

Sustainability Options for Resource Based Rural Communities

Phase Two: Summary of Literature Review





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Introduction

We are pleased to present this summary report of the Literature Review, which represents Phase Two of the “Achievable Sustainability Options for Resource-Based Communities” project. This review has been performed by a team of Athabasca University researchers and research assistants with the participation and financial assistance of the project partners: the Town of Hinton, Town of Grande Cache and Grande Prairie Regional College and the Alberta Rural Development Network (ARDN).

The purpose of this project is to investigate available options to provide Grande Cache and Hinton with the best options available to work toward a more socially, environmentally and economically (SEE) sustainable future. The project is divided into three phases:

- 1) Setting the Stage Conference, which occurred in May of 2011
- 2) Literature Review (this phase) which will culminate in a Knowledge Symposium to be held in March, 2012
- 3) A federally funded experimental phase which will test the best options within the communities. Funding for this phase is still pending as of this printing.

The primary areas of interest and the researchers involved in this Literature Review are:

Page	Subject	Research Assistant	Research Lead
6	Knowledge Based Economy		All Researchers
12	Community Finance and Investment Options	Seth Leon	Dr. Mike Gismondi
20	Entrepreneurship and Business Development	Kiran Choudhry	Dr. Ana Azevedo Dr. Aris Solomon
32	Housing	Nick Montgomery	Dr. Lorna Stefanick Dr. Mike Gismondi
40	Education	Melisa Zapisocky	Dr. Jorge Sousa
56	Community Culture, Social Inclusion	Eileen Omosa	Dr. Lorna Stefanick
62	Protection and Utilization of the Natural Environment and the Athabasca and Sulphur Rivers	Ashley Smith	Dr. Mike Gismondi Dr. Aris Solomon

The primary research questions for each priority area were as follows:

1. Knowledge Based Economy:

- How are knowledge-based economies developed and sustained?
- Are there examples of rural knowledge based economies? What social and community attractors are key? Will these attractors mesh with the existing culture of the communities?
- How can the resource-based knowledge that individuals have gained over time be leveraged for the transition to sustainability knowledge based economy?
- How can a culture of knowledge and education be encouraged to transform Hinton and Grande Cache into Learning Communities, which would promote and support a sustainable, knowledge-based economy?

2. Local Community Financing Options:

- What social ownership and local economy options are available?
- What examples are there of community-based local finance options?
- What infrastructure needs to be in place to enable and facilitate community investing?

3. Entrepreneurship:

- How can an entrepreneurial spirit be fostered in a resource-based economy to create greater socio-economic diversity and stability?
- How have other resource-based communities diversified their economies and attracted more entrepreneurial risk takers and innovators? What might sustainable entrepreneurship look like?
- What other forms of entrepreneurial opportunities for innovation and social enterprise exist for both communities?

4. Housing:

- How can the construction of affordable quality homes, well designed for the climate and environmentally efficient, be facilitated in a resource-based economy?
- What kinds of planning and regulatory tools can be used by municipalities to encourage sustainable design of neighbourhoods and buildings?
- How can house purchases be accommodated for new people moving to the communities?

5. Education

- What are the best options for providing more choice in primary and secondary education?
- What are the best options for these communities to encourage greater participation in higher education?
- Can the communities provide niche education, perhaps based on emerging sustainability trends in resource industries, and can they capitalize on being near a world heritage national park?

6. Developing a Community Culture:

- What strategies are other communities taking to engage social sustainability and social inclusiveness?
- What role would a “third place” (community/public space) play in developing community culture and identity?
- How are both communities accommodating increasingly diverse immigrant populations, particularly those located in Alberta and western Canada?
- What examples can be found from other communities to strengthen arts and volunteerism?
- What are the quality of life indicators that attract people to a community?

7. Protection and Utilization of the Natural Environment and the Athabasca and Sulphur Rivers:

- How to capitalise on a public good in a sustainable manner?
- What is the best balance of recreation, environmental protection and commercial utilization of regional natural areas in both communities, or in the Athabasca River in the Hinton region?
- What changes can be made to benefit the community without affecting or imposing on the Athabasca River ecosystem or the natural terrain around Grande Cache?
- What municipal policy can be used to improve public access to the riverfront?
- What research exists for using rivers for electrical energy generation?
- Are there examples of low-impact river and wilderness based tourism and tourism services? What opportunities exist for developing these in Hinton and Grande Cache?

As much as possible, all literature available under these topics was researched and presented in this study. The full literature review for all of the above topic areas will be made available directly to the project partners, and to the general public through the Project website: <http://arbri.athabascau.ca/hinton-gc>

I would like to take this opportunity to thank the researchers for dedicating their time for this project, the research assistants for their talents and dedication, and our project manager Jim Sellers. Further, I would like to thank the municipalities of Grande Cache and Hinton for having confidence in the academics at Athabasca University to pursue this challenge, and Grande Prairie Regional College for participating in this project. Finally, I would like to thank Alberta Rural Development Network for their generous funding of both Phase One and Phase Two of this project.

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Knowledge Based Economy

The concept of the Knowledge Based Economy overlaps all other subject areas of this literature review and, as such, will duplicate some of the findings in each section. This section summarizes the benefits and challenges of pursuing a Knowledge Based Economy in a rural resource dependent community.

