	0.00	16.36	9.19	3.03	6.00	4.92	14.79
Light Industry	2.56	4.22	2.08	4.04	3.19	3.13	4.19	2.78	4.32
Managed Forest	0.00	0.00	3.84	0.00	0.00	0.00	0.00	0.00	0.00
Recreation	1.69	0.65	0.77	4.75	2.09	1.63	0.85	0.98	0.94
Farm	3.93	4.22	3.37	5.30	5.09	3.09	5.50	1.01	0.94

Source: Tax Rates and Tax Burdens, BC Ministry of Community, Sport and Cultural Development

2.3.9 Land Use

2.3.9.1 Residential

Abbotsford had 442 housing starts in 2011, which was 2.4% of the total housing starts in the region over the same period. Of particular note, while Abbotsford was traditionally viewed as predominantly a single-detached home community, the figures for year-end 2011 show that two-thirds of the housing starts in the City were multi-family.

Table 9: Housing Starts - 2010 and 2011

Housing Starts	Single-Detached		Multiples		Total	
	2011	2010	2011	2010	2011	2010
Bowen Island	20	21	6	6	26	27
Burnaby	306	273	1,305	1,015	1,611	1,288
Coquitlam	251	164	1,191	967	1,442	1,131
Delta	107	167	271	271	378	438
Langley City	4	4	220	167	224	171
Langley Township	232	228	1,060	679	1,292	907
Maple Ridge	225	284	249	159	474	443
New West	59	112	309	150	368	262
North Van. City	20	9	461	261	481	270
North Van. District	51	76	404	171	455	247
Pitt Meadows	4	14	71	0	75	14
Port Coquitlam	9	7	38	395	47	402
Port Moody	11	14	15	21	26	35
Richmond	340	302	2,296	1,119	2,636	1,421
Surrey	1,091	1,915	2,716	1,702	3,807	3,617
Vancouver City	800	799	3,030	3,276	3,830	4,075
West Vancouver	119	102	7	2	126	104
White Rock	17	8	62	86	79	94
Other	20	34	470	237	490	271
Vancouver CMA TOTAL	3,686	4,533	14,181	10,684	17,867	15,217
TOTAL Change	-19%		33%		17%	
Abbotsford	152	261	290	159	442	420
Mission	93	94	2	2	95	96
Other	0	0	0	0	0	0
Abbotsford CMA TOTAL	245	355	292	161	537	516
TOTAL Change	-31%		81%		4%	
Chilliwack CMA TOTAL	211	350	143	346	354	696
TOTAL Change	-40%		-59%		-49%	

Note: "CMA" refers to Census Metropolitan Area, which includes a geographical area larger than just the municipality.

Source: CMHC

2.3.9.2 Commercial

The vast majority of retail and office commercial development in Abbotsford serves the local market, meaning that its expansion is largely driven by population growth (coupled with household income levels).

Current statistical data on the amount and type of commercial floor space is scarce. Table 10 shows that there was about 7.4 million sq. ft. of commercial floor space as of 2006 and that there was significant growth over the previous six years.

Table 10: Estimate of Abbotsford Commercial Floor Space

Year	Added Floor Space (sq feet)	Total Floor Space (sq feet)	Percent Increase
2000	430,516	5,423,078	8.62%
2001	322,424	5,745,502	5.95%
2002	257,916	6,003,418	4.49%
2003	597,277	6,600,695	9.95%
2004	344,558	6,945,253	5.22%
2005	206,815	7,152,068	2.98%
2006	282,948	7,435,016	3.50%

Source: Abbotsford Community Profile 2010

Table 11 provides a sense of larger-scale commercial development in Abbotsford. As indicated, the City had about 825,000 sq. ft. of open food-anchored major shopping centre floor space (gross leasable area) in 2010. This was 6% of the Lower Mainland total in this category.

The vacancy rate of 3.5% for this type of commercial floor space was in line with the regional average of 3.3% and suggests that supply and demand are in relative balance.

Table 11: Major Shopping Centres

Open Food Anchored Shopping Centre Survey – 50,000 SF or Greater							
City	Number of Centres	Anchor Rates	CRU Rates	Pad Rates	GLA (SF)	Vacancies	Vacancy Rate
Abbotsford	6	\$12-20	\$25-40	\$35-45	825,135	28,704	3.5%
Burnaby/New Westminster	10	\$ 9-20	\$28-40	\$32-45	1,461,755	42,022	2.9%
Chilliwack	5	\$14-18	\$ 16-24	\$24-32	446,453	54,165	12.1%
North Delta	2	\$15-20	\$20-28	\$30-35	220,814	7,025	3.2%
South Delta	5	\$15-20	\$23-32	\$25-30	468,501	13,247	2.8%
Langley/Aldergrove	11	\$10-18	\$20-30	\$28-35	1,466,586	43,939	3.0%
Maple Ridge/Pitt Meadows	4	\$15-20	\$25-30	\$30-35	782,716	4,405	0.6%
Mission	2	\$14-16	\$ 18-22	\$28-32	422,562	5,459	1.3%
North Shore	8	\$12-25	\$25-60	\$30-45	954,502	9,715	1.0%

Richmond	8	\$10-20	\$25-40	\$25-40	727,286	28,249	3.9%
Squamish	3	\$10-18	\$22-40	\$25-30	203,952	6,378	3.1%
South Surrey/White Rock	6	\$15-35	\$24-55	\$32-40	1,685,529	85,454	5.1%
Surrey - North	15	\$10-25	\$20-30	\$28-32	1,479,307	64,050	4.3%
Tri-Cities	10	\$15-25	\$ 25-35	\$32-38	989,154	11,637	1.2%
Vancouver	11	\$18-28	\$30-60	\$35-55	968,790	28,850	3.0%
Total	106				13,103,042	433,299	3.3%

*Survey excludes closed food anchored shopping centres due to the large amount of gross leasable area and vacancies.

Source: Colliers International, Metro Vancouver Retail Market Report, Q4 - 2010.

2.3.9.3 Industrial

Abbotsford currently has almost 5.8 million sq. ft. of industrial floor space, which is 3.2% of the estimated regional total. The vacancy rate of 6.1% for this floor space is above the regional average of 4.6% and climbed significantly over the past year, almost doubling.

Table 12: Lower Mainland Industrial Market Summary - Fall 2011

Market	Industrial Inventory (square feet)	Vacancy		
		Fall 2011	Spring 2011	Fall 2010
Richmond	34,291,721	4.0%	3.9%	4.1%
Surrey	28,704,725	2.4%	3.4%	3.3%
Burnaby	27,268,092	3.5%	3.3%	2.8%
Vancouver	21,914,062	4.2%	3.9%	3.5%
Delta	20,546,575	8.5%	7.7%	7.9%
Langley	15,574,811	5.5%	7.1%	7.1%
Coquitlam	7,469,071	9.9%	6.5%	6.1%
Port Coquitlam	6,819,942	4.2%	2.7%	2.6%
Abbotsford	5,777,071	6.1%	3.4%	3.1%
North Vancouver	5,074,645	1.8%	2.9%	2.0%
New Westminister	3,682,315	6.9%	4.3%	6.1%
Maple Ridge / Pitt Meadows	2,247,069	5.9%	5.0%	1.3%
Total	179,370,099	4.6%	4.5%	4.4%

Source: Avison Young, Metro Vancouver Industrial Market Overview, Fall 2011

2.3.10 Airport

Abbotsford International Airport currently handles half a million passengers annually and is the second largest airport in the region after Vancouver International Airport. The airport recently underwent a \$30 million upgrade, including terminal improvements and a 9,500 ft. taxiway, and is working toward accommodating two million passengers annually by 2025.

A recently-completed *Abbotsford International Airport Economic Impact Study* (February 2012) report prepared by InterVISTAS Consulting Inc. demonstrated the major role that the airport plays in the local economy. Examples include:

- 1,450 direct jobs (1,320 person-years) related to ongoing operations at the airport;
- \$50 million annually in direct wages, which is an average of \$39,000 per person-year of employment; and
- total direct, indirect and induced employment at the provincial level of 2,880 jobs (2,620 person-years), with a share of the indirect and induced employment also occurring within Abbotsford.

2.3.11 Agriculture

Approximately 74% of Abbotsford's land base is in the Agricultural Land Reserve.⁷ The City generates 34% of agricultural revenues in the Lower Mainland and 21% of total provincial revenues, making it one of the most important agricultural communities in BC.

In terms of value to the Abbotsford economy, gross farm receipts in 2010 were about \$640 million, with just over half (52%) of that total coming from the five supply managed commodity sectors that include dairy, chickens, turkeys, table eggs and hatchling eggs. Other important local agricultural sectors include berries, vegetables, greenhouse operations and hogs.

According to one estimate, the total direct, indirect and induced impacts on the Abbotsford economy of its agricultural industry could be about \$1.8 billion annually.⁸ A broad range of local businesses provide goods and services to the agricultural industry. Examples include formulated feeds, veterinarian supplies, fuels, trucking, fertilizer, pest control products, farm implements and machinery, and specialty manufacturing and installation, general industry such as logistics, warehousing, and cold storage, and value-added food processing.

⁷ Statistics in this section are from the *Abbotsford Agricultural Strategy - Agriculture Profile*, prepared by Zbeetnoff Agro-Environmental Consulting and Serecon Management Consultants, November 2009.

⁸ Ibid.

2.4 Existing Green Objectives and Strategies

Table 13 below summarizes the existing green objectives and strategies outlined in Abbotsford’s Official Community Plan (OCP) and Agriculture Strategy (AS) that relate to the development of a green economy.

Table 13: Abbotsford’s Existing Green Objectives and Strategies Related to Green Economic Development

Objective	Details	Plan	Number
Support agri-industrial investment	Led by the City with support by Abbotsford Chamber of Commerce (ACOC), develop an agri-industrial “open for business” policy to attract agri-industrial processes and technology that will increase the demand and add value to agricultural production.	AS	2-Existing
Agricultural Tourism	City to work with the tourism industry to develop ‘taste of Abbotsford’ tours, guidebooks, cookbooks, and promotions at local and regional restaurants, convention/hotel facilities and other venues. To be led by producer groups with support from Tourism Abbotsford, BC Agricultural Council (BCAC), ACOC, BC Agri-Tourism Association (BCATA), the City and the Marketing Boards.	AS	8-Ongoing Initiatives
Use Agricultural Trust Fund to Further Agricultural Investment, Research and Innovation	City, with support of Abbotsford Community Foundation (ACF) and AAC, to develop mechanism to evaluate applications for funding from the City’s Agricultural Trust Fund. This funding is for research and programs that would act to enhance agricultural productivity and innovation.	AS	8-New City Initiatives
Employ Sustainable Growth and Development Practices	Increasing Lower Mainland population will create regional growth pressures, with a need to manage urban growth and development appropriately so that it positively benefits the City. There is a desire for the City to work in partnership with the development community to find innovative solutions to the challenges of managing growth.	OCP	1.1
Encourage High Quality Local Employment	The City must capitalize on employment opportunities generated by Abbotsford’s key economic drivers, including agriculture, agri-business and food processing; the Abbotsford Regional Hospital and Cancer Centre, and its spin-offs in the health sector; the UFV, and related research, education and training opportunities; Abbotsford International Airport and related aerospace, aviation related, distribution, trade and convention and tourism/accommodation opportunities; regional administrative and financial headquarters; and manufacturing, including export-oriented precision manufacturing. The City will recognize that industry and commerce is shifting from heavy industry, manufacturing and distribution, to include knowledge-based services, research and development, and more complex production activities. The agriculture support sector, with its significant industrial component, must keep pace with the intensification of agriculture.	OCP	1.2

Objective	Details	Plan	Number
Pursue Economic Diversification	Abbotsford has one of the most diverse economies in the province, yet there is still considerable room to expand the city's economic diversity in areas whose full potential has not been reached. A highly educated workforce is essential to attracting and retaining knowledge-based industries as well as supporting existing traditional industries that are taking advantage of new technological developments.	OCP	1.3
Support "Green" Building and Development Strategies	Supporting green building and development strategies includes thinking more about future growth, the quality and efficiency of our built form and the importance of integrating green sustainable initiatives into land use planning. This type of development provides opportunities to re-define our neighbourhoods and incorporate green strategies into our development resulting in an aesthetically pleasing city where the economy is prosperous, and where residents enjoy a healthy and rewarding quality of life.	OCP	2.1
Improve Air Quality	As part of a shared airshed, that includes Greater Vancouver and portions of Whatcom County, the City should continue to collaborate on air quality management initiatives with neighbouring jurisdictions.	OCP	2.3
Local Water Resources	Protecting critical water sources, both surface and groundwater, and encouraging the use of water saving technologies will ensure that City residents have access to safe, clean and healthy water for the long-term.	OCP	2.4
Reduce Waste and Encourage Recycling	Reduce the amount of waste being sent to landfills through reduction, reuse, recycling, composting and other waste minimizing strategies.	OCP	2.5
Integrate Transportation and Land-use Planning	Integrate transportation and land use planning as a means to reducing dependence on private automobiles and enhancing the viability and convenience of other travel modes, such as walking, cycling and public transit. Transportation and land use planning initiatives should be mutually supportive to ensure that transportation linkages and urban development results in a more transit-supportive, pedestrian and cyclist-friendly City. Opportunities exist to more effectively connect residential areas, parks, and recreation facilities with employment nodes in the city's commercial and industrial precincts	OCP	4.1
Facilitate Inter-regional Movement of People and goods	Improve the movement of people and goods by improving links between FVRD communities and creating direct links with the Trans-Link system that operates in the MVRD. In addition to bus links, there is a widely-held hope that rail-based transit may eventually become feasible between Abbotsford and MVRD cities south of the Fraser River and beyond.	OCP	4.2

3 | ABBOTSFORD'S ECONOMIC FUTURE

3.1 Population Projections

The City is preparing an Economic Development Strategy and Action Plan that will set out Abbotsford's vision for the local economy and the strategies and actions for achieving this vision. However, even in the absence of this strategy, there are a number of observations that can be made about what the future economy of Abbotsford is likely to look like and what will drive growth and change in the coming decades.

As shown in Table 14, Abbotsford's projected annual average growth rate over the next 19 years is 1.5%. In comparison, the Lower Mainland annual average growth rate over the same period is projected to be 1.4%. The reason for the higher growth rate in Abbotsford is primarily tied to the community's demographics, with a higher proportion of residents in the family formation years of their lives.

Table 14: Projected Abbotsford Population Growth

Year	Population
2011	140,000
2020 - Projected	162,500
2030 - Projected	189,000

Source: BC Stats

3.2 Labour Force Growth

There is a relatively constant relationship between the population and resident labour force in most communities and regions, with both growing or contracting at about the same rate. If Abbotsford's population is projected to grow at an annual average of 1.5% over the next 19 years, its labour force will likely increase at the same rate. This means that there will be about 1,120 new entrants to the City's labour force annually. By 2030, Abbotsford will therefore have a resident labour force of about 90,100.

If one of Abbotsford's economic sustainability goals is to have its residents working close to home (i.e., within the City), then it needs to create an average of about 695 new jobs each year just to maintain the current share of 62% of its resident labour force working within its boundaries. If the City wishes to increase the proportion of its residents working within the community, then even more jobs will have to be created locally. There will be strong competition from other communities in the region for some of these new jobs, which underscore the importance of Abbotsford

completing a comprehensive Economic Development Strategy that capitalizes on its strengths and opportunities and addresses areas of weakness.

3.3 The Drivers of Economic Growth

The *Lower Mainland Employment Study* is the most comprehensive analysis undertaken of the structure of the regional economy and the factors driving the amount, type and location of jobs in the region. While the study is more than a decade old, many of the key conclusions reached are still valid today.⁹

One of the study's most important conclusions is about how employment is distributed within the region:

- About 40% of all employment is directly related to providing community services and retail goods and follows population distribution (at the sub-regional but not necessarily the community or neighbourhood level).
- About 35% of job growth is likely to locate in light industrial areas and business parks. Communities in the central part of the region (Burnaby, Surrey, Delta, Coquitlam, Port Coquitlam, Richmond and Langley Township / Langley City) are attracting much of this employment because of available vacant or re-developable industrial land.
- About 20% of employment growth will likely locate in specialized areas or facilities such as universities / colleges, hospitals, ports, or downtown Vancouver.
- About 5% of employment growth will be flexible in its locational decisions (i.e., "footloose business"), although it will tend to choose locations in downtown Vancouver or town centre / commercial centre locations within the region.

Each of these types of employment and the possible implications for Abbotsford's future economy are discussed below.

3.3.1 Community Services and Retail

Assuming that Abbotsford has sufficient commercial land available for development or redevelopment, community services and retail will account for a substantial share of the new businesses and jobs in the community. The rate at which these sectors grow will to a large degree be tied to the City's rate of population growth since they are mostly local serving.

⁹ Prepared by Coriolis Consulting Corp. and Dr. Tom Hutton, University of British Columbia for the GVRD, FVRD, SLRD and Province of BC, June 1999.

If Abbotsford wants to provide more jobs locally to keep residents from not only commuting longer distance to not only work but also to shop, the community services and retail sectors need particular attention in the City's Economic Development Strategy.

3.3.2 Light Industry and Business Parks

While Abbotsford has a significant amount of light industrial activity, much of it is tied to primary industries, notably wood and food processing. The City has had some success in attracting other forms of light industry, but many of the businesses in this sector prefer more central locations in the region because of proximity to suppliers and customers. However, with the prices of serviced industrial land in many of the more central areas of the region now in excess of \$1.0 million per acre, more businesses are looking further out into the Fraser Valley for land, as evidenced by the success of Gloucester Industrial Estates in the Township of Langley that borders Abbotsford.

The City has recognized this opportunity and is aggressively pursuing additional industrial development. For example, Abbotsford Council recently adopted an "Industrial Revitalization Tax Exemption Bylaw", with the following objectives:

- to create an economic stimulus to encourage industrial capital investment on lands designated Industrial-Business within Abbotsford;
- to create additional permanent employment opportunities within the community that will reduce the need for citizens to commute to work outside the community;
- to expand the industrial property tax base; and
- to promote environmental objectives such as the development of "green" projects, energy efficiency, use of public transit and alternate commuting modes and reduction of greenhouse gas emissions.

Particular focus is being put on attracting industrial businesses to the airport, including in the aerospace sector. However, there are also opportunities to attract non-aviation industries because of the airport's close proximity to Highway 1.

Given the importance of agriculture to the Abbotsford economy, there is a desire to attract more value-added food processors. The City is currently undertaking a review of the potential for agri-industrial uses along a portion of the Fraser Highway in Abbotsford. Further enhancement of agri-related policies, including agri-industrial policies, are important to the on-going growth of the agricultural sector.

3.3.3 Specialized Areas and Facilities

In addition to the airport, Abbotsford has several other specialized facilities, notably the main campus of the University of the Fraser Valley (UFV), the Fraser Valley Trade & Exhibition Centre (TRADEX) and the Abbotsford Entertainment and Sports Centre (AESC), that will help drive the community's economic growth.

UFV: UFV is a major source of economic activity in the community in a number of ways:

- it employs a large number of full and part-time faculty and support staff;
- it spends a significant amount of money on goods and services procured locally;
- it attracts students from outside the region, who spend money locally on accommodation, food, transportation and other goods and services;
- it provides an opportunity locally for residents to upgrade their education and skills in a broad range of academic, trades and technology areas; and
- it has a research function that benefits not only some local businesses but the community in general (notably, one of the university's five priority areas for research is the Environment and Sustainable Development).

TRADEX: TRADEX operates at about 87% capacity over the course of a year and attracts many major events. An *Economic Impact Analysis* (July 2011) report prepared by InterVISTAS Consulting Inc. examined the role of TRADEX in the local economy. Examples of the annual economic benefits include:

- 481 person-years of direct employment;
- \$14.4 million in direct wages; and
- total direct, indirect and induced employment at the provincial level of 846 person-years, with a share of the 385 person-years of indirect and induced employment also occurring within Abbotsford.

The study also identified a number of catalytic effects of TRADEX on the local and regional economy, including:

Employment effects – the attractiveness of an area for the creation of new or retention of existing job opportunities. For example, companies may choose to locate in a region because of the ability to showcase their products.

Trade effects – Trade shows directly support the development of trade by allowing producers to show their products to consumers.

Investment effects – The existence of TRADEX may support investment decisions for offices, manufacturing, warehouses or retail.

Tourism effects – TRADEX acts as a tourism draw to the region, introducing people to Abbotsford and region in a positive manner. Increased tourism to a destination results in jobs for the local community when non-locals spend money in a community.

AESC: The AESC, which opened in mid-2009, is a 7,000 seat multi-purpose arena, with room for expansion to 8,500 seats. The centre's current main tenant is the Abbotsford Heat, the Calgary Flames American Hockey League affiliate. In addition to hockey, the centre hosts many other sports and entertainment events.

As is the case with TRADEX, the centre provides a range of direct, indirect and induced benefits to the Abbotsford economy. An *Economic Impact Study Update* (June 2011) report prepared by Grant Thornton Consulting found that AESC generated the following for 2010:

- \$16.7 million in direct expenditures related to events hosted at AESC;
- an annual direct, indirect and induced economic impact of \$22.9 million; and
- an annual direct, indirect and induced employment impact of 288 full-time equivalent jobs.

The study also identified other benefits to Abbotsford of having the centre, such as:

- causing other commercial service businesses (e.g. restaurants) to locate in the immediate area;
- increasing tourism;
- increasing airport traffic volumes;
- attracting infrastructure projects and investment (e.g. McCallum Road Interchange); and
- enhancing Abbotsford's profile.

3.3.4 Footloose Business

As noted, businesses in this category make up only a small share of total employment in the Lower Mainland and many tend to select central locations. This puts Abbotsford at a disadvantage because of its location on the fringe of the region. Nonetheless, it is likely that a modest part of the City's economic growth will be driven by footloose businesses choosing Abbotsford as a location because of factors such as relatively affordable real estate, proximity to the airport, proximity to UFV, and access to a young and growing labour force.

4 | THE COMPETITIVE ENVIRONMENT

4.1 Strength, Weaknesses, Opportunities and Threats

This section summarizes Abbotsford's competitive position from an economic development perspective using a Strengths, Weaknesses, Opportunities and Threats (SWOT) approach.

4.1.1 Strengths

Abbotsford is part of a rapidly growing metropolitan region of the province with a strong and diverse economy. It is strategically located within the Fraser Valley Regional District immediately east of the Metro Vancouver Regional District.

Abbotsford's large land base is one of its most important assets in a region with a rapidly declining supply of land for residential, commercial and industrial development. However, even Abbotsford has limits on its developable land given the ALR and environmental and topographical constraints. It is therefore critical that the City carefully consider how its lands can be most effectively and efficiently utilized over the long-term to ensure an adequate and affordable supply, especially for housing its growing population.

Abbotsford also has strong institutional and transportation infrastructure, which enhance quality of life and attract residents, businesses and visitors. Examples include the UFV, TRADEX, Abbotsford International Airport, AESC and Abbotsford Regional Hospital and Cancer Centre.

4.1.2 Weaknesses

While Abbotsford is part of a major metropolitan region, it is at its periphery. This is a challenge in attracting certain kinds of businesses and industries that prefer a more central location in the region to better connect with suppliers and customers. The relatively limited public transit system that comes with being on the periphery further exacerbates the situation since it is difficult to attract workers from other communities by any means except the private automobile.

Tied to this issue of location is that, despite being a growing city in a major metropolitan region, Abbotsford is not part of the MVRD for most functions. Therefore, it is limited in terms of its influence in shaping the future of the region of which it is clearly a physical and functional part, but not a political part. Certain key decisions that affect Abbotsford's economy, especially around land use planning and transportation infrastructure, are being made without Abbotsford at the table.

An area where Abbotsford needs to consider placing greater focus is on improving the education levels of its resident labour force, which are below the regional average. This will be important in attracting certain types of employers to the community who are seeking a well-educated and

skilled labour force. The presence of the UFV and its plans for expansion act as major catalysts for improving local education and skill levels.

4.1.3 Opportunities

Abbotsford has a wide range of economic development opportunities, nearly all of which require a sustained effort over the long-term in order to be fully realized.

Some of the opportunities are relatively broad, such as attracting more light industrial, storage and distribution businesses as the price of industrial and quasi-industrial land continues to climb in more central areas of the region.

The potential opportunities in agriculture have been well studied by the City and there are already a number of initiatives underway or planned to boost the contribution of this sector to the local economy.

There is also a significant opportunity to link to certain programs and research being undertaken by UFV in the area of the Environment and Sustainable Development. By forging a close working relationship with the University, the City can become a "living laboratory" for green development in much the same way UniverCity serves as a model for sustainable development at Simon Fraser University (SFU) and is closely linked to a number of university programs.

4.1.4 Threats

Abbotsford is operating in a very competitive environment where many other municipalities are aggressively pursuing the same economic development opportunities that Abbotsford is seeking. This is expanded upon in Section 4.2 below.

In terms of sector specific threats, agriculture is viewed as most at risk. Food production is a global business and there are other jurisdictions able to profitably sell products at lower prices, including into the local market, than many Abbotsford producers are able to offer. There are ways to address this in part through strategies such as focusing on value-added specialized products and buy local campaigns, but agriculture will continue to be one of the most challenging sectors of the economy. The challenge is made even more difficult by the aging of the agricultural business owners and the lack of interest by many younger members of the labour force in pursuing farming as an occupation.

Table 15: Summary of Abbotsford's Competitiveness

Strengths	Weaknesses
<ul style="list-style-type: none"> • Part of major, growing metropolitan region • Inexpensive land compared to regional averages, both residential and industrial • Relatively young labour force offering lower labour costs • Good transportation system, including Highway 1 and the airport • Large land base • Fast growing community creating increased local spending power • Strong local food movement • Value added processors already located in Abbotsford • University of the Fraser Valley (UFV) planning for growth in Abbotsford • TRADEX • Abbotsford International Airport • Abbotsford Entertainment and Sports Centre (AESC) • Abbotsford Regional Hospital and Cancer Centre 	<ul style="list-style-type: none"> • On edge of metropolitan region • Education levels of Abbotsford labour force below regional average • Significant amount of land base in ALR • Limited public transit • Distant from marine transportation • High reliance on automobiles for mobility • Lack of coordinating organization to deliver programs to green business • Not all planning driven by smart growth principles, e.g. planned big boxes that will increase SOV use • Not part of Metro Vancouver Regional District (MVRD)
Opportunities	Threats
<ul style="list-style-type: none"> • Strengthen links between consumers and producers of agricultural products • Increased value added food processing • Attract storage and distribution centres • Attract light industry • Improve efficiency and productivity of agricultural sector • Biogas plant using agricultural waste • District energy systems using agricultural waste, municipal liquid waste, or geothermal as an energy source • Attracting value added aviation services and business that could benefit from proximity to an airport • Green fuel for regional and corporate jets • Further greening airport operations • Increased commercial development beyond serving local need created by population growth • Attract more events to TRADEX and AESC • Encourage UFV research programs that would benefit green economic development within Abbotsford • Further greening the UFV campus • Further greening City of Abbotsford operations 	<ul style="list-style-type: none"> • Other municipalities working aggressively and with more resources to attract green business, e.g. Surrey, Vancouver • Aging agricultural business owners • Rising agricultural land costs • Very competitive environment within metropolitan Vancouver for ED opportunities generally • Agriculture is a global market; competing with other jurisdictions where labour and land costs are lower

4.2 Economic Development in Other Municipalities

There is heavy competition amongst the region's municipalities for certain types of economic development opportunities, with particular focus on those businesses and sectors where there is some flexibility in where they choose to locate. This has implications for the amount and type of growth that Abbotsford might experience in the coming years.

The economic development foci of each of the Lower Mainland's major municipalities (100,000+ population) are summarized in O to provide a sense of the competitive economic development environment in which Abbotsford is operating. These municipalities are Burnaby, Coquitlam, Delta, Langley Township, Richmond, Surrey and Vancouver. Chilliwack has also been included because of its proximity to Abbotsford.

The common theme amongst all eight municipalities is a desire to attract businesses in high growth and emerging sectors of the economy, such as clean light industry, high technology and professional services, while also trying to retain and expand existing businesses in their communities. In those municipalities where resource based activities such as agriculture are important parts of the economic base, there is a strong desire to get more local value added out of the resource.

However, while the economic development goals of many of the municipalities are similar, the strategies that they employ to pursue opportunities and overcome barriers vary considerably. This includes the organizational approaches that each has chosen to promote and pursue economic development. There is no one right approach for economic development and the City of Abbotsford needs to choose the one that best suits its particular set of goals.

4.3 Green Development in Other Municipalities

The concept of a green economy and green jobs is a relatively recent one. Many cities are now integrating sustainability into their economic development strategies, planning to attract and retain green industries and to green existing businesses as a means to grow a greener economy. Within the Lower Mainland, many smaller municipalities in the Metro Vancouver region do not have an economic development function. Until recently, even the City of Vancouver had no economic development body or strategy. The Vancouver Economic Commission (VEC) has been working for several years to create the strategy that was launched in September 2011. Although the VEC is specifically pursuing green economic development, most municipalities are not using these terms. Even so, Surrey is pursuing green economic development in the intersection of its Sustainability Charter, Economic Development and Clean Energy Plans. Several other municipalities have economic development staff or strategies, and may also have other plans (e.g. Official Community Plan, Sustainability Plan, Agricultural Plan, etc.) that are related to green economic development.

Very few Lower Mainland municipalities have an integrated approach to green economic development. Only the large municipalities of Vancouver and Surrey are approaching green economic development in a more integrated way, targeting both green jobs and sector development along with the greening of existing businesses. In many cities, it remains that jobs and business are the purview of the economic development office, while other strategic plans (sustainability plan, official community plan, GHG reduction plan), corporate policies (green procurement, green building policies) and targets (energy reduction, GHG reduction, waste diversion) work towards sustainability goals. A lack of integration between the economic pillar with the other pillars of sustainability is unlikely to lead to the creation of a more sustainable economy.

In many cases, it seems that economic development operates in isolation from other sustainability goals. Sometimes, even when sustainability goals exist, there is no clear plan and accountability for how to address them or measure performance. For instance, North Vancouver City's Economic Development Strategy outlines how it links to Official Community Plan goals related to sustainability, but in its list of strategies, targets and measurements, none relate to green economic development. Coquitlam and the Township of Langley also have this issue – setting out sustainability goals without integrating them into economic development strategies. Burnaby has set out a strategy and is working with the Burnaby Board of Trade to engage business, but it is not clear what the outcomes will be since there are no indicators or accountability for the outlined outcomes. Although Delta has made some interesting strides in supporting eco-industrial development, the Tilbury initiative that was initially supported by Corporation of Delta funding is now run by a non-profit and requires strong leadership and funding by many partners to achieve its potential.

Where municipalities do not have an integrated plan, they do sometimes have a focus on one key sector related to a green economy. For instance in Chilliwack, Delta and Richmond agricultural plans help guide industry development in recognition of sustainability or environmental issues including planning and land use pressures. Several municipalities mention a potential focus on ecotourism, although no clear plan is laid out on how to green the tourism industry or the hotel sector. However, both Richmond and Coquitlam outline that reducing transportation impacts and providing transportation options for tourists is a priority. They plan to make hotels more accessible by concentrating them in areas well served by transit, and complement them with pedestrian malls and nearby businesses so that tourists have the opportunity to walk and cycle. Elsewhere, there is a focus on the development of the cleantech sector. Both Vancouver and Surrey are actively pursuing cleantech sector development, working with educational institutions, creating technology centres and undertaking trade missions to create international connections for existing businesses.

Vancouver, Surrey and Richmond are focusing on developing district energy systems as a means to reduce corporate and City greenhouse gas emissions. These systems reduce costs, reduce

greenhouses gases and create a new City revenue stream. They also provide an opportunity for green sector development. These systems present an opportunity to create green jobs in their design, installation and operation. The systems design is highly specialized and tends to be done by a handful of firms in BC. The plant equipment and pipes are also highly specialized and would be unlikely to be available locally. Nevertheless, their installation could be done at least partially locally.¹⁰

Several municipalities are making efforts to green existing business operations. Under a Climate Smart partnership with Metro Vancouver, several municipalities are engaging small and mid-sized businesses to complete greenhouse gas inventories and formulate reduction strategies. Although this is an excellent step, its reach has so far included only a few businesses in each municipality, and few municipalities have programs that address greening business beyond this program. For a small municipality, Victoria stands out in working to reduce the waste footprint of its food service sector with a regulation to recycle food scraps. Vancouver stands out since they are completing a baseline of businesses actively greening their operations and formulating a strategy to engage more businesses in greening their operations. Surrey stands out in its effort to support local farming, foster the cleantech sector and create international connections for local businesses.

See O for a review of green economic development in Surrey, Delta, Chilliwack, Langley Township, Richmond, Burnaby and Vancouver. These municipalities were chosen because of their inclusion in the competitive economic development review and the relevance of their efforts to Abbotsford.

O is a literature review which examines best practices in greening existing business operations from other municipalities, and the programs directed at greening business of BC's utilities and crown corporations. As much as possible, this review presents information most relevant to the Abbotsford context, because of size, industry profile or proximity.

O reviews a number of training programs targeted at creating green jobs in the construction sector which accounts for 9% of employment within Abbotsford.

¹⁰ Personal Communication with representative of Earthvoice Strategies. December 5, 2011

5 | BUILDING BLOCKS FOR A GREEN ECONOMY

Aside from the obvious environmental benefits, the green economy is predicted to be a major contributor to sustainable economic growth within the Lower Mainland, BC and the Pacific Northwest.

A 2010 study by the Globe Foundation¹¹ found that BC's green economy contributed roughly \$15 billion to the province's economy in 2008, representing about 10% of total provincial GDP, and that it could grow to between \$20 billion and \$27 billion by 2020.

The 2012 West Coast Clean Economy report¹² commissioned by the province of BC and the states of California, Oregon and Washington found that clean economy jobs have grown on average 2-3 times faster than total jobs in the economy over the last decade, and they are more resilient to market volatility and vulnerabilities. Furthermore, the report's analysis indicates that by 2020, the West Coast region's clean economy could grow by more than 200%. The report identifies five high growth sectors: Clean Energy Supply, Clean Transportation, Energy Efficiency & Green Building, Environmental Protection & Resource Management, and Knowledge & Support.

This section outlines several sectors of focus for green economic development. To understand the current green businesses in Abbotsford, businesses were identified through Internet research, input from the GEE Advisory Group, a survey, the City, and through examination of the list of businesses nominated for the Abbotsford Environmental Leadership Awards. The results are shared in the sections below. However, it should be noted that this is by no means a comprehensive review of the green businesses or green products and services in Abbotsford today. It is recommended that an inventory of green businesses be established as part of a larger mapping of green businesses active in Abbotsford (see section 6.2.1, Recommendation G.1)

5.1 Agriculture Sector

The strength of Abbotsford's agricultural sector is a point of leverage for developing a green economy. The primary industries sector, of which agriculture is a part, provides 11% of existing employment, and much of the 12% employment in manufacturing is related to food manufacturing and is thus dependent on the agricultural sector.

¹¹ *British Columbia's Green Economy*, Globe Foundation, February 2010, p. 12.

¹² *West Coast Clean Economy*, Globe Advisors and the Institute for Climate Studies, March 2012, p. 9.

In a stakeholder survey conducted as part of this project, respondents cite many green businesses that were in the agricultural sector or related food manufacturing sector as summarized in Table 16.

Table 16: Selected Green Agriculture Businesses in Abbotsford

Producers	
Tuscan Farm Gardens	<ul style="list-style-type: none"> Tuscan Farm Gardens is a family run farm that also produces natural, hand-crafted body care products, soaps and teas. http://www.tuscanfarmgardens.com
Goats Pride Dairy	<ul style="list-style-type: none"> Goats Pride is an organic goat dairy farm and producer of award-winning dairy products. They feed the goats a mixed diet of organic hay, grain and minerals, and they live in comfortable barns with access to pastures. http://www.goatspride.com
Bakerview EcoDairy	<ul style="list-style-type: none"> A demonstration farm with guided tours, animal exhibit, learning centre and market. The farm buildings use green technology to reduce energy use (natural ventilation systems, low energy lighting), has a rainwater collection system, local green materials, is enhancing the Marshall/Lonzo Creek riparian zone, and creating green electricity with biodigested cow manure. http://www.ecodairy.ca
LEPP Farms	<ul style="list-style-type: none"> LEPP Farms is a family run farm and farm market. They have farmed raised and BC sourced beef, free-run pork and poultry, and farm-grown fruits and vegetables. http://leppfarmmarket.com
Rockwell Farms	<ul style="list-style-type: none"> Rockwell Farms is a family run farm that raises certified organic fed, BCSPCA Certified, chicken and eggs. Their poultry is humanely treated and are non-medicated. The farms use locally sourced (Chilliwack) certified organic feed, and a local processor. http://rockweldfarm.com/
Abbotsford Farmer's Market	<ul style="list-style-type: none"> The Abbotsford market sells locally grown and made products from the Fraser Valley. It was founded in 2004 by a partnership of Community Futures South Fraser, Abbotsford Downtown Business Association and Tourism Abbotsford. http://www.abbotsfordfarmandcountrymarket.com/
Sumas Mountain Farms	<ul style="list-style-type: none"> Sumas Mountain Farms is the only 100% certified organic "grass-fed & finished" beef producer in the Lower Mainland. http://www.sumasmountainfarms.ca
Campbell's Gold Honey	<ul style="list-style-type: none"> Campbell's Gold Honey is a family owned honey farm and meadery. It is a diversified 8 acre farm operation that includes an apiary, and produces honey and honey wine. They offer off-farm honey bee pollination services to other local growers. http://www.bchoney.com

Manufacturers	
Transform Compost Products	<ul style="list-style-type: none"> Transform Compost Products are organic nutrient and growth solutions for lawn and garden made from recycling nutrients and organic matter into beneficial plant products. TCP provides an alternative to chemical fertilizers, herbicides or pesticides. http://www.transformcompost.com
Lotusland Winery	<ul style="list-style-type: none"> Lotusland Winery is a three and half hectare family vineyard. Their wines are made with only Fraser Valley grown fruit, and no chemical fertilizers or pesticides are used on any of the fruit. Lotusland Winery is involved with the World-Wide Opportunities on Organic Farms (WWOOF) program that provides international travel and organic farming experience to men and women from around the globe. http://www.lotuslandvineyards.com/
Mt. Lehman Winery	<ul style="list-style-type: none"> Mt. Lehman Winery is a 15-acre family vineyard that produces wine from its own locally grown, organically farmed fruit. http://www.mtlehmanwinery.ca/
Silver Hills Bakery	<ul style="list-style-type: none"> Silver Hills Bakery produces breads and bagels made with sprouted 100% organic whole grains. They use natural ingredients, no GMOs, and no artificial preservatives or additives. www.silverhillsbakery.ca/
Lucerne Foods	<ul style="list-style-type: none"> Lucerne Foods is a food products manufacturer including milk, spices, and frozen fruit and vegetables. Lucerne is working to reduce their carbon footprint, reduce waste, increasing line efficiency and improving efficiencies in their supply chain. http://www.lucernefoods.ca/
Composters	
KPD Consulting Ltd.	<ul style="list-style-type: none"> KPD Consulting Ltd. provides technology to manage agricultural waste and produce biodiesel: <ol style="list-style-type: none"> Manure Systems Inc. provides effective separation equipment for processing Dried Manure Solids (DMS) or Sand-Laden Manure in the world. Years of research and field testing in cooperation with industry leaders, manure management professionals and dairy producers has led to the development of the Trident separator systems. New Trident is a coagulant agent solution that reduces the heating, separation and evaporation time required to produce biodiesel. The FodderTech System produces pesticide free, nutrient rich fresh fodder quickly in commercial quantities on site where fodder is used, with less water when compared to traditional crop farming methods. http://kpdconsulting.ca

The Certified Organic Associations of BC (<http://www.certifiedorganic.bc.ca>) lists 33 Abbotsford growers with certified organic certification, many of whom are also growing according to biodynamic standards.

5.2 Development Sector

As part of Abbotsford’s development sector, the construction industry is responsible for 9% of the City’s employment and in a good position to grow given the projected annual growth rate of 2.1%, adding 2,860 residents each year over the next 20 years. Housing for new residents poses an opportunity for new housing starts and renovations by the development sector, and an opportunity to promote green construction and renovation practices.

Given the large amount of development expected in the City in the next few decades, it is not only important to encourage “low impact development”, but also to ensure that development supports the creation of green jobs and a more sustainable economy.

In a stakeholder survey conducted as part of this project, respondents cite several green businesses in the development sector as summarized in Table 17.

Table 17: Selected Green Development Businesses in Abbotsford

Streamline Design	<ul style="list-style-type: none"> Streamline Design Ltd. specializes in timber frame, log home and post & beam design offering LEED or Built Green project certification by a LEED accredited professional. They also offer green roof and wall design. http://www.streamlinedesign.ca
Rykon Group of Companies	<ul style="list-style-type: none"> Rykon Group of Companies focus on developing and building distinguished homes, neighbourhoods and communities. Their Abbotsford project “Argyle” is rated Gold Star Energy Efficient.
Point Nexus Consulting	<ul style="list-style-type: none"> Point Nexus Consulting works in commercial and residential building renovations in the Metro Vancouver and Fraser Valley. They won a Georgie award for the renovation of an Abbotsford home. http://www.pointnexus.ca
Gerry Enns Contracting	<ul style="list-style-type: none"> Gerry Enns Contracting Ltd is a Fraser Valley based contracting and project management company. They are a certified Excellence in Sustainable Construction (ESC) contractor. http://www.gerryennscontracting.com

It is important to ensure that the development sector reinforces Abbotsford’s goal to green the economy.

The City encourages the development of “green” buildings in both the public and private sector. The City has had the following successes in green development:

- Abbotsford Regional Hospital and Cancer Centre (ARHCC) designed to LEED Silver (first hospital in Canada to meet this standard)
- Abbotsford Cultural Centre built to LEED Silver standard features storm water diverted to a swale, under-floor radiant heat, and geothermal heating and cooling

- Abbotsford Community Centre built to LEED Silver standard
- Abbotsford Entertainment and Sports Centre built to LEED Silver standard
- Abbotsford Fire Hall No. 8 built to LEED Silver standard
- Christine Lamb Residence built to LEED Silver standard (a BC Housing Project)

The City has a policy of encouraging green buildings but takes a flexible approach that does not require certification, adding additional costs and delays.

5.3 Commercial Sector

As noted in the economic profile, the commercial (retail and office) sector in Abbotsford serves the local market, so expansion will be driven by population growth (coupled with household income levels). Population growth projections suggest the commercial sector is likely to grow at a steady annual rate.

It's unclear how much of current office and retail space or tenants contribute to a green economy. The BOMA BEST program that certifies office buildings for green practices has only one of the province's 230 certified buildings registered in Abbotsford. In a stakeholder survey conducted as part of this project, respondents cite only a few green businesses in the commercial sector, as summarized in Table 18.

Table 18: Selected Green Retail Businesses in Abbotsford

Bent Nail	Bent Nail is a new & pre-owned building supply company that also provides deconstruction and salvage services. The company has a 12,000 ft ² warehouse of new and used renovation supplies and materials. http://www.bentnail.org/
Save On Foods	Save On Foods (SOF) is a Western Canadian based company. They promote eco-friendly products and sustainable choices, and were one of the first retailers in North America to actively commit to a sustainable seafood approach. SOF supports local suppliers, producers and growers working with more than 1200 growers, ranchers and producers in Western Canada. SOF incorporates energy-efficient equipment and processes into their stores, and is a BC Hydro Power Smart Leader. They work to reduce customer waste with reward programs and services that encourage plastic bag recycling and use of reusable bags, and by featuring Changes® Recycling Centres at 13 store locations throughout BC's lower mainland. The company also recycles up to 90% of their own waste. http://www.saveonfoods.com
London Drugs	London Drugs is a BC-based retailer that has been a leader in product packaging stewardship, offering packaging take-back and recycling programs to its customers. It has also launched "What's the Green Deal?", a green product identification and consumer education program. http://www.londondrugs.com

Vancity	<p>A BC-owned co-op that cycles 30% of its profits back into the community. Their impact investment strategy focused on “Impact Investments in the following sectors:</p> <ul style="list-style-type: none"> ○ Affordable Housing ○ Energy and Environment ○ Local, Natural and Organic Food ○ Social Enterprise and Social Venture ○ Social Purpose Real Estate <p>Vancity also works as a service partner working with many organizations making positive community change. Its “Structured for Impact” program engages:</p> <ul style="list-style-type: none"> ○ Aboriginal communities ○ Labour Unions and members ○ Microfinance - small business and start-up lending ○ Not-for-profits ○ Facing poverty ○ Financial literacy and basic banking <p>Vancity was the first North American-based financial institution to be carbon-neutral, has green building practices, and an extensive waste program. https://www.vancity.com/</p>
Starbucks	<p>Starbucks serves some fair trade and organic coffee, and reports on several corporate social responsibility programs to reduce waste, energy, water, GHG emissions, and engaged in green building. http://www.starbucks.ca</p>
Ramada Plaza and Conference Centre	<p>The Abbotsford Ramada Plaza and Conference Centre has been awarded three keys by the Hotel Association of Canada green key program. They have beehives and herb gardens to supply the kitchen and conference catering services. The Ramada is a participant in the Ocean Wise program, has an award-winning culinary team and sources fresh, local products. http://www.ramadaabbotsford.ca</p>

**Note that some of the above retailers provide green/social products and services and some have green practices and some have both.*

5.4 Manufacturing Sector

Abbotsford has a number of businesses engaged in manufacturing green products or actively engaged in incorporating green business practices into their operations. These include firms such as those listed in Table 19 below.

Table 19: Selected Green Manufacturing Businesses in Abbotsford

The Answer Garden Products	<p>The Answer Garden Products offer a range of green garden and landscaping products, such as soil, mulch etc. http://www.answergardenproducts.com/about-the-answer/</p>
Barr Plastics	<p>Barr Plastics manufactures a range of products for rain water harvesting, filtration, storage, control and usage. http://www.barrplastics.com/rainwater_harvesting_components.htm</p>

	<p>Barr Plastics was the recipient of the 2012 Abbotsford Environmental Leadership Water Saver Award for the role they played in providing both expertise and product in the realm of rain water harvesting to numerous local enterprises and for their own rain water conservation efforts which help demonstrate the effectiveness of their products.</p> <p>http://abbotsfordmatsquirotary.org/874/</p>
Columbia Kitchen Cabinets Ltd.	<p>Columbia Kitchen Cabinets is certified by the Kitchen Cabinet Manufacturer's Association (KCMA) Environmental Stewardship Program. Columbia reduces waste in their manufacturing operations through the use of optimization software, recycling unused finishing products and recycling sawdust and scraps of wood and metal. They also apply sustainable purchasing criteria in selecting their suppliers.</p> <p>http://www.mycolumbiarep.com/wp-content/uploads/2012/03/Columbia-Spring-2012-Release.pdf</p>
Crisal Canada	<p>Brian Baker and Crisal Canada were nominated for an Abbotsford Environmental Leadership Green Product award for their range of new generation green cleaning products which use microbiological cleaning with Probiotics.</p> <p>http://abbotsfordmatsquirotary.org/service/community-service/2012-abbotsford-environmental-leadership-awards/</p>
DonCol Nature Products	<p>DonCol Nature Products manufacture woodworking kits for bird feeders and nesting boxes from recycled wood and plastic.</p> <p>http://doncolnature.ca</p>
Fraser Valley Industries Ltd.	<p>Fraser Valley Industries manufacture architectural millwork items such as case work, cabinets, shelving, book cases, kitchens, vanities, retail display and customer counters and front reception desks. They are committed to using the environmental standards of the Forest Stewardship Council and LEED to minimize their carbon footprint.</p> <p>http://www.fvimanufacturing.com/</p>
Smart Office Solutions	<p>Smart Office Solutions uses green manufacturing processes in refurbishing high-quality office furniture for resale. They service clients throughout the Lower Mainland.</p> <p>http://www.sosfurniture.ca/about</p>
Westgate Door Industry	<p>Westgate Door manufactures and distributes overhead doors across BC and Alberta; their headquarters are in Abbotsford.</p> <p>Nominated for Abbotsford Environmental Leadership Green Project Award for their energy conservation and materials re-use, reduction and recycling initiatives.</p> <p>http://www.westgatedoor.com</p>

In addition to the firms mentioned above, Abbotsford is home to a number of businesses with a green orientation including those listed in Table 20.

Table 20: Other Green Oriented Businesses in Abbotsford

<p>Capt'n Crunch</p>	<p>Capt'n Crunch began operating in 1971 as a scrap metal recycler and auto wrecker. They have expanded their business to recycle as much as possible and now additionally accept demolition waste and recycle wood, plastic, gypsum, and green waste. http://www.captncrunch.ca/</p> <p>Capt'n Crunch received the 2012 Abbotsford Environmental Leadership Green Project or Service award for the scope and diversity of recycling services they provide to homeowners and businesses. http://abbotsfordmatsquirotary.org/874/</p>
<p>Eagle West Wind Energy</p>	<p>Eagle West Wind Energy Inc. is one of the top wind turbine installers in Canada with over 1,000 MW of capacity installed to date. Eagle West offers turn-key installations as well as project management, operations and maintenance and transport and logistics services. http://eaglewestwind.com/</p>

5.5 Transportation Infrastructure

Abbotsford is well served by transportation infrastructure as described in section 2.2. A number of potential sources for further greening this sector were identified and are described below.

Table 21: Green Oriented Transportation Business in Abbotsford

<p>Vedder Transport Ltd</p>	<p>Abbotsford is home to Vedder Transport Ltd who purchased 50 Peterbilt 386 liquefied natural gas (LNG) trucks featuring Westport HD Systems in 2010¹³. Vedder Transport specializes in the transportation of Food Grade products in a bulk liquid or dry state and offers freight services throughout Canada, and between Canada and the United States.</p> <p>Vedder Transport received a 2012 Abbotsford Environmental Leadership Green Project Award for their leadership in reducing their carbon footprint. http://www.veddertransportation.com/</p> <p>Vedder Transport has a partnership with Smart Way to reduce transportation-related emissions and fuel consumption. SmartWay¹⁴ is a public/private collaboration between the US EPA and the freight transportation industry that helps freight shippers, carriers, and logistics companies improve fuel-efficiency and save money. http://www.epa.gov/smartway/</p>
------------------------------------	---

¹³ "Westport Announces Vedder Transport Order for 50 Peterbilt LNG Trucks Powered by Westport HD Systems", Westport Innovations Inc. Retrieved 22 June 2012; <http://www.westport.com/news/2010/vedder-transport-orders-50-peterbilt-lng-trucks-powered-by-westport-hd-systems>

¹⁴ SmartWay, United States Environmental Protection Agency. Retrieved 22 June 2012; <http://www.epa.gov/smartway/>

BC Transit, with the support of the City of Abbotsford and the District of Mission is in the final stages of completing a Transit Future Plan (TFP). The TFP will provide a long term, 25 year vision for transit investment, with short, medium and long-term strategies. The TFP will act as a guide for future transit expansion within the Central Fraser Valley transit system, for both local and regional connections. The goals of the TFP are to:

- Support and enhance economic development by integrating with land use
- Support transit as an attractive transportation choice by being reliable, safe, convenient, accessible and integrated with other transportation modes
- Promote cost efficiency and effectiveness
- Improve the image and marketing of transit through excellent customer service and communication

Abbotsford International Airport is owned by the City of Abbotsford. Existing initiatives include the use of environmental friendly products for de-icing of planes, implementation of LED lighting where allowed by Transport Canada and completion of an Energy Study with BC Hydro including implementation of select recommendations.

Jet biofuel has been proven to be technically viable earlier this year. Lufthansa's Vice-President for Aviation Biofuel, Joachim Buse, predicts biofuel-powered commercial flights could become standard operations within 5-7 years¹⁵. On January 12, 2012, a Lufthansa regularly scheduled flight flew from Frankfurt to Washington using a Boeing 747-400 powered by biosynthetic fuel. Lufthansa has concluded after conducting its BurnFAIR project that biofuels are completely feasible for commercial flights from a technological standpoint. The issue is how to produce sufficient and sustainable feed stocks to bring the price down from current levels of about 2.5 times that of conventional fuel. In a related development, on April 17, 2012 Porter Airlines completed the first Canadian bio-fuel powered revenue flight from Toronto to Ottawa and back using a Bombardier Q400 turboprop powered by a 50/50 mixture of biofuel and Jet A1 fuel¹⁶. The biofuel portion is 98% derived from *Camelina sativa* and 2% from *Brassica carinata*, both members of the oilseed family. There could possibly be a strategic opportunity for Abbotsford International Airport to

¹⁵ "Lufthansa biofuel VP: Eco flights will be standard in seven years", ATW Online, 16 January 2012. Retrieved 22 June 2012; <http://atwonline.com/print/225981>.

¹⁶ "Porter Airlines Operates Bombardier Q400 Aircraft in Canada's First Biofuel-Powered Revenue Flight", Bombardier press release, 17 April 2012. Retrieved 22 June 2012; <http://www.bombardier.com/wps/portal/en/corporate/media-centre?docID=0901260d801fe509>

stake out a leading position in developing sources of competitively priced jet biofuel and offering it to customers.

Canada's GARDN¹⁷ - the Green Aviation Research and Development Network is a business-led network of 'centres of excellence'. Its mission is to promote aerospace technologies aimed at the protection of the environment. The seven themes of research targeted by GARDN are: noise and source emissions reduction, materials and manufacturing processes, airport and aircraft operations, alternative fuels and product lifecycle management. GARDN's activities are in support of the competitive excellence of Canadian aerospace products and services, the economic success of the member companies as well as the development and training of highly qualified personnel. GARDN could be a potential partner for Abbotsford International Airport in developing a greening program.

5.6 Research / Education

School District 34 in Abbotsford is the city's largest employer. It has a comprehensive sustainable operations plan¹⁸ including:

- Signatory of Climate Action Charter
- Environmental conservation policy
- Power Smart partnership
- Mandatory recycling program
- Purchase of hybrid school bus
- Implementation of LEED Gold for all new buildings

It was the first school district in BC to be certified as a Power Smart Certified Energy Efficiency Leader in 2004¹⁹ and completed a \$45 million LEED Gold renovation of Abbotsford Collegiate in September 2012²⁰.

The University of the Fraser Valley's (UFV) Green UFV program has initiatives in the areas of alternative transportation, carbon footprint reduction, waste management, energy management

¹⁷ Green Aviation Research and Development Network Retrieved 22 June 2012; <http://www.gardn.org/>.

¹⁸ Sustainable Operations, Abbotsford School District. Retrieved 22 June 2012; http://abbotsfordsd34.sharpschool.com/sidebar/sustainable_schools/sustainable_operations/.

¹⁹ "Power Smart Certified Communication Plan, School District #34, Abbotsford", Washington State University Extension Energy Program. Retrieved 22 June 2012; <http://www.energy.wsu.edu/Documents/Certifiedcustomerstatus.pdf>.

²⁰ Abbotsford Collegiate. Retrieved 22 June 2012; <http://www.abbotsfordcollegiate.ca/>.

and water management²¹. It is targeting LEED Gold certification on the Canada Education Park Campus (a former Canadian Forces military base in Chilliwack) with four major green building systems²²:

1. Geo-exchange systems leading to a 60% reduction in energy use compared to the Chilliwack North campus
2. Solar thermal preheating of domestic hot water
3. Light harvesting controlled by the Building Automation System which automatically dims or turns off lights depending on the intensity of the ambient light available
4. Rainwater use for irrigation and central water feature

UFV has a number of environmentally related research and teaching initiatives. A number of staff and faculty would be interested in further discussion with the City as to how they could be partners in encouraging the development of a green economy in Abbotsford²³. The UFV Centre of Environmental Studies is planning to develop common curriculum modules for programs offered at UFV so that all students graduate with a basic understanding of environmental principles. The Agriculture Department is doing work on berry research, sustainable growing and food security. The Geography Department offers a Bachelor-level program in Environmental Studies. The School of Business would be interested in exploring the integration of sustainability concepts into the curriculum of a number of its courses. UFV assisted the Organic Farming Institute of BC (located in Keremeos in the lower Similkameen Valley) to develop courses on sustainable agriculture²⁴.

²¹ "GreenUFV", University of the Fraser Valley. Retrieved 22 June 2012; <http://www.ufv.ca/Facilities/Sustainability.htm>.

²² Craig Toews, University of the Fraser Valley, private communication, 18 June 2012.

²³ Craig Toews, Lenore Newman, Trevor Carolan, Mike Invanof, private communications, June 2012.

²⁴ "History", Organic Farming Institute of BC. Retrieved 22 June 2012; <http://www.ofibc.org/history.html>.

6 | GREENING ABBOTSFORD'S ECONOMY

6.1 Principle Objectives

The Principal Objectives for greening Abbotsford's economy were identified by the Green Energy and Economy Advisory Group during a meeting March 7, 2012 and are outlined below. They have been used to guide the development of recommendations and strategies:

1. Build on existing green investment

Seek to attract investment in green business and technology from around the region.

2. Become a source for green technologies

Foster green products manufacturers and technology companies that will attract buyers from elsewhere in the region.

3. Attract and promote research and innovation on green technologies

Nurture an environment that supports innovation, and work to attract research on green technologies.

4. Green existing businesses

Work to green Abbotsford's existing business base, working to spread the best practices already being demonstrated in various sectors.

5. Attract new green businesses

Build on the existing base of green businesses and attract new businesses that provide green products and services.

6. Collaborate with educational institutions to embed sustainability into curriculum

Encourage green business, development, technology and innovation; work with educational institutions to ensure that sustainability is embedded into curriculum.

7. Maintain and grow the percentage of the population who live and work in Abbotsford

Maintain and build on Abbotsford's strength of a high percentage of people who live and work in the City.

6.2 Recommendations

6.2.1 General

The following recommendations outline opportunities to enhance Abbotsford's economy in sectors and activities that have a green focus.

G.1 Inventory Green Businesses in Abbotsford

The City could build on the work completed in this study to undertake an extensive baseline of businesses in various sectors that participate in the green economy. Creating an inventory of green businesses will help the City forge closer relationships with the business community and get in touch with best practices in various sectors.

G.2 Highlight Best Practices in All Sectors

In order to develop a better understanding of existing green businesses that make up the foundation of the green economy, it is critical to highlight and communicate the best practices in businesses from all sectors. Highlighting best practices will provide case studies to leverage influence with business in important sectors. Communicating best practices in all sectors will generate awareness and build momentum towards widespread adoption of the best practices.

G.3 Consider Developing Green Economic Catalyst Initiatives

The City of Abbotsford has a number of greening initiatives in place, ranging from its own Corporate Green Team to green waste collection, and policies for green development. TRADEX has a green program in place, including energy conservation, stormwater management, recycling and a zero waste target. The City could use its leadership to increase the growth of the green economy by further greening City operations.

The City could use its procurement to support a green local economy. Food procurement is especially important given the place of agriculture in the economy. A local food purchasing initiative could help facilitate a baseline, increase purchasing and tracking of local food purchasing. The City could then advocate for local food procurement at City owned enterprises including the airport and TRADEX.

The City could help spread best practices in local food procurement by providing a model for other large purchasers. Universities, public schools and hospitals are large food purchasers who can have a positive impact. This relates to the Agriculture Strategy action to enhance agricultural education at schools by complementing healthy food and snack programs by providing seasonal fare from local farms/producers. This also develops long-term markets for local farms/producers by connecting children to the food system and local growers. For instance, the "Take a Bite Out of BC" program facilitates producer donations of local food to secondary school food programs. The

students learn what food is grown here, learn to cook with it, and in marketing class, they learn how to promote it. One of the schools went from 100 to 400 kids eating local food at lunch.

G.4 Support Green Business Programs

Businesses need support to improve green performance. Green business programs increase awareness, help to share best practices and promote a community of businesses. An effective green business program will help improve performance, increase recognition, and highlight funding/incentives (e.g. BC Hydro) to facilitate implementation.

The City could help improve performance and overcome business' lack of awareness, information, resources and motivation to adopt greener practices by:

- Establishing a one-stop information shop that collects resources on the business case, costs, financing and incentives for greening business
- Partner with NGOs and business groups on existing programs for green outcomes (e.g. Climate Smart-GHG's)
- Partner with NGOs and business groups to create new programs (e.g. BIA-comprehensive recycling for business)

The City could help increase the likelihood of business participation in improving performance by ensuring recognition for their efforts. In order to build recognition the City could partner with the Abbotsford-Matsqui Rotary Club on their recently initiated Abbotsford Environmental Leadership Awards, which is a recognition program for individuals, community groups, institutions, developers and businesses that are dedicated to environmental/green initiatives. Ensure the Abbotsford Chamber of Commerce (ACOC) be invited to participate in this Environmental Leadership Award since they already have Business Excellence Awards but do not have an environmental or sustainability award category.

One of the biggest obstacles to greening business is the cost for capital improvements. The City could help facilitate funding/incentives by partnering with utilities (BC Hydro, Fortis BC) to increase awareness of their energy conservation programs.

Successful green business programs have similar success factors in that they partner on engagement to the business community (NGOs, business groups), and have a multi-faceted approach. This means that they often provide information, tools, help measure performance, and reward results with recognition.

Potential partners to develop a green business program are Small Business BC, Climate Smart, BC Hydro and Fortis BC.

6.2.2 Agriculture

A.1 Promote Development of an Agricultural Leadership Centre

Abbotsford could greatly benefit from a hub for learning, sharing, and showcasing existing best practices and new technology related to this important sector. An Agricultural Leadership Centre would provide a physical space to showcase existing innovations in agriculture, to highlight best practices and to share farming resources. Depending on the location and the partners involved, it could also co-locate with demonstration farming and engage in research on efficient technologies and green practices to improve the efficiency and productivity of agricultural sector. This type of centre would be an opportunity to draw in partners and to leverage investment in the sector.

The development of an Agriculture Leadership Centre supports the Agriculture Strategy objective to explore opportunities to attract agri-industrial research, technology and funding into the City. It also provides the potential link to partners at the UFV, with other Universities with agricultural programs (UBC), the Agriculture Centre of Excellence in Sustainability, and with NGOs like the Young Agrarians.

A.2 Support Programs to Enable Youth Farming

One of the biggest threats to maintaining the farming sector is the high average age of BC farmers (57 years)²⁵. Few older farmers have engaged in succession planning for retirement. This can result in a lack of skill transfer and the eventual sale of farmland that can potentially fall into disuse.

Young farmers face incredible hurdles when getting into farming, including “accessing training, education and technical assistance, land, capital and credit, and markets”.²⁶ This is in addition to the poor salary prospects, tough manual labour and seasonal income that all farmers face. Several programs support the mentorship of young farmers. For instance, groups like the Young Agrarians are working to engage farms in helping to train the next generation of farmers. Farm Start offers youth mentorship, skill development and using underused land to support new young farmers to start out in a farming career. British Columbia Young Farmers is a membership-based group involved in young farmer skill development, making connections between farms and workers, farm tours and other events.

²⁵ Samur, Vanessa. 2009. Rabble.ca. *Don't forget the producer: A young farmer on food security*. Accessed June 29, 2012 from <http://rabble.ca/news/2009/07/dont-forget-producers-young-farmer-food-security>

²⁶ Koopmans, Kevin. 2010. Community Futures. *Supporting New Small Scale Farmers in Abbotsford*.

A.3 Investigate Opportunities to Expand Local Food and Food Products

Promoting is an important component to support local agriculture. One way this is currently done is the farmer's market. The farmer's market currently runs outdoors from May to October in historic downtown and for this past year, the market ran on Wednesdays at the Civic Precinct from July to September. The market is moved to an indoor location between November and April. Having the farmer's market in a permanent location would help farmers better market their goods. It eliminates the work of farmers setting up and tearing down stands each week, provides year-round shopping for consumers, eliminates permitting and location moves for the market society, and can also provide cold/frozen storage. This facility could be co-located with the Agricultural Leadership Centre, providing business incubation and support along with education, research and development, mentorship and demonstration projects. The City has already coordinated meetings between several partners to explore ways to support the Farmer's Market, including, Community Futures and Tourism Abbotsford. A study conducted by the group uncovered the potential to leverage funds through the Provinces' Growing Forward Fund. A comprehensive strategy and marketing plan was planned to launch in the spring of 2012.

The City could support local food tourism to expand the market opportunities for local food and food products. The Agriculture Strategy suggests the City work with tourism industry to develop 'taste of Abbotsford' tours, guidebooks, cookbooks, and promotions at local and regional restaurants, convention/hotel facilities and other venues. This would promote agricultural producers and help coordinate other interested partners to ensure the success of food tourism initiatives (Tourism Abbotsford, BC Agriculture Council, ACOC, BC Agricultural Tourism Association, and Marketing Boards).

A.4 Support for Utilization of Agricultural Waste

Several projects have been developed recently to convert agricultural waste into biogas. Fraser Valley Biogas (formerly Catalyst Power) is the first supplier of green gas to Fortis BC. An anaerobic digester converts cow manure to biomethane injected into Fortis BC's distribution network. Fortis is currently seeking new sources of biogas. Fortis pays a much higher rate for biogas than natural gas as they have been allowed by the BC Utilities Commission to pay up to \$15 per GJ of biogas. Although the pricing makes the financial case for Fortis BC project to work, a farm needs to be quite large to increase the methane quality for Fortis pipeline standards.

At the EcoDairy, an anaerobic digester is converting cow manure to biogas that is then used to generate electricity, however the financial side of electricity projects is more challenging since they need about 16 cents per kilowatt hour and BC Hydro only pays 10 cents per kilowatt hour. Cowpower sells green electricity to businesses and consumers in an attempt to bridge the financial gap for such projects. For BC Hydro projects there is less of a size constraint because all

the local farms have a connection and the projects are all less than 1 megawatt, so BC Hydro doesn't need to upgrade local substations.

There may be other opportunities to support other uses of agricultural waste, including pyrolysis and gasification, mushroom substrates and agricultural plastics. These opportunities work well for co-located green houses and dairy farms, since the projects must be close together.

6.2.3 Development

Supporting green building and development strategies includes thinking more about future growth, the quality and efficiency of our built form and the importance of integrating green sustainable initiatives into land use planning. This type of development provides opportunities to re-define our neighbourhoods and incorporate green strategies into our development resulting in an aesthetically pleasing city where the economy is prosperous, and where residents enjoy a healthy and rewarding quality of life.

D.1 Promote Use of Green Building Technologies

Encouraging innovative green technologies and removing barriers in the approval process can enable green features to be incorporated or managed in a way that minimizes additional cost and time to the development approval process. Continual collaboration with the development industry to identify techniques and processes is critical to achieve these objectives. The goal of identifying these various techniques is to encourage implementation and provide a process that enables and supports these emerging trends.

D.2 Encourage Demonstration of New Technologies in City Projects

The City has incorporated new technologies in City projects, such as Fire Hall #8. These types of projects are great opportunities to showcase sustainable building methods. It is a business opportunity for the City to demonstrate leadership by identifying green building technologies that are most relevant to the area and its specific climate. It follows that businesses will locate in a place where there has been a clear signal of market opportunity.

A catalogue of new technologies being used by leaders in the City and elsewhere in order to create an inventory of potential technologies would help promote and highlight new technologies and encourage others to consider doing the same. For instance, the UFV is working to develop a Thermenex system that will reduce thermal waste and greenhouse gas emissions. The system has achieved 75% GHG reduction and 45% less total energy consumption at the Coquitlam sports

facility, and estimates a 95% GHG reduction and 59% energy cost reduction at the UBC Earth Sciences Building.²⁷

D.3 Encourage Green Development

Encouraging innovative development technologies and standards is an important component of green development. This includes approaches such as green streets, modified subdivision standards, road layouts, parking lot designs, cluster development, and bonus density.

Some green development techniques cost the same or just slightly more than conventional development while others require more substantial investment up front, which can be a barrier to implementation. There are a number of methods to incent green investment without imposing a burden on the project, including bonus densities.

The *Local Government Act* allows municipalities in British Columbia to permit bonus density in their zoning in exchange for the provision of amenities or affordable housing. This means that in designated zones, a developer can build to a higher density if a community amenity contribution is provided to the municipality.

Using the bonusing provisions may be an appropriate way to achieve and secure sustainability objectives for new developments over and above what can otherwise be achieved through the use of more traditional planning tools. These amenities typically include parks, heritage preservation and affordable housing, but offering increased density in exchange for greener development can also be seen as an amenity to the community.

The City currently offers bonus density for high density residential developments that provide a contribution to the affordable housing fund, which is then used for affordable housing projects throughout the city. The bonus density provisions could be expanded to include a wide range of amenities including green developments. Density bonusing is a win-win as it benefits the developer through the sale of additional units/lots and the community benefits from the green innovations.

D.4 Investigate District Energy System Potential

As the City continues to grow with more intensive development, the opportunity to implement district energy should be explored. As part of this investigation, the City could address whether or not it is possible to use low-carbon heating sources such as geothermal, wastewater heat, solar energy, and agricultural waste. This investigation would be most beneficial at the neighbourhood planning stage where future mixed use, high density residential land use is envisioned.

²⁷ No author. 2012. BC Business. *A Heated Exchange*.

D.5 Densify Abbotsford City Centre

A green economy encourages dense urban development in the city core with mixed use and multiple dwellings. The appropriate mix of land use designations is an important piece in creating a vibrant city centre, including an appropriate retail mix to attract mixed-use developments. A retail leakage study, suggested under recommendation C.1 (see section 6.2.4 later in the study), will help determine retail needs.

The City could also look at developing neighbourhood plans that provide nodes of high density that co-support neighbourhood level commercial development. This will create a dense, walkable and complete neighbourhood for residents that can be supported with transit.

D.6 Support the Development of Green Jobs within the Development Sector

A two-pronged approach is needed in order to develop green jobs in Abbotsford. Development and implementation of green curriculum and job skills training for trades programs at the UFV is an opportunity in training workers for green jobs. There is an opportunity to support green building training by developing appropriate curriculum for carpentry and pipe fitting/plumbing courses. UFV could partner with a building sector association (e.g. Mechanical Contractors Association, Independent Contractors and Businesses Association of British Columbia, or Canadian Masonry Contractors Association B.C. Yukon) to develop green programs for Abbotsford contractors. If existing construction contractors develop expertise in green building, they will create green jobs for new hires.

The term “green job” is often used when describing jobs in deconstruction training and weatherization. These two green job categories have been the subject of many training programs locally and in the US. Metro Vancouver is looking to encourage building salvage and building material reuse, and in so doing will rely on the industry to respond with skills in building deconstruction. Weatherization is another category to explore. The City of Vancouver and Vancity sponsored the development of a weatherization social enterprise in Vancouver. If the right incentives exist, there is a good opportunity to develop weatherization workforce skills to improve existing building energy efficiency and reduce greenhouse gas emissions in the City.

6.2.4 Commercial

C.1 Promote Spending in the Local Economy

The commercial sector provides valuable products, services, and wealth that benefit the City through the circulation of profits, local employment, supply chain relationships and charitable giving. However, when Abbotsford residents, businesses, and institutions buy products and services outside the City, the wealth that could be created is drained from the local economy or “leaks” out. In order to assess the potential for green growth in retail, a leakage study could be

conducted to assess the drain to nearby retail centres and the potential for development of local retail.

This can be enhanced by supporting local spending by promoting Abbotsford businesses to consumers through a buy local campaign. Buy local campaigns have proven to drive business growth and increased sales. An annual study of businesses in the US and Canada in communities with an active “buy local” campaign report annual revenue growth of 4.6% greater than in areas without such an initiative, and retail respondents report holiday sales growth of 3.3% higher than retailers in areas without a buy local campaign.²⁸

Such campaigns often produce a directory of businesses, useful as a purchasing tool for all manner of purchasing – consumer, business, institution and government. There are several buy local campaigns in BC, two of which were recently endorsed by the City of Vancouver – CUPE BC’s 10% Shift Campaign and LOCO BC’s Own Your Own campaign. Abbotsford could either partner with an existing campaign or work to create its own campaign.

C.2 Examine Opportunities for Industrial Land Intensification

The Lower Mainland has a declining supply of well-located industrial land available for development and redevelopment, as has been documented by Metro Vancouver in recent studies.²⁹ As noted in Section 3.3.2, this is pushing up industrial land prices and causing more businesses seeking industrial land to look further out in the Fraser Valley. While this is good news for Abbotsford from an economic development perspective, it too has a limited supply of industrial land and will see increasing land prices over time. It is therefore important the City ensure that its industrial lands are being used as intensely as possible to maximize the number of jobs and businesses supported, as well as to increase the City's tax base. From a green perspective, more intense use of industrial land reduces sprawl and its negative consequences.

The City could consider examining the intensity of use of its industrial lands, including identifying the types of businesses and industry sectors that provide higher than average utilization (as measured by Floor Area Ratios and other criteria), and place particular emphasis on targeting those types of businesses. The City may also wish to examine elements of the zoning bylaw and other land use regulations controlling intensity of use to ensure they are not unnecessarily impeding intensification.

²⁸ Mitchell, Stacey. 2012. *Independent Business Report Strong Holiday Sales*. Accessed June 29, 2012 from <http://www.ilsr.org/independentbusinesses-report-strong-holiday-sales/>

²⁹ *Metro Vancouver 2010 Industrial Lands Inventory*, prepared by Metro Vancouver, November 15, 2011 and *Industrial Land Intensification Analysis*, prepared for Metro Vancouver by Eric Vance & Associates and Vann Struth Consulting Group, May 1, 2011.

6.2.5 Manufacturing

M.1 Assess Potential for Attracting Green Light Industry

The City of Abbotsford could assess the potential for attracting green light industry by reviewing zoning and other barriers. It could then identify green industries that have the potential to complement those that already exist. Encouraging green building products and new green building technologies might encourage the location of these companies in the City. For example, there are several energy efficient window manufacturers in Abbotsford, including Innotech Windows and Doors, Dynamic Windows and Tye Window Manufacturing.

The 2012 West Coast Clean Economy report³⁰ cited in Section 5 identified five high growth sectors for BC and the Pacific Northwest: Clean Energy Supply, Clean Transportation, Energy Efficiency & Green Building, Environmental Protection & Resource Management, and Knowledge & Support. Green building products and technologies have already been discussed above. The City could assess the potential and strategies for attracting green light industry in the other four high-growth sectors as well.

The proposed inventory of existing green businesses could provide the City with an idea of what green light industry already exists in the City in order to enhance and attract the sector.

M.2 Support Eco-industrial Networking

Connecting businesses in a geographical area can lead to shared resources and waste reduction. For instance, the Strathcona Business Improvement Area (BIA) undertook an Eco-Industrial Networking (EIN) study and identified a number of opportunities, including group eco-efficiency energy audits, green purchasing blocks, waste reutilization, water efficiency and reuse, distributed and renewable energy, and more. As a result, the Strathcona BIA now coordinates a waste exchange program in the area, matching unneeded materials from one business with input needs of another.

Many other areas in Metro Vancouver have undertaken EIN planning. The Maplewood Industrial Park in North Vancouver and the Tilbury and River Road East areas in Delta have all undergone planning to support EIN. The Vancouver firm Eco-Industrial Solutions has completed research on many of these projects, and is now partnered with Lighthouse Sustainable Building Centre.

M.3 Support Build-Out of the Food Manufacturing Sector

In order to maintain the existing food sector, an inventory of existing green food manufacturers could be created. Given that they provide a large portion of employment, and are large

³⁰ Op. cit., p. 9.

purchasers of local food, the City could engage in outreach to the sector to identify what their needs are to ensure that they are retained in Abbotsford. Based on the experiences of these green food manufacturers, their methods should be highlighted to promote their efforts and spread information to educate and engage other manufacturers.

In order to grow the food manufacturing sector, it's important to connect, support and promote the existing businesses to share best practices and build a community of knowledge and expertise. Connecting manufacturers through a network can build trust, create a forum to identify their key challenges and identify ways to build on strengths.

6.2.6 Transportation

T.1 Promote Improved Transit Linkages

Efficient and reliable transit is critical to the development of a green economy in Abbotsford. Improving both intra-city and inter-city transit will give those that live and work in Abbotsford the opportunity to lower their carbon footprint, reduce stress and improve lifestyle.

Strategies relating to improved transportation are covered in depth in the Transit Future Plan and to some extent in the Green Energy Plan, so recommendations here will focus on transportation improvements as they relate specifically to green economic development.

A greater coordination of transit and land use planning would ensure that efforts to increase density are aligned with increased transit services, and co-located with required services. For instance, nodes of new high density/ mixed use development provide a concentration of activity which enables a more efficient transit service.

T.2 Make Abbotsford a Leader in Green Aviation Technologies and Processes

Given the importance of Abbotsford's airport to the local economy, the airport should be used as a driver for green economic development. The Abbotsford Airport Authority (AAA) has direct authority to work towards greening the economy of the Airport operations and facilities. The AAA has the ability to indirectly influence and support the green economic development of its tenants and partners. The AAA can also work towards greening of the economy through the attraction of new businesses engaged in emerging and innovative technologies and processes.

The Airport has already made progress towards greening its own operations and facilities. Existing initiatives include the use of environmental friendly products for de-icing of planes, implementation of LED lighting where allowed by Transport Canada and completion of an Energy Study with BC Hydro including implementation of select recommendations. Additional opportunities within the direct control of the Airport include the creation of a sustainability strategy for airport operations that supports existing initiatives and identifies new opportunities to show green building leadership, to reduce energy use, water use, waste production, environmental

liabilities and greenhouse gases, and to leverage the airport's procurement to support the purchase of green products and services from companies with green practices. This strategy can be expanded to airport tenants through information sessions to ensure they are aware of the opportunities, tools and incentives available to them to achieve high levels of sustainability performance. The Airport could explore opportunities to facilitate the use of alternative energy and fuels by the facility itself, its tenants and its customers through the installation of technologies such as solar panels and electric vehicle charging infrastructure.

With regards to the attraction of new innovative businesses to the Airport, the Airport already has several progressive partners and tenants, including Westjet and Cascade Aerospace, who are exploring opportunities to enhance the efficiency of ground handling equipment and to improve the airplane paint stripping/re-painting process. In addition, the UFV airport campus has recently received funding to partner with the Composite Research Network to research the development and application of lighter, more fuel efficient materials for the construction of airplanes. The Airport could continue actively seeking new partners and tenants whom factor environmental sustainability into their operations by providing networking opportunities for the aerospace industry. Exploring opportunities to partner with the UFV and other research networks to help develop the Abbotsford Airport as a leader in green aviation technologies and processes should be considered.

T.3 Facilitate the Advancement of the Alternative Fuel Industry

Given the agricultural activity present in the city, Abbotsford has an opportunity to assess the viability of developing alternative fuels from agricultural waste products, including animal wastes and compost.

The development of local biodiesel processing and distribution capacity should be encouraged to support the use of biodiesel in:

- City-owned vehicles
- Regional and corporate jets
- Trains and ground transport vehicles
- Biodiesel filling stations
- Private vehicles

The opportunity to support the advancement of other alternative fuels should also be encouraged. For instance, ethanol is a green fuel that significantly reduces greenhouse gases. Since it is created from raw agricultural products (e.g. canola), there has been public scrutiny over whether or not potential food products should be supporting fuel production because of concern over global food prices and production capacity. However, it is worth investigating recent research

and the potential for the City to support ethanol development. For example, a recent report by the Conference Board of Canada refutes the impact on food prices or land use.³¹ Another report by the Grain Farmer's of Ontario (ethanol is made from wheat and corn) predicts a longer-term increase in grain prices of 15% based on US policy support for ethanol.³² The Conference Board report cites that emerging technologies are being piloted "to use thermochemical processes to convert inorganic waste diverted from landfills into ethanol", so that longer term, the feedstock may shift based on technological improvements.³³ The report also states that "Canada has a leadership position in this technology development process. Close cooperation among government, industry, and academia will be required on an ongoing basis to maintain that leadership."³⁴

6.2.7 Research/Education

R.1 Promote Sustainability Achievements of Educational Institutions

There have been many sustainability achievements in the Abbotsford education sector, including some innovations in green building. These achievements should be promoted to build awareness of Abbotsford as a centre for green activity. Many of the technologies being used by educational institutions are cutting-edge and made in BC, such as the UFV's Thermenex system discussed in section 6.2.3 (recommendation D.2). Collecting and disseminating information about their green building achievements can help build an important resource for other institutions and businesses to green their operations.

R.2 Encourage Research and Training

Encouraging research and training will support the greening of existing Abbotsford businesses, in addition to increasing the likelihood of new green enterprise development. Existing education programs, such as the UFV Centre for Environmental Sustainability, that incorporate sustainability and green practices into the curriculum could be highlighted and endorsed.

Encouraging research programs will benefit green economic development, especially in the agriculture and food manufacturing sectors. Research and information-sharing are important to the success and development of these sectors. The UFV recently received university status and they are starting an agricultural science degree. UFV views agriculture as an important part of their

³¹ Coad, Len and Bristow, Marta. 2011. Conference Board of Canada. *Ethanol's Potential Contribution to Canada's Transportation Sector*. Accessed July 2, 2012 from <http://www.conferenceboard.ca/e-library/abstract.aspx?did=4511>

³² Daynard, Karen and Daynard, Terry. 2011. KD Communications. *What are the Effects of Biofuels and Bioproducts on the Environment, Crop and Food Prices and World Hunger?* Accessed July 2, 2012 from <http://gfo.ca/FoodvsFuel.aspx>

³³ Coad, Len and Bristow, Marta. 2011. Conference Board of Canada. *Ethanol's Potential Contribution to Canada's Transportation Sector*. Accessed July 2, 2012 from <http://www.conferenceboard.ca/e-library/abstract.aspx?did=4511>

³⁴ Ibid.

curriculum. Efforts could be made to enable the growth and development of the agricultural program on the Abbotsford campus.

Regional research is needed in the food sciences but there is currently no local capacity to do it. Such research could focus on Abbotsford's agricultural strengths, which poses a challenge since there is great diversity in the agricultural sector. In Saskatoon, Innovation Place undertakes agricultural and other research in a large privately funded facility. A small research facility to support the food sector could begin within the Agriculture Leadership Centre, and grow once it attracts more funding. This will create more opportunity to tie job creation, research and economic development to the local context.

7 | IMPLEMENTATION

This Plan outlines strategies that can be taken to move towards a greener economic base for the City of Abbotsford. Some strategies will be relatively easy to put into place, because they require little change and will cost little to implement (e.g. promoting external programs) while others will require more significant change (e.g. investigation of District Energy potential). Fundamentally important to the successful implementation of the GEIS is the understanding that it is a community plan and its success will ultimately depend on inspired community action. This includes identifying opportunities for the businesses, community stakeholders, and the City to work collaboratively towards a greener economy for the community. Success will require that stakeholders of Abbotsford understand, value, and practice principles of sustainability, and strong sustained leadership from all parts of the community is paramount.

APPENDIX A - ECONOMIC DEVELOPMENT IN OTHER MUNICIPALITIES

There is heavy competition amongst the region's municipalities for certain types of economic development opportunities, with particular focus on those businesses and sectors where there is some flexibility in where they choose to locate. This has implications for the amount and type of growth that Abbotsford might experience in the coming years.

The economic development foci of each of the Lower Mainland's major municipalities (100,000+ population) are summarized in the following sections to provide a sense of the competitive economic development environment in which Abbotsford is operating. These municipalities are Burnaby, Coquitlam, Delta, Langley Township, Richmond, Surrey and Vancouver. Chilliwack has also been included because of its proximity to Abbotsford.

A.1.1 Burnaby

Burnaby does not have a formal economic development function at City Hall, although it has a variety of information available to assist businesses looking to locate or expand in the community. Part of the reason why the City has not seen the need for a formal economic development function in recent years is its central location within the region, large land base, major educational and research institutions (SFU and BCIT) and strong transportation infrastructure (road, rail, port and public transit), all of which have attracted a significant amount of development and created a highly diverse local economy. The City's primary role in helping encourage this development has been more on the land use planning side.

Much of Burnaby's recent growth has been concentrated in its mixed residential and commercial town centres along its two SkyTrain lines (i.e., Metrotown, Midlegate/Edmonds, Brentwood) and in the Marine Way/Big Bend light industrial, office business park and large format commercial area. The UniverCity residential and small-scale commercial development at SFU on Burnaby Mountain is also generating growth.

Burnaby has been particularly successful in securing a large share of the demand for new office space in the region, both in its town centres and in its office business parks.

A.1.2 City of Chilliwack

The long-established Chilliwack Economic Partners Corporation (CEPCO), which has primary responsibility for economic development in the City, has targeted twelve sectors for particular attention in its business attraction, retention and expansion efforts : Agriculture; Aviation & Aerospace; Education; Film; Food Processing; Healthcare; Manufacturing; Professional Services; Real Estate; Retail/Wholesale Trade; Technology; and Tourism.

APPENDIX A

These are many of the same sectors that will drive the Abbotsford economy and Chilliwack should therefore be viewed as one of Abbotsford's strongest competitors, especially given its proximity. On the other hand, one of Chilliwack's weaknesses from an economic development perspective is that it is out on the very fringe of the Lower Mainland and is not as central as Abbotsford. Moreover, it has a smaller population and therefore does not offer as large a resident labour force as Abbotsford nor have the same household spending power to support local serving businesses.

Where Chilliwack is seen as the strongest competition with Abbotsford is in Agriculture and Food Processing (along with Delta and Langley, as discussed below).

A.1.3 City of Coquitlam

Coquitlam has just recently re-established a formal economic development function after not having an economic development officer for a number of years.

The City is putting particular focus on attracting businesses that can benefit from the major transportation improvements underway in the community. Examples include:

- The planned extension of the Evergreen Line (SkyTrain) that will terminate in City Centre near Douglas College. With three transit stations planned in City Centre, Coquitlam anticipates massive change in the area in the coming decades, with a focus on high density mixed residential and commercial developments. As part of this, the City is exploring opportunities to attract a larger share of the region's new private and public sector office development to City Centre.
- The Gateway Project, including the new Port Mann Bridge, the widening and upgrading of Highway 1 and related improvements in the southern corridor of the community. This is attracting considerable interest from a range of businesses and developers and the City anticipates major growth and redevelopment in the area, especially on the commercial and light industrial fronts. The City also recently approved the 87-acre Fraser Mills development in this area, which will create a high density mixed use neighbourhood on a former mill site. Fraser Mills will accommodate an estimated 8,000 residents and about one million sq. ft. of retail, office, institutional and business park floor space at full build-out, which is expected to take 15 - 20 years. The Boulevard Casino, which is the second largest casino in BC, is also expanding in this part of Coquitlam, including the construction of hotel and related entertainment and food and beverage facilities.

Coquitlam is also considering undertaking a tourism strategy in order to attract a larger share of both local and out-of-town visitors.

APPENDIX A

A.1.4 Corporation of Delta

The Corporation of Delta (Delta) does not have a formal economic development function. As a result, it does not have a comprehensive set of goals and strategies for pursuing economic development. However, it has placed particular emphasis on the agricultural sector because of the amount of the municipality's land base that is in the ALR and the importance of farming and related activities to the Delta economy. Council has just adopted a new Agricultural Plan and one of its highest priorities is improving the economic sustainability of Delta agriculture. This includes pursuing and promoting more value-added agricultural and food processing enterprises. Abbotsford can therefore expect strong competition from Delta for some of the same opportunities in the agricultural sector that it would like to secure.

The completion of the South Fraser Perimeter Road to Deltaport has helped boost port-related activity in Delta, as well as making some of its industrial lands, including in areas such as Tilbury, more attractive for development because of better access.

The adjacent Tsawwassen First Nations (TFN) are moving forward with an aggressive plan to develop up to 175 acres of reserve land for mixed use development, including approximately 1.8 million sq. ft. of floor space for retail, office, entertainment and other uses. TFN estimates that the development could support over 4,500 full and part-time jobs.

While outside the municipal boundaries of Delta, this TFN development will have significant spin-off impacts on the Delta economy. It is also expected to draw development that would otherwise have occurred elsewhere in the region, making TFN one of the major players in local government economic development.

A.1.5 Township of Langley

The Township of Langley (the Township) is a strong economic development competitor to Abbotsford because it has many of the same socio-economic and land base characteristics as Abbotsford, is adjacent to Abbotsford and occupies a more central location in the region than Abbotsford.

The Township has a dedicated economic development function that is part of Community Development. An Economic Development Strategy is being prepared under the guidance of the Township's Economic Development Advisory Committee, but is not yet completed. However, it is anticipated that many of the same sectors will be seen as opportunities for the Township as in Abbotsford, Chilliwack and Surrey. That includes the agricultural sector in particular because of the amount of Township's land that is in the ALR.

One of the Township's major competitive strengths is the amount of land that it has available for residential, commercial and industrial development, making it one of the fastest growing municipalities in the region.

APPENDIX A

The Township's Sustainability Charter, adopted in 2008, has five goals specific to the economic component of the Charter:

- Achieve fiscal stability and fiscal health.
- Develop livable and vibrant communities.
- Strengthen the economy.
- Invest in effective infrastructure.
- Integrate transportation into community planning.

Within the “Strengthen the Economy” goal are the following objectives:

- promote the Township’s reputation as a great place to live, work and play;
- establish the Township as a centre of excellence in education and training;
- strengthen the agricultural economy;
- maximize the tourism potential in the Township; and
- increase jobs and revenue from major events and venues.

The Economic Development Strategy underway is presumably fleshing out how these objectives will be achieved.

A.1.6 City of Richmond

Richmond has a long-established economic development function at City Hall. Much of its current economic development efforts are focused on its City Centre, which has experienced rapid residential and commercial growth and development since the completion of SkyTrain's Canada Line. The City is working on strategies to attract more major office development to its City Centre as part of its development.

Richmond City Centre's proximity to both downtown Vancouver and Vancouver International Airport have also been important factors in attracting development. These same factors, combined with a large supply of land for light industrial and office business park uses, have helped Richmond secure a substantial share of the region's high technology businesses.

Richmond's airport and port facilities generate major economic activity and spin-offs for the community. Of added benefit, this happens without the City having to take on a major role since planning and promotion at the airport and along the Fraser River port are under the jurisdiction of the Vancouver International Airport Authority and Port Metro Vancouver, respectively.

APPENDIX A

Given its large agricultural land base, the City has been exploring opportunities to create more value-added activity in this sector. However, it is finding many of the same earlier-noted challenges as Abbotsford in securing value-added agricultural businesses.

A.1.7 City of Surrey

Surrey is aggressively pursuing a range of economic development opportunities, aided by its large land base, central location, transportation systems and rapid population growth.

As part of its economic development initiatives, Surrey created the Surrey City Development Corporation (SCDC) to help promote the development of its City Centre, including through real estate development and otherwise being involved in helping facilitate development. SCDC has recently expanded its geographical scope to become a major land owner in other areas of Surrey, notably in the Campbell Heights industrial area in south Surrey where it is helping attract more light industrial and office business park users.

Surrey has also made the economy one of the pillars of its recently completed sustainability charter, with 13 goals. Examples of these goals that are particularly relevant to Abbotsford include:

- Protect the integrity of the City's agricultural land reserve (ALR) and industrial land base for food production, employment and agro-business services that support the local economy. Work with these sectors to find ways to enhance the productivity of ALR lands in Surrey.
- Promote environmentally friendly businesses and "green" building practices.
- Use employment land efficiently, in terms of compactness, employment densities and support for high value jobs.
- Promote the co-location or clustering of a range of appropriate business and personal services that support compact and complete employment areas while reducing the need for additional trips to access these services.
- Locate economic activities where they can be best serviced by a sustainable transportation network that prioritizes the movement of people and goods over the movement of vehicles.
- Develop a vibrant City Centre and municipal Town Centres as mixed-use areas with excellent transportation connections that create an attractive business environment. Concentrate office and retail employment that is not location dependent in areas that are well serviced by public transportation.
- Encourage alternative employment arrangements such as low-impact home base businesses and telecommuting that build a sense of community and help reduce impacts of economic activity.

APPENDIX A

- Support local opportunities for technical training, advanced education, research and development.
- Strive for a balance of one local job for every employed resident in Surrey, and range of high quality/high value local employment opportunities.
- Encourage a life-cycle approach to economic development, where businesses are encouraged to consider long-term as well as short-term impacts of their operations.

A.1.8 City of Vancouver

Vancouver has produced a range of economic development strategies, plans and initiatives in the last few years through the Vancouver Economic Commission (VEC). The most recent is the *Vancouver Economic Action Strategy: An Economic Development Plan for the City* (September 2011). The strategy has three areas of strategic focus:

1. Create a healthy climate for growth and prosperity.

Key Initiatives:

- An expedited review of the local regulatory framework on job spaces, taxes and regulatory burden.
- A global communications and events program that markets Vancouver to the world for investment and talent.
- Boosted support for Port Metro Vancouver, including preservation of job-lands in the City that support port activities; ongoing port/ neighbourhood interface planning; and port related transportation needs planning.
- A Green Enterprise Zone that showcases and nurtures innovation in emerging sectors like clean tech and green buildings.

2. Provide support for local business, new investment and global trade.

Key Initiatives:

- Increase trade in new global markets targeting Asia and South America.
- Working with partners to advance development of a technology incubator/accelerator centre to help grow technology companies, increasing jobs and driving wealth creation.
- A creative industry data-centre that will boost cluster competitiveness and productivity.

3. Focus on people - attracting and retaining human capital.

Key Initiatives:

- Competing for talent by working through Canadian Ex-pat organizations like C-100 in Silicon Valley to bring Canadians home, and work with partners like Immigrant Employment Council of BC (IECBC) to attract and support skilled immigrants.
- Double the jobs in the green economy and establish Vancouver as one of the top 5 global creative cities by 2020.
- Through the Campus-City Collaborative (C3), a City partnership with all six public sector post-secondary institutions in the City, create opportunities to develop and retain talented students.

Many of the green-related ideas presented in the plan, such as the concept of a Green Enterprise Zone, have come out of Vancouver's *Greenest City 2020* initiative, which includes a range of economic development actions being undertaken by both City Hall and the VEC. Work is still underway on fleshing out a number of these actions, but examples of areas of focus to date include:

- *The Green Economy Working Paper #1* (July 2010), which recommends that the City:
 - leverage Vancouver's core technology strengths to increase exports;
 - bolster the green building industry through financing programs;
 - increase the visibility and clarify the role of environmental consultants in the City's green spectrum;
 - maintain the manufacturing sectors through protection of industrial land;
 - foster a trained labour force;
 - continue to support the expansion and effectiveness of transit; and
 - encourage green jobs in non-green sectors.
- *The Green Economy Working Paper #2* (July 2010), which recommends that the City create low carbon economic development zones that:
 - attract businesses within the "green" sector (alternative energy, fuel cell technology, land and water remediation, environmental consulting. etc.) to Vancouver;
 - encourage all businesses, regardless of the sector, to have more environmentally-friendly products and processes;

APPENDIX A

- utilize “industrial ecology” practices which utilize district power and waste exchanges to limit the environmental impact of its businesses; and
- market the City as an attractive location for businesses, investment and the labour force.

Most of the economic development taking place in Vancouver is not of the type likely to find its way to Abbotsford. Vancouver should therefore be seen less as a competitor compared to some of the other municipalities in the region discussed here and more as a source of information and ideas for Abbotsford as to what a green economy means and how it might be achieved.

APPENDIX B - GREEN ECONOMIC DEVELOPMENT IN OTHER MUNICIPALITIES

There may be some overlap between Appendices A and B due to the methodology followed to complete this report. Although this study reviewed all municipalities considered in the competitive analysis in Section 4.2, we have restricted this Appendix to municipal efforts relevant to the City.

The concept of a green economy and green jobs is a relatively recent one. Many cities are now integrating sustainability into their economic development strategies, planning to attract and retain green industries and to green existing businesses as a means to grow a greener economy. Within the Lower Mainland, many smaller municipalities in the Metro Vancouver region do not have an economic development function. Until recently, even the City of Vancouver had no economic development body or strategy. The Vancouver Economic Commission (VEC) has been working for several years to create the strategy that was launched in September 2011. Although the VEC is specifically pursuing green economic development, most municipalities are not using these terms. Even so, Surrey is pursuing green economic development in the intersection of its Sustainability Charter, Economic Development and Clean Energy Plans. Several other municipalities have economic development staff or strategies, and may also have other plans (e.g. Official Community Plan, Sustainability Plan, Agricultural Plan, etc.) that are related to green economic development.

B.1.1 City of Burnaby³⁵

The City of Burnaby's 2007 Economic Development Strategy includes a focus on sustainability, with the recognition that the community's economic health depends on its social and environmental health. Burnaby has committed to work on various areas in the strategy within the timeframe of 2007 to 2020.

Under the strategy "Striving for a Greener Community", Burnaby seeks to create a strategy for attracting green businesses. They will:

- review the factors that the green business community use in making location decisions;
- evaluate Burnaby's competitiveness in attracting and retaining businesses and families of the workers who are part of the general "green business" community;

³⁵ City of Burnaby. 2007. *Economic Development Strategy*. <http://www.burnaby.ca/Assets/multiple+locations/EDS++Burnaby+EDS+2020.pdf>

APPENDIX B

- evaluate the changes required to bring Burnaby's neighbourhoods to the forefront of competitiveness in attracting the general "green business" community and the workers' families;
- work on what is missing by exploring the working policies and programs into Burnaby's "way of doing business" to begin to make its mixed use neighbourhoods more competitive as locations to live and locations to do business; and
- reduce business ecological footprint of business sectors.

In setting targets for the strategy, Burnaby suggests adopting aggressive targets to reduce its ecological footprint, with a focus on reduced solid waste, increased recycling, increased transit ridership and reduced private automobile trips, and reductions in total carbon dioxide emissions. In order to engage the business community in reducing its ecological footprint, the City hopes to work with various partners. They propose to work with the Burnaby Board of Trade to introduce an award and work with local businesses and organizations to implement new measures that respect the environment, reduce community impacts, and foster sustainable development. However, it is not clear how this differs from the joint City of Burnaby-Burnaby Board of Trade Business Excellence Awards. They also propose to create and maintain contacts with individuals and associations within appropriate sectors, and to work with the older heavy industries, mainly in the petrochemical sector, to reduce impacts on the environment and adjacent neighbourhoods.

Burnaby proposes to reduce the impact of its existing local agriculture by working with the MVRD to encourage local farmers to consider adopting organic farming practices whenever possible and report back the success stories. They will also liaise with academic institutions (SFU and BCIT) while deepening alliances with green business sector companies to create synergy between academia, business and government.

The strategy also considers adopting new programs that will signal that the City is a leader in sustainability and green technology, including:

- maintain its solid waste diversion leadership (it exceeds regional solid waste management plan targets), and to enhance City collection services;
- develop a Burnaby energy policy;
- adopting a vehicle procurement policy aimed at energy reduction; and
- consider adopting Leadership in Energy and Environmental Design (LEED) standards/principles for civic buildings, and consider adopting an incentive program.

APPENDIX B

B.1.2 City of Chilliwack

The City of Chilliwack has made some efforts to green business, and is also active in supporting the agricultural sector. The City is a main partner in an economic development partnership for the area, but they have not focused specifically on building a green economy.

Chilliwack launched a Business Waste Reduction Program in October 2006, as part of Waste Reduction Week. The City partners with the Chamber of Commerce Business Excellence Awards to offer a Green Business Award. The award recognizes local businesses that are leaders in environmentally responsible practices.

Chilliwack's Agricultural Area Plan creates a vision for the area to "become a centre of excellence in agriculture, focusing on industry innovation and sustainability, emphasizing education, communication, conservation and environmental responsibility. The agricultural industry will become increasingly progressive. Working cooperatively, the City and the agricultural industry will encourage market opportunities including value-added and processing options.

The plan identifies the following four goals and many policies and actions:

1. Create a centre of excellence for agriculture in Chilliwack
2. Provide support for maximizing agricultural industry sustainability
3. Create a community with knowledge and understanding of agriculture
4. Create a viable and enduring community by encouraging conservation and environmentally responsible practices³⁶

The City is a main partner in the Chilliwack Economic Partners Corporation (CEPC), a partnership organization responsible for the City's economic growth and marketing. CEPC evolved from cooperation among the City of Chilliwack government, the Downtown Chilliwack Business Improvement Association (BIA) and the Chamber of Commerce. The partnership creates public- and private-sector alliances and subsidiaries to oversee development in various areas. CEPC has a 16-20 person board of directors including representatives from City Council, the Business Improvement Area, the Chamber of Commerce, the tourism sector, the agriculture sector, the Stó:lō nation, UFV, and community representatives. The City of Chilliwack Council appoints all

³⁶ Don Cameron Associates. 2010. *City of Chilliwack Agricultural Area Plan*. Accessed September 23, 2012 from <http://www.chilliwack.com/main/page.cfm?id=1979>

APPENDIX B

members.³⁷ The CEPC does not focus on green economic development, and makes no mention of green strategies.

B.1.3 Corporation of Delta

The Corporation of Delta (Delta) encourages green economic development in several ways. It provides incentives for green development, it works to create opportunities for eco-industrial networking among its businesses, and it works to develop its agriculture sector.

Delta's Green Growth Index (GGI) applies to Commercial, Industrial, Multi-Family or Multi-Lot (>10) Residential Development. The GGI is completed by the developer and submitted to Delta with the development application. As part of the GGI, economic sustainability considerations are included – how will the proposed development benefit Delta's economy, including how the project will:

- help diversify the local economy by business size or type;
- improve network or trade opportunities for new and existing businesses;
- provide other economic benefits (e.g. multi-unit housing designed or appropriate for home based businesses); and
- provide additional employment opportunities, including estimates of the number and types of jobs.

The GGI encourages green construction and building technology, including the use of green materials, local sourcing and salvaged materials.³⁸

Delta has made several efforts to green existing businesses. It supports greenhouse gas (GHG) management, and helps facilitate eco-industrial networking to encourage reduced resource use and cooperation among businesses. It recently teamed up with Climate Smart and the MVRD to encourage Delta businesses to reduce their carbon footprint. Delta partnered with the Tilbury Eco-Industrial Partnership and the Delta Chamber of Commerce in the effort, which saw thirteen companies measure greenhouse gas emissions, identify reduction opportunities and develop capacity and tools for continued climate improvement.³⁹

³⁷ Chilliwack Economic Partners Corporation. No Date. Accessed December 2, 2011 from <http://www.chilliwack.com/main/page.cfm?id=36>

³⁸ Corporation of Delta. 2009. *Green Growth Index: Development for a Small Planet*. Accessed December 2, 2011 from [http://www.corp.delta.bc.ca/assets/CPD/PDF/green_growth_index_2008.pdf#search="sustainability"](http://www.corp.delta.bc.ca/assets/CPD/PDF/green_growth_index_2008.pdf#search=)

³⁹ Corporation of Delta. 2010. *Local companies complete innovative climate action business program and cut costs by cutting carbon*. Accessed December 4, 2011 from <http://www.corp.delta.bc.ca/EN/main/municipal/6231/archives/climates.html>

APPENDIX B

Delta has a history of supporting an eco-industrial approach to greening business parks. In 2005, Delta was a partner in the Tilbury Eco-Industrial Partnership Project, which is a multi-stakeholder process to engage area businesses and other stakeholders to assess how eco-industrial networking can be used to reduce material and energy consumption and save money. Other partners in the project included:

- Delta Chamber of Commerce
- (then) Greater Vancouver Regional District
- Fraser Basin Council
- Taylor Munro Energy Systems
- DRS Earthwise
- Burns Bog Conservation Society
- Schenker Pacific Logistics
- (then) Terasen Gas
- BC Hydro
- WestBay Sonship Yachts
- Pistol & Burnes Coffee
- Canadian Autoparts Toyota Inc.⁴⁰

The Tilbury Eco-Industrial Partnership is now a program of the Earthwise Society. It is run as a membership organization, providing marketing/PR, transportation choices and group transit discounts, and business-to-business networking, discounts and liaison services targeting business synergies with the aim of reducing operating costs and environmental impacts.⁴¹

The mayor of Delta has been pushing to protect and expand economic activity in Delta. The Saving Our Industrial Lands (SOIL) initiative is aiming to protect unused and underused industrial land to promote economic development. Delta is aiming to integrate the principles of sustainability, as evidenced by a 2008 study that proposes an eco-industrial development approach for a large zone in the River Road East area that represents 200 of Delta's 500 acre supply of vacant industrial lands. This approach proposes an innovative, sustainable brownfield

⁴⁰ Tilbury Eco-Industrial Network Partnership. No Date. Accessed December 4, 2011 from http://www.ecoindustrial.ca/projects/Tilbury_Eco-Industrial_Park.pdf

⁴¹ Earthwise. 2011. Tilbury Eco-Industrial Partnership: Member Benefits. Accessed December 4, 2011 from <http://www.earthwisesociety.bc.ca/teip%20member%20benefits.htm>.

APPENDIX B

re-development plan for Zone C that would demonstrate sustainability leadership by protecting the adjacent ecological features (Burns Bog Ecological Conservancy Area and the Fraser River) while also creating jobs and a place for industrial activity. The plan claims that following an eco-industrial approach will provide Delta with reduced GHGs and support the restoration and enhancement of local ecosystems while attracting significant investments and creating a strong job base in green industries and businesses. Delta would be a partner in the project along with property owners, including MK Delta Lands, a major landowner within the 153-acre Zone C industrial area off River Road in Delta.⁴²

Delta's 2011 Agricultural Plan articulates a 20-year vision for agriculture in Delta that envisions "Delta [a]s a place where the business of farming can prosper while contributing vitally to the community's ecological attributes and social, cultural, and economic well-being"

It aims to support the sector to:

- be highly productive, creating efficient production systems and significant value added activity, assisted by well-functioning infrastructure;
- effectively service local and non-local markets;
- have its ecological and social attributes recognized by and cost-shared with society;
- be attractive and accessible, providing a successful alternative career for younger people and new entrants; and
- successfully adapt into the future by adopting new technology, embracing innovation, adjusting to climate change, and reducing reliance on fossil fuels.

The Agricultural Plan focuses on strategies in the areas of:

- Improving the Economic Sustainability of Delta Agriculture
- Enhancing Agricultural Resource Use
- Creating Opportunities for Efficiency, Competitiveness, Diversification and New Entrants
- Increasing Public Support for Agriculture⁴³

⁴² Perry+Associates, RF Binnie & Associates, HB Lanarc & Eco-Industrial Solutions for MK Delta Lands. 2008. *River Road Eco-Industrial Community Zone C Redevelopment Concept Plan*. Accessed December 2, 2011 from [http://www.corp.delta.bc.ca/assets/CPD/PDF/zonec_redevelopment_conceptplan.pdf#search="green%20economy"](http://www.corp.delta.bc.ca/assets/CPD/PDF/zonec_redevelopment_conceptplan.pdf#search=)

⁴³ Corporation of Delta. 2011. *Delta Agricultural Plan*. Accessed December 2, 2011 from http://www.corp.delta.bc.ca/assets/CPD/PDF/delta_agricultural_plan_final_oct2011.pdf#search=%22sustainability%22

APPENDIX B

B.1.4 Township of Langley

The Township of Langley (Township) has an Economic Development Advisory Committee (EDAC), a Council-appointed body that provides advice on policies and strategies that relate to economic development in the Township. The Committee produces an annual work plan that is approved by Council. Past EDAC annual work plans are not available online and no readily available EDAC information mentions green economic development.

The Township Sustainability Charter sets out the following economic goals with related objectives:

1. achieve fiscal stability and fiscal health
2. develop livable and vibrant communities
3. strengthen our economy
4. invest in effective infrastructure
5. integrate transportation into community planning

Objectives related to green economic development are included in goal a), which includes the objective of promoting continuous improvement and operational efficiency, goal c) which includes the objective to strengthen the agricultural economy, and goal d) which includes the objective to be innovative in making “green” investments. Various objectives relate to improving options for transit, pedestrians and cyclists. Implementation of these goals and objectives rests with other Township corporate instruments such as the Official Community Plan, Parks and Recreation Master Plan, Master Transportation Plan and Five Year Financial Plans.⁴⁴ The Township Financial Plan 2008-2012 states the goal of promoting “environmentally friendly economic activity”, however it is not clear how the corporate financial plan endeavors to implement this goal.⁴⁵

The Township has made some efforts to green the municipality’s businesses. As part of the MRVD Climate Smart partnership, in 2010 18 Township businesses completed greenhouse gas inventories and formulated GHG reduction strategies. The program subsidizes \$1,000 of the

⁴⁴ Township of Langley. 2008. *Township of Langley Sustainability Charter*. Accessed December 5, 2011 from http://www.tol.ca/DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?tabid=168&did=77&pid=0&lrf=/DesktopModules/DNNCorp/DocumentLibrary/App_LocalResources/DocumentLibrary&cl=en-US&mcs=%2fDesktopModules%2fDNNCorp%2fDocumentLibrary%2f%uarn=Administrators&cd=false&tmid=300&ift=1

⁴⁵ Township of Langley. 2008. Accessed December 5, 2011 from http://www.tol.ca/DesktopModules/DNNCorp/DocumentLibrary/Components/FileDownloader/FileDownloaderPage.aspx?tabid=168&did=69&pid=0&lrf=/DesktopModules/DNNCorp/DocumentLibrary/App_LocalResources/DocumentLibrary&cl=en-US&mcs=%2fDesktopModules%2fDNNCorp%2fDocumentLibrary%2f%uarn=Administrators&cd=False&tmid=300&ift=1

APPENDIX B

program fee, reducing the program fee to between \$250 and \$1,000, depending on the size of the business.⁴⁶

B.1.5 City of Richmond

The City of Richmond has an Economic Development Office (EDO) with the purpose of encouraging and facilitating economic expansion, a strong economy and business community, and employment opportunities for Richmond residents. The EDO performs more of the function of attracting/retaining businesses than of green economic development, however, Richmond's green economy programs are mostly found elsewhere in the organization.

"Charting Our Path Towards a Sustainable Community" documents the City's key corporate achievements and identifies opportunities for moving the City forward as a leading municipal government in sustainability.⁴⁷ One of the characteristics of sustainable community at the local level is outlined as "a prosperous economic system organized around cooperation, local production, resource efficiency and intra-generational equity". The report outlines that "a responsible and innovative economy" is one of the four conditions of a sustainable society, but does little to outline how the City will support its development.

The City has been a leader in green energy and green buildings. The City has a sustainable high performance building policy, and has made strides to implement it corporately. Richmond City Hall, the Hamilton and Sea Island fire halls, and the Olympic skating oval are all examples of the City's green municipal buildings. In 2011 the City constructed a district energy system in partnership with Oris Geo Energy Ltd. The project benefits include:

- reduced energy consumption, minimized waste energy;
- renewable sources of energy;
- energy security (reduced reliance on external power sources);
- reduced greenhouse gas emissions (200-600 tonnes/year);
- cost savings for the utility's clients; and
- new revenue source for the City.

The Alexandra district energy utility is a City-owned utility that will use geothermal energy to heat and cool new residential units in Richmond's West Cambie neighbourhood. Over time, other new

⁴⁶ Township of Langley. No Date. Current News & Initiatives: Climate Smart. Accessed December 5, 2011 from <http://www.tol.ca/CurrentNewsInitiatives/Initiatives/ClimateSmart.aspx>

⁴⁷ City of Richmond, 2007. Charting Our Path Towards a Sustainable Community. Accessed December 4, 2011 from http://www.richmond.ca/_shared/assets/Charting_our_Path21831.pdf

APPENDIX B

developments in the area will also be able to connect to the utility. This is expected to be the first of numerous such projects in Richmond. City Council has created a new District Energy Manager position to support the City's efforts.⁴⁸

Richmond has a goal to reduce garbage to landfill by 70% by 2015 and 80% by 2020. The City's new Green Can program began collecting food scraps from residents who currently receive yard trimmings collection with the goal of meeting a waste diversion goal of 70% by 2015. The City does not provide the service to businesses or multi-unit residences, although it is being considered for future program phases.⁴⁹

The City's Official Community Plan (OCP) includes a section on jobs and business. The OCP specifically refers to the need to continue to protect all farmlands in the Agricultural Land Reserve (ALR), with objectives to continue to protect all farmlands in the ALR, and to maintain and enhance agricultural viability and productivity in Richmond.⁵⁰

The 2003 Agricultural Viability Strategy (AVS) is a partnership between the City and the Richmond Farmers Institute to develop a long-range strategy for improved viability of agriculture in the City. Almost 5,000 hectares of Richmond is within the ALR, almost 40% of the City's land area. Agriculture is an important part of Richmond's economy; however, farmers face tough challenges to maintain agriculture as a viable industry. Richmond's agriculture industry struggles with drainage and irrigation issues, rural-urban conflicts, competing land uses, high land values, and competition from new crop varieties and imported products. The AVS works to strengthen and enhance agricultural viability in Richmond for the long-term, identifying local initiatives to create a positive environment and regulatory framework to support the agricultural sector.⁵¹

B.1.6 City of Surrey⁵²

The City of Surrey is a diverse and rapidly growing area. The City of Surrey has a growth rate (2.8%) second only to Vancouver, and the downtown area has been designated as a second metropolitan core in MVRD's regional growth strategy. The City does not have a green economic development strategy or targets, but supports green economic development in three separate

⁴⁸ City of Richmond. 2011. *District Energy Utility Boosts Richmond's Sustainability*. Accessed December 4, 2011 from <http://www.richmond.ca/news/city/districtenergy.htm>

⁴⁹ City of Richmond. No Date. *Food Scraps & Yard Trimmings Recycling: Green Can Program*. Accessed December 4, 2011 from <http://www.richmond.ca/services/recycling/food-yard/greencan.htm>

⁵⁰ City of Richmond. No Date. *Official Community Plan. Jobs & Business: Agriculture*. Accessed December 4, 2011 from http://www.richmond.ca/_shared/assets/2_jobs_c489.pdf

⁵¹ City of Richmond. No Date. *Agriculture: Viability Strategy Overview*. Accessed December 4, 2011 from <http://www.richmond.ca/services/planning/agriculture/overview.htm>

⁵² City of Surrey. 2011. *Leveraging Growth and Clean Energy Opportunities: Presentation to OECD Delegation*.

APPENDIX B

plans – its Sustainability Charter and indicators, Economic Development Plan and Clean Energy Plan.

The City of Surrey’s Sustainability Charter (SC) has 87 indicators and targets that include complete, sustainable infrastructure (including building energy retrofits), a vibrant economy and a safe, healthy and inclusive community. One of the goals of the SC is by 2058 to have a “Full Range of Local Employment Opportunities and Green Businesses”. The goal hopes to make the City a green business leader, home to advanced education institutions producing cutting edge sustainability research, graduates who are experts in sustainable development practices, and a place for others to come for green ideas and green business partners. The charter has the general economic goal “[t]o create a local economy that builds on Surrey’s natural advantages, and uses the land base and human resources efficiently to create a broad range of well located, transit accessible and environmentally friendly businesses that provide attractive local employment opportunities and a sustainable revenue base for the City.” There are 14 specific goals:

1. Protect the integrity of the City’s Agricultural Land Reserve (ALR) and industrial land base for food production, employment and agro-business services that support the local economy. Work with these sectors to find ways to enhance the productivity of ALR lands in Surrey.
2. Respect natural areas and minimize the impacts of economic activities on the environment.
3. Promote environmentally friendly businesses and “green” building practices.
4. Use employment land efficiently, in terms of compactness, employment densities and support for high value jobs.
5. Promote the co-location or clustering of a range of appropriate business and personal services that support compact and complete employment areas while reducing the need for additional trips to access these services.
6. Locate economic activities where they can be best serviced by a sustainable transportation network that prioritizes the movement of people and goods over the movement of vehicles.
7. Develop a vibrant City Center and municipal Town Centers as mixed-use areas with excellent transportation connections that create an attractive business environment. Concentrate office and retail employment that is not location-dependent in areas that are well serviced by public transportation.
8. Encourage alternative employment arrangements such as low-impact home base businesses and telecommuting that build a sense of community and help reduce impacts of economic activity.

APPENDIX B

9. Support local opportunities for technical training, advanced education, research and development.
10. Strive for a balance of one local job for every employed resident in Surrey, and range of high quality/high value local employment opportunities.
11. Strive for a balanced tax base that provides the revenue necessary to support the City's sustainability goals.
12. Embrace community economic development and develop gainful employment opportunities for people facing barriers to employment. Support local businesses that contribute to the social well-being of the community by hiring individuals facing barriers to employment or by other means.
13. Encourage a life-cycle approach to economic development, where businesses are encouraged to consider long-term as well as short-term impacts of their operations.
14. Work towards a revenue base that balances commercial and residential property taxes.

The City proposes to green businesses by:

- making businesses aware of the economic value and benefits of locating green businesses in Surrey and actively encouraging and assisting these businesses to move to Surrey;
- working to ensure that there is adequate, suitably located and zoned land with the necessary infra-structure for these businesses and industries; and
- developing and promoting flexible zoning, development and building guidelines and business licensing requirements that remove any unnecessary barriers to the introduction of green businesses.⁵³

The City has also participated in the MVRD pilot program with Climate Smart, to encourage its businesses to complete a greenhouse gas inventory and create reduction strategies.

The City established a task force to create indicators and targets for the SC. Under the economic pillar of the SC, the targets relate to: 1) Agriculture and Food, 2) Building and Development, 3) Community Design and 4) Vibrant Economy. The indicators will mark progress on green economic development in terms of farmer's markets, a harvest box program and farm gate receipts, and building energy retrofits.⁵⁴

⁵³ City of Surrey. 2008. *Sustainability Charter*. Accessed December 2, 2011 from <http://www.surrey.ca/files/COSSC5final.pdf>

⁵⁴ City of Surrey. 2010. *Sustainability Charter Implementation – Update on Progress Related to Development of Indicators and Targets*. Accessed December 2, 2011 from <http://www.surrey.ca/bylawsandcouncilibrary/R139-7783.pdf>

APPENDIX B

In the 2009-2010 Update on the Sustainability Charter, the following progress is described for the economic pillar of sustainability:

- **Investment & Job Creation:** The Economic Investment Action Plans and Clean Energy Action Plan were developed and the Build Surrey program was approved with the aim of bringing more jobs and investment to Surrey and continuing to enhance the livability of the community
- **Economic Summits:** The Surrey Regional Economic Summit was hosted in each of 2009 and 2010 to build Surrey's profile regionally, provincially and nationally as a place to invest
- **Local Farming:** Efforts to support local farming and food security and to raise public awareness of foods grown and/or produced in Surrey included the annual Flavours of Surrey event, the production of a Farm Fresh Guide, as well as improved signage in farming areas directing consumers to local farmers.⁵⁵

Surrey is challenged with increasing its jobs to resident workforce ratio in the face of rapid population growth. The City aims to create a balance of high quality local jobs for employed residents to ensure minimal commuting distances and a strong tax base. Their economic development has been focused in the following five areas:

1. **Supporting university growth and innovation:** Surrey is the largest school district in the Province. Surrey is supporting the increasing demand for post-secondary in the area by working with educational institutions and advocating for funding.
2. **Supporting R&D and innovation:** Surrey has signed an MOU to advance clean energy objectives and facilitated connections in India. It also advocates for university funding.
3. **Regional collaboration:** Surrey Regional Economic Summits held in each of 2009 and 2010 to build Surrey's profile regionally, provincially and nationally as a place to invest. Surrey participated in the Metro Vancouver 2010 Commerce Investment Program with the resulting involvement of 100 business leaders in 5 sectors and \$306 million in economic output.
4. **International marketing:** Surrey led a 2011 Business Mission to India to capitalize on the area's connection to South Asia (27% residents are of South Asian descent). In the

⁵⁵ City of Surrey. 2011. *Surrey Sustainability Charter – Progress Report*. Accessed December 2, 2011 from http://www.surrey.ca/bylawsandcouncilibrary/CR_2011_R091.pdf

APPENDIX B

Mission 24 companies participated in 110+ B2B meetings in 7 sectors including clean energy.

5. Building a Clean energy sector: Surrey's Clean Energy Action Plan builds on Surrey's existing assets - provincial utility provider, clean energy testing facility, a growing number of existing companies, and two universities, one with clean energy focused research (e.g. fuel cells). The City of Surrey is working in partnership as part of a regional collaboration with SFU, Powertech and BC Hydro.

Surrey's Clean Energy Action Plan (CEAP) is working "to ensure a healthy and vibrant community in which to live and work – now and in the future." The objectives of the CEAP are to:

1. Create a healthy economy

- Increased local jobs for Surrey residents
- Resilient economy through diversification
- Value generation from the City's waste streams

2. Create a healthy environment

- Reduced GHG emissions by the City and by residents
- Leading municipality in the low-carbon environment

3. Healthy community

- Expanded and sustainable property tax base for the delivery of high quality services
- Increased civic pride
- Enhanced image for the City of Surrey

The City plans to use projects to improve its own operations to support the development of the clean energy sector. It will use its own procurement budget to help prove emerging technologies which it hopes will achieve cost savings and generate revenue from existing waste streams. It then plans to share information with other cities.

1. Organics Biofuel Processing Facility

- Project to reduce GHG emissions and help the City achieve 70% waste diversion by 2015
- 2012 competitive process to review technologies and determine costs
- Maximize benefits from food and yard waste

APPENDIX B

- Biofuel will be used for vehicles and/or distributed through the natural gas pipeline network

2. Alternative Fleet Vehicles

- Natural gas 30% lower emission vehicles for waste hauling trucks
- Pilot to determine viability of electric vehicles and EV conversions
- Fuel cell vehicles (2 in City fleet), hydrogen fuelling station (1 in operation; 1 planned)

3. District Energy Utility

- City Hall and adjacent buildings
- Non tax-based revenue stream for City

4. Traffic & Street Lights

- Solar powered LED flashing beacons
- LED street light retrofits (30-50% energy savings; \$200-400K annual savings)
- Adaptive street lighting (40% energy savings)

B.1.7 City of Vancouver

The City of Vancouver's Greenest City Action Plan was finalized and passed by City Council in 2011. The Plan illustrates the City's planned strategies and actions and the extent to which they will be delivered through City led policy, programs and regulations. The City will partner with other levels of government, non-profit and private sector partners, as well as the community at large to various degrees depending on the area.

Vancouver's overarching green economy goal is to secure Vancouver's international reputation as a mecca of green enterprise. Two targets have been developed towards this goal:

- Double the number of green jobs in the City by 2020, over 2010 levels.
- Double the number of companies that are actively engaged in greening their operations over 2011 levels, by 2020.⁵⁶

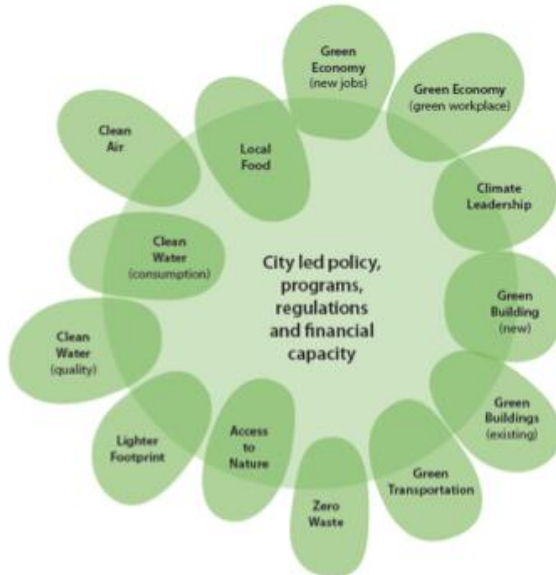
In order to measure progress towards these targets, in both cases a baseline measurement was required. In 2010 Vancouver undertook a comprehensive baseline review of the City's green

⁵⁶ City of Vancouver. 2011. *Greenest City Action Plan*. Accessed November 27, 2011 from vancouver.ca/ctyclerk/cclerk/20110712/documents/rr1.pdf

APPENDIX B

jobs. As of late 2011, the City is completing a baseline of the number of companies actively engaged in greening their operations.⁵⁷

Vancouver Greenest City Action Plan



The City of Vancouver's Economic Commission (VEC) is responsible for green economy priorities. VEC is a new body. Vancouver did not have a separate economic development function until recently. The VEC has launched its first economic development strategy as of September 2011.

The City has established a number of priority actions for the focus of the next three years⁵⁸:

- Develop a hub to incubate/accelerate businesses and create a platform to showcase local companies to trade missions to create international linkages.
- Develop a green pre-procurement program to promote technology companies to City procurement staff.
- Establish a Green Enterprise Zone.
- Create a green business program to achieve measurable improvements in the environmental performance of Vancouver businesses.

The City has established a number of longer-term strategies towards 2020⁵⁹:

⁵⁷ Personal communication with Vancouver Economic Development representative, October 27, 2011.

⁵⁸ City of Vancouver. 2011. *Greenest City Action Plan*. Accessed November 27, 2011 from vancouver.ca/ctyclerk/cclerk/20110712/documents/rr1.pdf

APPENDIX B

- Continue to increase uptake and use of “Vancouver Green Capital” brand
- Emphasize local employment, investment and capacity building
- Develop green incentives and financing mechanisms
- Expand eco-industrial networking opportunities
- Support local and green supply chain development
- Create measurement standards, common metrics, benchmarks and reduction strategies for greening businesses
- Support flexible work arrangements to reduce environmental impacts of employee travel.

The City has already taken action on a number of initiatives⁶⁰:

- The Metro Vancouver Commerce Olympic Business Program resulted in over \$60 Million in total green investments in the region
- A clean tech trade mission to China created many opportunities for local businesses, including a green building showcase in Tianjin
- Home weatherization and green jobs pilot project with EMBERS
- Building and promoting Green Capital brand and Vancouver as a global leader for green business
- Deconstruction and green jobs pilot projects
- Green economic development strategy
- Deliver robust green business retention, expansion and attraction (BREA) program, including tracking of business activities
- MOUs and collaborative efforts with global technology companies and local green enterprises to demonstrate and test technology and grow international market potential
- Developing business plan for green technology centre and network
- Development of Campus-City Collaborative to connect post-secondary institutions with each other and the City to work on Greenest City challenges

⁵⁹ City of Vancouver. 2011. *Greenest City Action Plan*. Accessed November 27, 2011 from vancouver.ca/ctyclerk/cclerk/20110712/documents/rr1.pdf

⁶⁰ City of Vancouver. 2011. *Greenest City Action Plan*. Accessed November 27, 2011 from vancouver.ca/ctyclerk/cclerk/20110712/documents/rr1.pdf

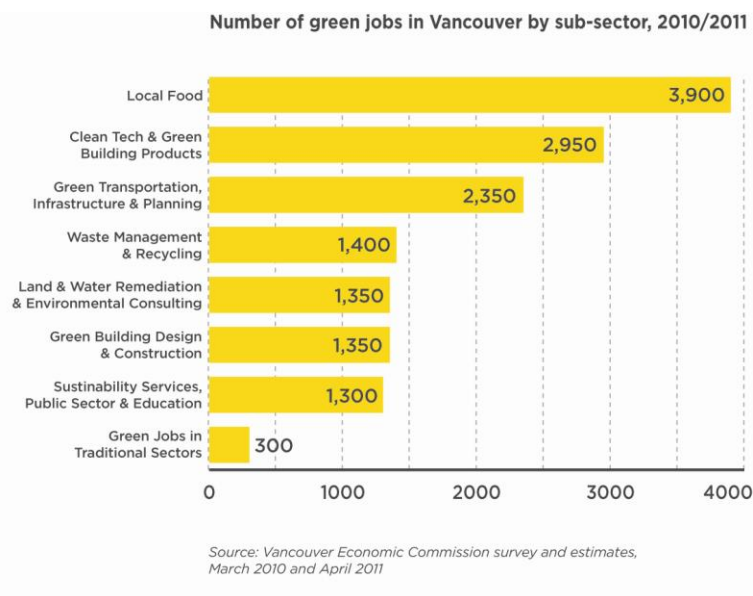
APPENDIX B

- Ongoing support for community-based sustainability initiatives in the Downtown Eastside through capital allocations, project facilitation, business development support, etc. (e.g. RTS 9206)

The City of Vancouver defines green jobs as "...the variety of jobs within industries and businesses that have a positive green impact (or at least a significantly lower negative impact than their rivals) which are most able to capitalize on the growing governmental, business and consumer desire to minimize and mitigate humans' effect on the environment...this will only include [jobs] which directly have a positive impact on the environment."⁶¹

As illustrated in the figure below, Vancouver has 12,000 green jobs in various green job sectors, which include electric vehicle mechanics, energy managers, green roof specialists, compost collectors, recycling facility operators, urban farmers and beekeepers, GHG emissions auditors and carbon traders, and green renovation contractors. Green job sectors are growing at 3-6 percent every year – much faster than the rest of the economy. Of the total green jobs, 10% are low barrier jobs.⁶²

City of Vancouver Green Jobs⁶³



⁶¹ Peyman, Hurrian. 2010. *Vancouver's Green Economy: Green Economy Working Paper #1*. Accessed November 25, 2011 from <http://vancouvereconomic.com/userfiles/VEDC%20GREEN%20JOBS.pdf>

⁶² City of Vancouver. No date. Sustainability: Economic Development. Accessed November 25, 2011 from http://vancouver.ca/sustainability/sustain_economic.htm

⁶³ Ibid.

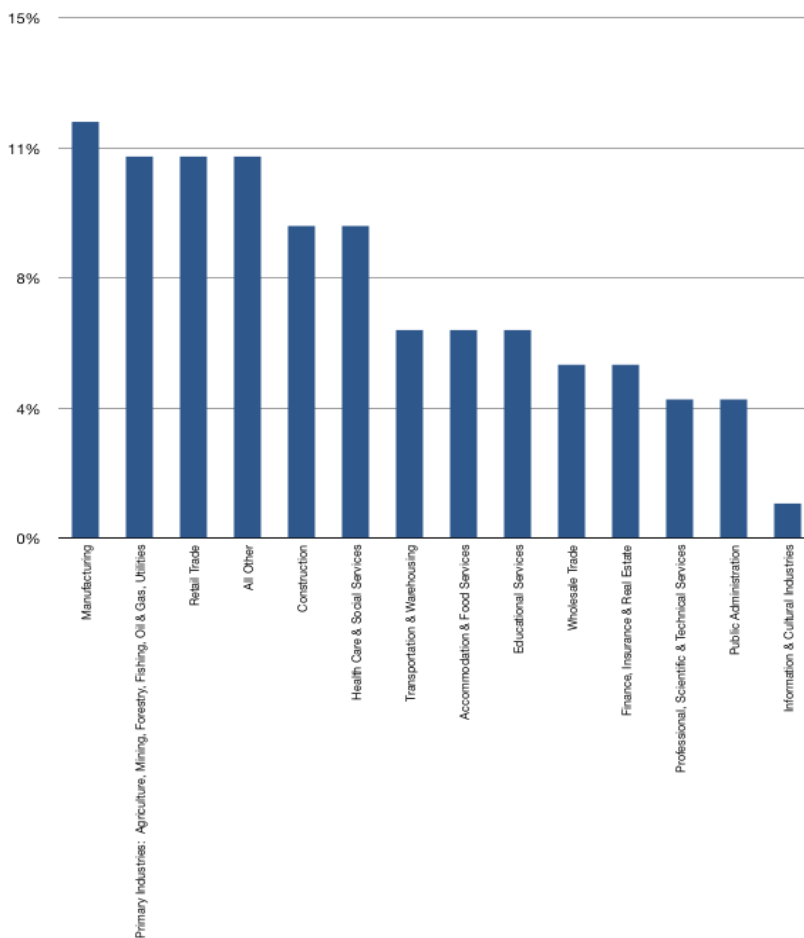
APPENDIX C- BEST PRACTICES IN GREENING BUSINESS

C.1 Best Practices In Greening Business

This literature review examines best practices in greening existing business operations from other municipalities, and the programs directed at greening business of BC’s utilities and crown corporations. As much as possible, this review presents information most relevant to the Abbotsford context, because of size, industry profile or proximity.

The following economic profile of Abbotsford helped guide the literature review in order to include the most relevant sectors to the Abbotsford economy, especially with respect to green business programs aimed at specific sectors. The figure below illustrates Abbotsford’s economic mix.

Abbotsford’s Employment by Industry



APPENDIX C

C.2 Methodology

The methodology for research on greening business was to review successful programs to green business in other cities. Many of those cities are considered leaders in greening business; however others are included because of their small size, in order to compare what smaller municipalities manage with limited resources.

Local programs to green business in various sectors are reviewed with respect to their relevance to Abbotsford's economy. Since manufacturing, agriculture and construction may be bigger parts of Abbotsford's economy than other cities with green business programs featured herein, related programs have been addressed separately under relevant programs and initiatives from BC.

The methodology for research on green economic development was to review Metro Vancouver area municipal plans to support a green economy where they exist (e.g. Vancouver), and various plans in other municipalities that contribute to green economic development, including economic development strategies, Official Community Plans (OCP), support for green sectors (e.g. agricultural plan), sustainability plans, and energy plans. The review includes the activities of municipalities cited in the economic profile as most relevant to Abbotsford in terms of competition for green economic development, green jobs and green business – Burnaby, Chilliwack, Coquitlam, Delta, Langley, Richmond, Surrey and Vancouver.

C.3 Best Practices in Greening Business

C.3.1 Municipal Programs & Initiatives to Green Business

This review includes leaders in greening business based on planning (Vancouver) and successful engagement and sustainability outcomes (Chicago, Portland, San Francisco). It also includes smaller cities making efforts to green business since Abbotsford does not have the resources or population base of some of the larger cities highlighted here.

C.3.2 City of Vancouver (population 603,000 – 2011 Census)

The City of Vancouver's Greenest City Action Plan was finalized and passed by City Council in 2011. One of two goals related to green economy is to double the number of companies that are actively engaged in greening their operations by 2020. In 2011 the Vancouver Economic Commission (VEC) undertook a comprehensive study of the potential for greening small business in the City. It focused on small business since 97% of Vancouver businesses are small, 80% of which have less than 10 employees. The VEC will add strategies to green larger businesses to the study's results to create an action plan for greening the City's businesses towards the 2020 goal. See the municipal green economy review below for more details on the plan.

APPENDIX C

The City of Vancouver has a number of strategies in place to engage the private sector in the Greenest City dialogue, and to help businesses green their operations⁶⁴:

- A public consultation program that was developed as part of the Greenest City Program
- “One Day” at work, which provide tips and resources to help companies green their workplaces and business practices
- A Corporate Climate Leaders program aimed to help Vancouver businesses to reduce their GHG emissions
- A partnership with the Climate Smart Program to subsidize the cost of Climate Smart workshops for Vancouver businesses
- A 2011 study by Earthvoice Strategies & LOCO BC on “Greening Small Business in Vancouver”. The study included internal and external stakeholder dialogues as well as a small business council

C.3.3 City of Victoria/Capital Regional District (population (City) 80,017 - 2011 Census)

Victoria’s Capital Regional District (CRD) has taken several steps to green small businesses in the region. Several programs are working to engage SMEs in greening, focusing on reducing waste, energy use and managing greenhouse gas emissions.

Funded by LiveSmart BC, the CRD is hosting a staff person as a Business Energy Advisor (BEA) to offer qualified SME businesses free energy audits. The business receives recommendations about the best return on investment from lighting and energy upgrade options, and information on how to access utility incentives to help pay for upgrades. The CRD has also launched a partnership with the District of Saanich and City of Victoria to offer Climate Smart training to 50 businesses and organizations throughout 2012.⁶⁵

The CRD is proposing to divert kitchen scraps produced by businesses at the Hartland landfill. In late 2011 they are undergoing consultation with business owners to plan a diversion program, for kitchen scraps including meat, bread, dairy products, fruits, vegetables and compostable paper products such as paper towels, plates and tissues. The stakeholder consultation deadline ended November 30, 2011. The kitchen scraps diversion program for businesses is being proposed for implementation in September 2012. By composting and processing kitchen scraps,

⁶⁴ City of Vancouver. 2011. *Greenest City Action Plan*. Accessed November 27, 2011 from vancouver.ca/cyclerk/cclerk/20110712/documents/rr1.pdf

⁶⁵ Climate Smart. 2011. *Capital Regional District Program Info*. Accessed November 25, 2011 from <https://climatesmartbusiness.com/crd/>

APPENDIX C

the region is proposing to produce a beneficial soil amendment, to aid in plant health and reduce or eliminate the use of pesticides.⁶⁶

Since 2004, the CRD's EcoStar Community Environmental Awards have recognized businesses for greening their operations, in addition to recognizing the achievements of groups and individuals. The EcoStar Awards provide recognition in the following categories:

- Community Environmental Leader
- Youth Leader
- Water Stewardship
- Waste Reduction
- Climate Action
- Land Stewardship
- Integrated Watershed Management

The EcoStar awards are produced in partnership with several sponsorship organizations, which change from year to year.⁶⁷

C.3.4 City of San Francisco (population 7,468,390 – 2010 Census)

The City of San Francisco is widely considered one of the greenest cities in North America. It has used a mixture of regulations, incentives and outreach to green businesses, including a green business program, zero waste and energy outreach, and a solar incentive program.

The City's Green Business Program provides support, training and technical assistance to businesses. It focuses on hotels, restaurants, offices, retailers, dentists, garment cleaners, janitorial cleaning, catering, printers, commercial buildings and auto repair shops. The program has a series of sector-specific self-assessment checklists, a phone consultation, initial site visit, and on-site verification assessments by various government agencies to ensure compliance with standards (health, fire, air quality, water conservation, and energy, recycling/composting and toxics reduction). Businesses are recognized in the City's online directory. There are 175 recognized green businesses involved in the program. The City does not actively promote the program, getting referrals mostly through word-of-mouth. One full-time staff person runs the program,

⁶⁶ Capital Regional District. 2011. Kitchen Scraps Recycling for Businesses. Accessed November 25, 2011 from <http://www.crd.bc.ca/waste/organics/commkitchenscraps.htm>

⁶⁷ Capital Regional District. 2011. *EcoStar Awards*. Accessed November 25, 2011 from <http://www.crd.bc.ca/ecostar/index.htm>

APPENDIX C

although they are currently hiring up to 1.5 additional full-time staff. The City's recognition program began in 2005 and is not actively marketed to businesses. The City also supports the non-profit Thimmakka program that provides information and technical assistance on energy and resource reduction for ethnic Bay-area restaurants. Thimmakka certifies 100 green restaurants.

The City has a zero waste goal, and approximately 5 staff (zero waste officers) that outreach to the business community to help them comply with the ban. They have a partnership with Recology, the City's hauler and processor of compostable materials, who also provides support services to businesses to help them comply with the City's food scraps ban and mandated goals for reducing waste to 75% diversion (2010) and zero waste (2020). They provide a single point of contact during program implementation, site visits to determine the business' goals and consult on space requirements, implementation timelines, a waste audit, customized service proposals for a variety of collection services and equipment options, and signs, fliers, stickers, and training at no additional cost.

To encourage solar power, the City provides up to \$10,000 incentives for commercial solar installations through GoSolarSF. The program is aimed at building a sustainable local solar industry and delivering green jobs to local residents. It builds the solar industry in two ways:

- In order to qualify for a GoSolarSF incentive, the applicant must contract with an installer who participates in the City's Workforce Development Program.⁶⁸
- The solar industry has responded to the availability of an economic driver for solar installations, and has drawn solar installation startups to the City, such as SolarCity and Akeena Solar. Borrego Solar also opened an office in San Francisco in anticipation of the solar rebate program.⁶⁹

The City of San Francisco green business programs are supported by other staff within the Department of Environment, and the many points of contact they have with the businesses community. For example, if zero waste staff or energy staff visits a business, they cross-promote the City's other programs. San Francisco's Energy Watch Program works with Pacific Gas and Electric Company to provide new energy-efficient equipment and professional services at greatly reduced cost. It provides a cost subsidy on equipment, free on-site assessments and installation of equipment. In this way they provide a one-window source of information that is essential for successful outreach to the business community.

⁶⁸ San Francisco Water Power Sewer. No date. GoSolarSF Incentive. Accessed November 27, 2011 from <http://sfwater.org/index.aspx?page=133>

⁶⁹ Sustainable Industries Journal. 2008. *California: The Accidental Cleantech Capital?* Accessed November 27, 2011 from www.sustainableindustries.com/greenmarketing/22712709.html?viewAll=y

APPENDIX C

C.3.5 City of Chicago (population 2,695,598 – 2010 Census)

The City of Chicago works to green Chicago businesses in several ways:

- They launched the Green Office Challenge, a successful program to engage building owners and tenant businesses
- They help to incubate green businesses, and
- They promote the development of green technology.

The Chicago Green Office Challenge (GOC) works with the City's commercial property managers and office tenants, acknowledging participants for their achievements in greening their operations with Mayoral and media recognition. Participants move down the path towards environmental sustainability, and, in some cases, towards third-party green building certification through the ENERGY STAR and LEED™ rating systems. Property managers receive training and resources for reducing energy use, waste, and water use, as well as tenant engagement. They complete and submit a baseline of energy use, water use and waste, and actively work toward achieving goals of greater efficiency. Office tenants who participate evaluate the performance of their operations using a "Green Office Scorecard." Tenants are recognized for achievement of up to 50 green strategies that address office energy and water use, waste, transportation, and outreach.⁷⁰

Most important in its approach, the GOC measures the outcomes in terms of reduced energy, water, and waste. In its first phase, the Green Office Challenge saw the following outcomes⁷¹:

Phase I					
# Participants	Energy Redn Total (kWh)	Energy Redn Avg (kWh)	Water Redn	Waste Redn Total (t)	Waste Redn Avg (t)
150	72,000,000	480,000	5%	1,200	8

The City of Chicago has many partners that provide resources and sponsorship to the program. Its current partners are:

- Office Depot
- Siemens (electronics and electrical engineering)
- Waste Management Recycling Services

⁷⁰ Chicago Green Office Challenge. Accessed November 21, 2011 from <http://www.chicagogreenofficechallenge.org/>

⁷¹ Smart Planet. 2010. *With technology, Chicago gets a grip on its greenhouse gas emissions*. Accessed November 21, 2011 from <http://www.chicagogreenofficechallenge.org/>

APPENDIX C

- 3 Degrees (renewable energy certificates and carbon offsets)
- ComEd (local utility)
- Delta (green procurement portal)

The GOC was developed in partnership with the International Centre for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability USA as a strategy to help the City reduce its greenhouse gas emissions. In 2010 the program spread to four other local governments in Charleston, SC, Nashville, TN, San Diego, CA, and Arlington County, VA.⁷²

The Chicago Waste to Profit Network works with businesses to reduce waste by providing workshops, advice on reducing environmental impacts and through a waste exchange service. The Network began in Chicago, and the City of Chicago was the original funder of the program, but it is now coordinated by Rockford, Illinois. The City has various funding partners (Illinois Department of Commerce and Economic Opportunity, Recycling Expansion and Modernization program, National Institute of Standards and Technology/Manufacturing Extension Partnership, United States Environmental Protection Agency Great Cities Program) and outsources management of the program to the Illinois Manufacturing Extension Centre. The program works in partnership with the city's manufacturing sector, and in 2007 alone was successful in helping 90 Chicago-area companies to divert 22,000 tonnes of solid waste and reduce 45,000 tonnes of CO₂.⁷³

In 2010, Chicago approved a \$15 million fund to help finance and complete a Green Exchange project. The Green Exchange will be the City's largest green business community, committed to promoting environmental sustainability with an array of tenants that offer products and services for a greener lifestyle. The 272,000 square foot development is planned at a Chicago Landmark building that will pursue Leadership in Energy and Environmental Design (LEED) Platinum certification in its design, construction and operation. The building is already 69% leased, and is expected to create 400-500 new jobs when completed.⁷⁴

The Chicago Center for Green Technology is a LEED platinum rated rehabilitated municipal building that serves as a comprehensive green design and educational resource.⁷⁵ The City of

⁷² Environmental Leader. 2010. *Chicago's Green Office Challenge Expands to Nashville, San Diego, others*. Accessed December 12, 2011 from <http://www.environmentalleader.com/2010/02/18/chicagos-green-office-challenge>

⁷³ City of Chicago. 2008. *Chicago: For a Thriving 21st Century City*. Accessed December 12, 2011 from www.ccachicago.org

⁷⁴ City of Chicago. 2010. *City Council Approves Ordinance Supporting Green Business Incubator*. Accessed November 27, 2011 from http://www.cityofchicago.org/city/en/depts/dcd/provdrs/ec_dev/news/2010/nov/city_council_approvesordinancesupportinggreenbusinessincubator.html

⁷⁵ City of Chicago. No date. *Chicago Center for Green Technology*. Accessed November 27, 2011 from <http://www.cityofchicago.org/city/en/depts/doe/provdrs/ccgt.html>

APPENDIX C

Chicago has also launched a \$4.6 million deconstruction-training program to support building material reuse and green jobs development.

C.3.6 City of Philadelphia (population 1,526,006 – 2010 Census)

The City of Philadelphia has the goal to become the “greenest City in America by 2015”. The City is using a mixture of loans, incentives and regulations to green business towards this goal. Greenworks Philadelphia is a six-year plan to help the city achieve its green goal, with 15 goal areas, including many relevant to greening the economy. Year one progress is reported in the table below.

City of Philadelphia Greenworks Year 1 Progress % of goal achieved¹⁰



The City has several loan programs to green Philadelphia businesses. The Greenworks Loan Fund is intended to help provide access to capital for loans to make energy efficiency improvements. The Fund makes low-interest loans to businesses for energy efficiency improvements. The 3.5-6.5%

APPENDIX C

interest loans are between \$100,000 to \$1,000,000, for a maximum of 15 years, with a maximum of 85% of costs for retrofits and 33% of costs for new construction.⁷⁶ The Greenworks Rebate Program ensures that small businesses have access to capital to improve their energy efficiency by refunding up to 50 percent of the cost of energy retrofits up to \$10,000. The program also offers free energy audits to qualifying businesses.⁷⁷

Philadelphia has several other loan programs to support sustainable business practices (specifically sustainable, green building practices), including the EnergyWorks Loan Fund and the Stormwater Management Incentive Program.⁷⁸

The City also has several regulations to green business. The City is working to improve commercial recycling rates (target 7). In late 2009, the Streets Department began requiring Philadelphia businesses to submit a recycling plan. This plan is kept in an online registration system so that the Streets Department can connect to the database in the field and write tickets if businesses are not following their approved plans.⁷⁹ In 2010 the city began requiring all new construction to use “cool roof” materials that meet or exceed Energy Star. Cool roofs deflect light and heat, reducing indoor temperature and the need for air conditioning, extending the life of the roof, and reducing the outdoor air temperature of the surrounding area. The cool roof law is intended as a key first step toward the City's anticipated adoption of green building standards.⁸⁰

The City is also working to create an energy cluster, and has the goal of purchasing and generating 20% of its electricity from alternative energy sources. The Greenworks Pilot Energy Technology Program has made several grants to green technology companies to help them conduct tests of their products.⁸¹ The City has initiated a first round of grants, and intends to award a second round of grants under the program.

C.3.7 The City of Boulder (population 97,385 – 2010 Census)

The City of Boulder engages businesses to green their operations with a business engagement program that tracks their actions, recognizes their achievements and provides incentives for

⁷⁶ Philadelphia Industrial Development Corporation. Accessed November 21, 2011 from <http://www.centercityphila.org/docs/0210CCDenergyPIDC.pdf>

⁷⁷ City of Philadelphia. Greenworks 2010 Progress Report: Target 2. Accessed November 21, 2011 http://www.phila.gov/green/greenworks/energy_target2.html

⁷⁸ Philadelphia Industrial Development Corporation. Financing. Accessed November 21, 2011 from <http://www.pidc-pa.org/financing/loans>.

⁷⁹ City of Philadelphia. Greenworks 2010 Progress Report: Target 7. Accessed November 21, 2011 from http://www.phila.gov/green/greenworks/environment_target7.html

⁸⁰ Ibid.

⁸¹ PIDC. 2010. News: Philadelphia Awards Grants to Green Technology Companies. Accessed November 21, 2011 from <http://www.pidc-pa.org/news/94>

APPENDIX C

implementing changes. More than 100 businesses have joined the program since it launched two years ago.

Boulder's "10 for Change" program challenges businesses to reduce their energy consumption through 50 possible actions focused on outreach, energy, waste, transportation and water. Registered members' accomplishments are tracked using a Sustainability Actions Scorecard. Boulder Energy Smart provides technical support and assistance to businesses, provides info on incentives and tax credits and supports businesses in implementing and making progress on the Boulder 10 for Change challenge. It also provides rebates for lighting, heating and cooling, roof insulation, refrigeration, food service, motors and drives, air compressors, server virtualization, and other projects. The checklists are linked to mayoral recognition to recognize and promote greener businesses.

Boulder's program partners with the Boulder Chamber, Downtown Boulder Inc. and the Boulder Independent Business Alliance (BIBA) to engage businesses in the program. Internally, the program is supported by several of the city's staff depending on the area of focus (energy, waste, transportation or water).⁸² The City provides rebates for energy retrofits and equipment optimization. The EnergySmart rebates provide a maximum of \$10,000 per project (\$5000 for lighting projects) until the end of 2011. The EnergySmart Heating and Cooling Optimization Service is offered to small and medium-sized businesses to assess and improve equipment efficiency. The service is based on a successful pilot program run in 2010, where participating businesses saw annual average energy savings of \$1600.⁸³

C.3.8 City of Santa Monica (population 89,736 – 2010 Census)

The Santa Monica Green Business Program provides support, training and technical assistance to businesses. The program leads to Green Business Certification, which provides a means for businesses to market and promote their success through the certified green business logo and the City's list of certified green businesses. The certification program consists of a series of sector-specific self-assessment checklists, two on-site audits by City staff (water and energy), and final onsite verification. Although the program does not collect metrics, a California-wide program is beginning to collect water and energy data from all businesses certified by state green business programs. Santa Monica's green business program focuses on office/retail, restaurant/grocers, and hotel/motel sectors. The program seems to have limited success - only 48 businesses have been certified since 2005. In addition to the Green Business Program, the City's Solar Santa Monica program provides energy assessments and information on incentives to businesses.

⁸² City of Boulder. No Date. *10 for Change*. Accessed December 12, 2011 from www.10forchange.net/resources.html

⁸³ City of Boulder. No Date. *10 for Change*. Accessed December 12, 2011 from www.10forchange.net/events.php

APPENDIX C

C.3.9 City of Portland (population 583,776 – 2010 Census)

The City of Portland uses a range of instruments to help green the city's businesses. The Sustainability at Work program provides a one-window approach for sustainability information for businesses. The City also has a regulation to encourage better recycling by businesses and several incentives to encourage better stormwater management and solar installations.

The City of Portland's BEST Business Center partners with the US Department of Energy, Metro (Portland regional government), Pacific Power and Portland General Electric to provide businesses with free evaluations of operations in energy, water, waste and recycling, purchasing, green building and transportation. The Center provides a one-stop center on greening business, and the City's main role is administration and management. Sustainability at Work provides free information and resources in the areas of materials and waste, energy, social impact, transportation and water. The program provides checklists that are connected to tools and resources for each checklist action. Businesses can be certified as bronze, silver or gold, depending on their level of achievement in the program's checklists. Certified businesses are listed in a directory on the program's website. The BEST awards provide recognition and promotion for businesses in the following categories:

- Very Small Business
- Small Business
- Medium Business
- Large companies
- Sustainable Products or Services
- Green Building
- Sustainable Food Systems

The City uses regulations to increase business recycling, including a requirement to recycle all paper and containers (includes metal, glass and plastic containers), food-scrap collection for the largest food-producing businesses, and 75% recycling rates for construction projects whose cost is greater than \$50,000.

The City provides incentives for storm water management and solar installations. Portland's Grey to Green initiative focuses on storm water practices, and provides a financial incentive for green roofs of \$5/ft² of the \$5-20/ ft² estimated installed cost. The City's SolarNow! Program encourages solar power by connecting Portland businesses with resources and assistance concerning solar energy.

APPENDIX C

C.4 Summary

In reviewing best practice in municipal efforts to green business, it is difficult to assess the outcomes of various programs because the majority of programs do not track business engagement, success factors, performance and other factors. The following table provides a comparison of many of the programs reviewed. Programs that do not collect information or have a comprehensive enough engagement program have been omitted from the table.

As shown in the table below, only two engagement programs track performance. For this reason, a recent study conducted by the City of Vancouver on greening small business recommended that the City create a set of metrics to first determine how to define a business that is engaged in “greening” their business, so that it could produce a baseline and measure an increased number of businesses greening over time.

Since greening business requires outreach and engagement into the private sector, almost all programs partner with other organizations. In addition, many programs work with internal City staff to coordinate a one-window approach on sustainability information relevant to businesses. Coordinating internal resources in this manner also provides the most staff attention without having to add many additional staff resources to a new program.

Businesses require a mixture of supports that include information/resources, technical assistance and incentives to green their operations. Very few programs provide such comprehensive programs, with the staffing and other internal supports that make programs a useful and streamlined experience for businesses.

Comparison of Approaches of Green Business Engagement Programs*

City	# Biz Engaged	Year Started	# of Staff	One-Window Approach	Partnerships with Private Cos. &/or NGOs	Internal City Supports	External City Supports	Targets	Promotion &/or Awards	Certification	Information/ Resources	Technical Assistance	Tracking	Rebates/ Incentives
City of Vancouver Climate Leaders	11 #	20 10	1		•	•		•	•				•	•
Boulder 10 For Change	10 0+	20 09				•			•		•	•	•	•
Chicago Green Office Challenge	31 7^	20 09			•			•	•		•	•	•	

APPENDIX C

Santa Monica Green Business Program	48	2005			•	•				•	•	•		
San Francisco Green Business Program	175	2005	1	•	•	•	•	•		•	•			•
Portland BEST (Sustainability at Work)	65	2011 [!]	11	•	•	•	•		•	•	•	•		•

*Programs omitted here did not have a comprehensive engagement program to measure.

Based on Climate Leaders Program only. City of Vancouver has a more comprehensive business engagement program planned.

^Round 1 and 2 tenant companies.

! BEST began in 2006; certification program launched recently

C.4.1 British Columbia - Relevant Programs and Initiatives

Many BC programs are relevant for greening businesses in various sectors. BC Hydro works to educate and incent businesses to reduce electricity use. The Province's LiveSmart program provides free energy assessments focused on reducing energy use. Fortis provides information and incentives for businesses to reduce natural gas use. BOMA works with both building owners and tenants to save energy, water and cost savings. The Climate Smart program has been extremely effective at engaging small and mid-sized businesses to manage and reduce greenhouse gases in BC and beyond. Canadian Manufacturers and Exporters provide several opportunities for manufacturing businesses to improve business operations including a focus on resource efficiency. Lastly, a new BC initiative will educate farmers on more environmentally sound farming practices.

BC Hydro Power Smart

BC Hydro works with businesses of all types to reduce their electricity consumption. BC Hydro's Power Smart Partner Program is open to all businesses with at least \$200,000 in electrical bills. Power Smart Partners are eligible to participate in a number of programs, including funding support for retrofits to energy management assessments. Power Smart Partners can work to create tenant programs to help reduce tenant electricity use. Workplace Conservation Awareness is a program designed to help Power Smart Partners create a 'Power Smart Employee Energy Awareness Program'. The awareness program guides the organization in taking steps to conserve energy. As a commercial enterprise, 6 steps are to be followed:

- Establish a clear vision
- Create a team
- Know the workplace

APPENDIX C

- Develop a communications plan
- Implement a plan
- Recognize and reward

This program is designed with a consultant/workshop approach and is therefore likely to be cost prohibitive for small business. However, the steps outlined above could be followed by small businesses to help create an impactful program that will foster behavioural adjustments in the workplace and bring about engagement in energy conservation and awareness. A number of posters, tip sheets, quizzes, and signs are available from Power Smart as well as the library of 'Power Smart Tips', all which are posted on Power Smart's website and are available to the public. For small business, Power Smart offers the 'Product Incentive Program' specifically for those businesses spending less than \$200,000 annually and without a dedicated key account manager. This program takes a technological rather than a behavioural approach and provides financial incentives to bring down the cost of making energy efficient retrofits.⁸⁴

BC Hydro's Product Incentive Program is especially relevant to small businesses. It provides financial incentives to small and medium businesses to replace old inefficient technologies with new energy efficient products. It focuses on cost savings, improving work environments, and sustainability by providing information and incentives. The Province of BC's LiveSmart program offers an additional 10% on top of BC Hydro's incentives.⁸⁵

LiveSmart BC Small Business Program

The LiveSmart BC Small Business Program is made up of four components available to BC small businesses.

- a) **Business Energy Advisors (BEA):** A BEA visits eligible businesses and works to identify potential energy and cost saving opportunities, including lighting, hot water, heating and ventilation improvements. Businesses must spend less than \$50,000 per year on electricity. Advisors can help businesses access other available incentives and LiveSmart BC: Small Business Program components, including coordinating the installation of the equipment on behalf of the owner. BEAs have a sector focus on accommodation, business office, retail, and the food services sector.
- b) **Direct Install:** Coordinates and funds 100 % of the cost to install select products such as energy efficient lighting and lighting controls and pre-rinse spray valves to conserve hot

⁸⁴ Earthvoice Strategies. 2011. *Vancouver Economic Development Commission: Greening Small Business in Vancouver*. Unpublished.

⁸⁵ BC Hydro. No Date. *Product Incentive Program*. Accessed December 5, 2011 from http://www.bchydro.com/rebates_savings/product_incentive_program.html?WT.mc_id=incentives

APPENDIX C

water in commercial kitchens (available in specified regions of the province) for businesses that spend up to \$20,000 per year on electricity. The program is only available to businesses in the Fortis BC electricity service area, BC Hydro electricity service areas of West Kelowna, Peachland, Cranbrook, Invermere or Kimberly and municipal utility service areas of Kelowna, Penticton, Grand Forks, District of Summerland and Nelson.

- c) **Enhanced Product Incentives:** Provides an additional 10% on top of BC Hydro's Product Incentive Program.
- d) **LiveSmart Champion Program:** Businesses within BC with less than 50 employees are eligible. Program will award funding for energy saving projects up to a maximum of 75% of the Project's total value as submitted or \$25,000, whichever is less.⁸⁶

Fortis BC

- a) **Efficient Commercial Water Heater Program:** Rebates for the installation of high efficiency and on-demand hot water heaters. In Partnership with LiveSmart BC, the program offers up to \$15,000 in rebates.
- b) **Light Commercial Energy Star Boiler Program:** Cash rebates of up to \$1,495 for installation of ENERGY STAR condensing or near-condensing boilers sized up to 299 MBH.
- c) **Industrial Energy Audit:** Industrial customers consuming more than 10,000 gigajoules per year can qualify for a 50 per cent rebate toward the cost of an energy audit.
- d) **Efficient Boiler Program:** Install an efficient boiler & earn a cash rebate of up to 75% of the purchase price premium. Additional incentives cover a portion of consultant's fees toward the cost of analyzing annual gas usage for space heating (new construction) or performing an estimate of the annual weather-normalized peak space heating load (boiler replacement).
- e) **Commercial Energy Assessment Program:** Free energy assessments to businesses in the Lower Mainland, Vancouver Island, Squamish or the Interior that consume more than 2,000 GJ/year.
- f) **Natural Gas Vehicle grants:** Up to \$10,000 grant for factory-built or conversion vehicle that will purchase natural gas from Lower Mainland refueling stations.⁸⁷

⁸⁶ Province of BC. No Date. LiveSmart BC: Small Business Program Components. Accessed December 5, 2011 from http://www.livesmartbc.ca/incentives/small-business/program_components.html#direct

APPENDIX C

BOMA Workgreen

BOMA has developed the Workgreen program to engage tenant businesses in leased buildings. The *Workgreen* program will be based on the same best practices as BOMA BESt (BESt stands for Building Environmental Standards; the best practices are Go Green and the Go Green Plus Assessment). Workgreen was created in recognition that BOMA BESt certifies the building, but many of the environmental impacts of buildings are created by the businesses that occupy them. These tenants are able to participate independently of the building owner/manager, so the building owner or operator will not need to participate in a BOMA program for tenants to qualify. Similarly to BOMA BESt, tenants will earn points for actions they take to reduce their environmental footprint. Workgreen proposes to create an online tool, and a directory of resources will also be included that can assist tenants in becoming more 'green'. Regular direct communication is already in place with BOMA members so this will be extended to communicate directly with tenants regarding Workgreen.⁸⁸

Climate Smart

The Climate Smart program is a cohort-based training program working with small and mid-sized enterprises (SMEs) to manage greenhouse gases (GHGs) by completing a GHG inventory. Since its start in 2007, Climate Smart has worked with over 450 companies, training their employees to manage greenhouse gas emissions using Climate Smart's engaging workgroup-based training curriculum and innovative online data management tool. Climate Smart has partnered with Metro Vancouver municipalities to offer GHG training, which usually costs up to \$2,000, to local businesses in participating communities for as little as \$250. A new partnership that began in September 2011 offers the discounted program to Surrey, Delta, Township of Langley, and Pitt Meadows businesses in partnership with the municipalities. In this partnership, the municipalities sponsor \$1,000 of the costs of the workshop, businesses pay between \$250 and \$1,000 depending on the size of their business, and Chambers of Commerce often partner to engage SME businesses in the program.

Manufacturer's Executive Council (MEC)

MEC is a group of business owners and senior executives who meet to share ideas, learn from each other, and solve problems through peer group mentoring. MEC draws on the strength of

⁸⁷ Fortis BC. No Date. *Rebates and Offers*. Accessed December 5, 2011 from <http://www.fortisbc.com/NaturalGas/Business/Offer/Pages/default.aspx>

⁸⁸ Vancouver Economic Development Commission. 2011. *Greening Small Business in Vancouver*. Unpublished.

APPENDIX C

experienced like-minded executives in a non-competitive environment to increase profitability and competitiveness, help businesses grow, and sharpen leadership and management skills. The goals are to improve profitability, provide peer support, drive results, problem solve, and focus on key issues such as leadership, business development, human resources, and sales and marketing.

There are 9 active MEC groups in BC. The cost to participate for MEC members is \$150 per month.

Ecological Services Initiative

A new initiative that recognizes the potential for agriculture to green its practices to protect water quality, air quality and habitat was recently launched in BC. The “Ecological Services Initiative” is a research consortium of farmers, academics and conservationists testing a plan to pay BC farmers to produce cleaner air, water and wildlife habitat. The concept of placing a monetary value on environmental outcomes is being modelled on 13 demonstration farms, sheep and cattle ranches across BC.⁸⁹ There is not a lot of information on this new program, but there is a potential to learn from the demonstration farms in order to help green agricultural practices elsewhere.

⁸⁹ Nanaimo Daily News. 2011. *Paying farmers to protect habitat could save environment, money*. Accessed November 27, 2011 from <http://www2.canada.com/nanaimodailynews/news/story.html?id=35f5b117-2801-4c2c-afbd-f6852a557bee>

APPENDIX D - Green Jobs Training Programs⁹⁰

D.1 Background

This section covers training programs specifically targeted at green jobs. There are many other types of green jobs other than those covered in this appendix.

There are many green jobs training programs in the US that have been working to foster green economic development and employment in the last several years. Most of these jobs focus on creating jobs with a low barrier to entry in weatherization and deconstruction training. Since Abbotsford has 9% of its employment in construction, this section highlights several green jobs training programs that support the greening of the industry. Since the City of Vancouver has recently funded a pilot weatherization green jobs training program, it will also be useful to watch the success of that program.

The United Nations Environment Program defines green jobs as:

... work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high-efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution.⁹¹

In the US, the 2009 American Recovery and Reinvestment Act has funded green jobs development. It was passed in response to the economic crisis, with the goals to: 1) create new jobs and save existing ones, 2) spur economic activity and invest in long-term growth, and 3) foster unprecedented levels of accountability and transparency in government spending. Much of the \$787 billion in tax cuts and benefits, funds for entitlement programs (such as extending unemployment benefits, and federal contracts, grants and loans) has been focused on green jobs in deconstruction, weatherizing existing buildings, and fostering the clean technology sector.

⁹⁰ All information in this section from Metro Vancouver. 2011. Market Analysis of Used Building Materials in Metro Vancouver. Unpublished.

⁹¹ United Nations Environment Program. 2008. *Green Jobs: Towards Decent Work in a Sustainable, Low Carbon World*. Accessed November 25, 2011 from www.unep.org/PDF/UNEPGreenjobs_report08.pdf

APPENDIX D

Green jobs programs that focus on the deconstruction of existing buildings provide three main areas for green job training⁹²:

- Material collection (deconstruction, salvage, sorting, transportation)
- Sales (retailing, wholesaling, consignment)
- Value-added (wood shops, workshops, repairs)

According to the green jobs training organization *Working for Green*, deconstruction provides many benefits including excellent entry point for emergent worker, job readiness, exposure to technical skills, team-based and multiple entry and exit points.⁹³ ReUse People also cite deconstruction-training serves as an entry point to virtually every trade within the larger construction industry. Deconstruction training offers the advantage of being able to train workers within existing industries to diversify and strengthen their skill sets.

Many deconstruction and job skills training programs are not as relevant to the West Coast context because they are based in areas of the US with many abandoned buildings. For instance, in Cleveland, Ohio deconstruction has been driven by a declining economy in a rustbelt city where an excess of abandoned buildings have raised safety concerns and no time pressure on deconstruction. The desire to create green jobs for people re-entering society from prison was the impetus for a deconstruction pilot project for green jobs being paid for by the Cleveland Foundation, City and managed by the NPO Neighborhood Progress Inc. Also in Indianapolis, the Unsafe Building Program focuses on workforce development and removal of unsafe structures. It has created 70 jobs for the formerly incarcerated through a local NPO *Working for Green* using stimulus funds.

D.2 Training Programs

- Richmond BUILD provides low-income residents training in green jobs, teaching students the basics of carpentry and electrical work and “green” trades like solar installation. Richmond BUILD has found jobs for 159 of the 221 students who have entered its clean-energy program. Only 35 graduates are employed with solar and energy efficiency companies, with the balance doing more traditional building trades work.⁹⁴

⁹² Re-Use Consulting. 2009. Presentation to Building Materials Reuse Association. Accessed September 20, 2011 from <http://www.bmra.org/S3Bennick.pdf>

⁹³ Working for Green. 2011. Presentation to Building Materials Reuse Association. Accessed October 24, 2011 from <http://bmra.org/media/decon11/Presentations/13Radice.pdf>

⁹⁴ New York Times. 2011. *Number of Green Jobs Fails to Live Up to Promises*. Accessed November 25, 2011 from http://www.nytimes.com/2011/08/19/us/19bcgreen.html?_r=1

APPENDIX D

- California's ReUse People delivers a deconstruction-training and building-material salvage course to unemployed and underemployed workers, urban youth, ex-offenders and other populations. The course is accredited by the State of California, Bureau of Private Postsecondary and Vocational Education and is offered through the Vocational Technical School of Los Angeles. The ReUse Institute has trained many demolition, general building and remodeling contractors and their workers. They also provide training to other clients to develop their own programs, including the City of Chicago.⁹⁵
- Washington's ReUse Consulting offers deconstruction certification courses at four levels. They claim to manage the largest deconstruction training program in the US, training 140 people per year, working with demolition contractors, deconstruction companies, pilot projects, and buildings owners.
- New York City's Build It Green! (BIG) provides green jobs training opportunities in their warehouse, often partnering with other groups who coordinate the training. For example, the Nontraditional Employment for Women program provides training and placement services for women in the skilled construction, utility, and maintenance trades. BIG also partners with the Consortium for Worker Education (CWE), a training and placement program in construction trade unions to over 75,000 workers per year. BIG helps CWE provide hands-on education.
- Wisconsin Construction/Deconstruction Training Program Pre-Apprenticeship Certificate Training (PACT) program where participants receive multiple certifications, including Lead Safe Renovator, OSHA 10, OSHA Focus Four and Asbestos Supervisor. The project is a partnership between the Wisconsin Community Services Workforce Development Division and the Home Builders Institute. It is aimed at providing economically disadvantaged individuals with hands-on training and job placement to create long-term employment in the home building, construction and deconstruction industries. The goal of the funding for the program is to reduce poverty, revitalize low-income communities and empower low-income individuals and families to become self-sufficient.⁹⁶
- Ohio's Pathways Out of Poverty Project recruits, screens and provides 5 weeks of training to disadvantaged individuals to earn jobs in deconstruction, green construction/remodeling and building performance. The project deconstructs abandoned buildings, sells materials at a local used material supply stores, thrift stores, or into other markets as far away as LA and Japan. As of September 2011, 173 disadvantaged

⁹⁵ The ReUse People. No Date. Deconstruction Training: About The ReUse Institute. Accessed October 24, 2011 from <http://deconstructiontraining.org/node/1>

⁹⁶ National Association of Home Builders. 2010. Nation's Building News: Home Builders Institute. Wisconsin Construction/Deconstruction Training Program Graduates 14. Accessed October 26, 2011 from <http://www.nbnnews.com/NBN/issues/2010-07-12/Home+Builders+Institute/index.html>

APPENDIX D

individuals had completed the training, with 91 participants entering the workforce, 71 of whom are currently working.⁹⁷

- The City of New Haven collaborates on green job training in construction with the New Haven Small Construction Business Development within the Office of Economic Development, New Haven Regional Contractors' Alliance, Work Force Alliance and the Northeast Recycling Council. The program teaches green contractor skills to existing contractors to develop and strengthen business, and makes at least 50 percent of the materials from deconstructed buildings available for reuse.⁹⁸ The City helps develop the industry by using its own procurement to hire those same contractors for City-funded construction projects. The "Small Business Initiative Construction Program" ensures small, minority and women-owned business (SBEs) participation in construction contracts that are financed (in whole or in part) by the City Of New Haven by awarding all contracts under \$125,000 to SBEs, and removing the need for public bids for contracts under \$50,000.
- Chicago has launched a \$4.6 million 2-year program to provide deconstruction job training and temporary jobs for 140 of the formerly incarcerated. The City believes it is the largest deconstruction program in the nation, working to build the deconstruction market in the Chicago area. The program deconstructs City-owned buildings, salvaging materials for re-use. The program provides income and job training and attempts to foster the deconstruction industry within Chicago.⁹⁹
- Seattle has funding to provide deconstruction training to 130 economically disadvantaged people. The Seattle-King County Workforce Development Council has trained 50 students, 40 of whom are already employed, and is recruiting more students who want to get into the field. The highest salary so far is \$25 per hour while the lower range is around \$10. Students were previously not working or were under-employed.

D.3 Summary

Creating green jobs is an important goal related to green economic development. However, many programs have a specific social goal in mind – creating employment for people with barriers to employment because of mental health issues or because they have been incarcerated. Most programs do not also address the economic development aspects of green jobs development. Green jobs do not operate in an economic vacuum, and it is important to develop

⁹⁷ Miami Valley Regional Planning Commission. No date. Pathways Green Jobs Training Grant. Accessed October 24, 2011 from <http://www.mvrpc.org/projects/pathways/pathways-green-jobs-training-grant>

⁹⁸ Appel, Allan. 2010. New Haven Independent. Green Demolition Underway. Accessed October 24, 2011 from http://www.newhavenindependent.org/index.php/archives/entry/green_demolition_breaks_ground_in_new_haven/

⁹⁹ City of Chicago. 2010. Accessed October 24, 2011 from http://www.cityofchicago.org/city/en/depts/mayor/press_room/press_releases/2010/march_2010/0311_ex_offenders.html

APPENDIX D

green industries at the same time as building skills and capacity for green jobs. This aspect is lacking in so many green jobs training programs. 2009 economic stimulus funding fostered many US green jobs training programs. Now that the funding is running out, it will important to watch how many of them remain. The best programs offer multiple certifications to create many opportunities for workers to enter the workforce. They rely on training from successful programs elsewhere, where successful businesses in one part of the country are helping to train others (e.g. Chicago). Other programs use municipal procurement leadership to help foster development of the industry, using government procurement in a green industry to stimulate its development while building capacity and providing jobs.



For more information on the City of Abbotsford's
Green Economic Investment Study contact:

Economic Development & Planning Services

T 604-864-5510

E sustainability@abbotsford.ca

www.abbotsford.ca/sustainability