Definition of Knowledge Based Economy (KBE)

Typically understood as the emergence of a post industrial economy, Knowledge Based Economy comprises organizations that combine technology and well educated people to maximize the exploitation of knowledge for profit, as opposed to exploiting natural resources to create wealth.

This term initially was associated primarily with the information and computing sectors and the emergence of both large information and computing firms, and smaller clusters of firms both upstream and downstream of larger companies that developed software and hardware for various aspects of the computing and telecommunications industry, and later, the emerging Internet and Worldwide Web.

Today, whole industries that rely on increased intensity of knowledge and innovation as the basis of their business have spread across all sectors of the economy, not just the information sector. Knowledge is the key value added service to a range of industries such as bio-agriculture, food, advertising, media production, architecture and a host of other creative industries. KBE is not only concentrated in Research and Development, but is usually spread across whole organization (Ian Brinkley, (2006)ⁱ.

The definition of KBE also includes a spatial aspect. The distribution of the initial KBE industries was often found in clusters of highly networked firms, working perhaps in same building, alley, street, neighbourhood or community and has been primarily an urban phenomenon. That is, both the theory and the empirical cases are drawn from larger cities. The firms are often located in edgy, newly re-developed parts of a city, sometimes in de-industrialized, decommissioned or brownfield neighbourhoods where cheaper commercial and office rent is available, and old warehouses and more affordable residential spaces combine to house these start up clusters of companies (D. Harvey, H. Hawkins, N. Thomas, 2012ⁱⁱ).

In our research we pose two questions of the literature:

1. whether the concept KBE adapts to rural communities that are highly reliant on primary or extractive industry; and
2. more generally, what a primarily urban concept might look like when applied to a rural region context?

The results of this research shows:

- Both Hinton and Grande Cache contain the key factors associated with transitioning and sustaining a knowledge based economy, including:
 - willingness to support human capital investment;
 - functional learning sites that could be adapted to support training needs of a diverse labour force;
 - a combined population of over 12,000 that reflects a diverse labour force in terms skills and experience;
 - people with significant knowledge of the skilled trades, which is an asset that could be utilized to train younger workers or retrain mid-life workers.
- Some extractive industries are more technology and knowledge intensive than others. Some firms within the same sector (e.g.: forestry or mining) rely more on KBE inputs than others, depending on the age of the facility or competition and government pressure to innovate.
- One option for the resource sector is to consider the emergence of knowledge intensive types of companies both upstream and downstream to the main extractive industry. Some research focuses on identifying places along the commodity chains where points of insertion of new firms based on KBE might be effective. For example: training, professional development in new technologies, research into sustainability initiatives, etc.ⁱⁱⁱ. Alternatively, the primary industry could develop new by-products (e.g.: pulp and paper lignin uses) or co-generate products by recognizing sustainability values (greenhouse gas reductions) that make business sense. These can include such concepts as converting waste heat into electricity that can be fed into the

electrical distribution grid (ALPAC); or bringing together firms at regional level who could combine their wastes (e.g.: biomass wastes) to produce electricity. This could include various regional agricultural, livestock and other wastes (potato farmer, waste hog, farmers, etc.).

- Hinton’s clustering of industries in an eco-industrial park so that one’s waste is next industry’s raw materials or energy source.
- Examining unique new ways to capture energy from mining and geothermal energy production (Majorowicz J, Grasby SE, 2010)^{iv} with new ideas to build on Grande Cache’s current system of geo-thermal power. These may require a Feed In Tariff Policy (such as Ontario’s) to make it worthwhile, which could be lobbied through the Alberta Urban Municipalities Association (AUMA).
- There are new technologies for flow of river power production but the policy context needs work on a Feed In Tariff Policy. Wind power generation has the same challenges. The issue of hybrid ownership (municipal, private, community group) is working in some centres.
- A different approach would be to cultivate the downstream knowledge economy which could include a range of environmental services to primary industry impacts such as:
 - Environmental management of impacts;
 - GIS mapping, planning, linking place based industries to extractive firms and forgoing urban consulting.
- Links between public investment in KBE and poverty reduction.

KBE and Place: The Rural Creative Economy

Two recent studies examine the rural creative economy in the UK. This research emphasized links between the creative economy and rural amenity lifestyle.

Rather than the urban culture or “people climate” that spurs innovation in cities, UK researchers found that people are drawn to rural centres to balance creative life within what they called a “place climate.” The real draw alongside the cluster of creative people was the rural lifestyle.

These two studies focussed on creative cultural arts in rural areas, a unique area we have not much focussed upon. The patterns remain relevant to this study.

Creative Arts in Rural Countryside

Liveability is an attractor. Opportunity for self-actualization, balancing work and life, and the kind of emergent creativity that this setting offers were key factors in their choice of location. This Creative Countryside argument examines how key arts industries such as artists, designers, architects, musicians, film/ tv/radio production and artisanal food production, etc. can be attracted to an area. Their work also identified upstream suppliers such as craft industries, and downstream businesses such as distribution, restaurants, tourism, etc. (David Bell, Mark Jayne, 2010^v).

The studies also noted how some creative businesses, and many individual and home based businesses, required greater broadband Internet access. Access to the Web allows many of these industries and contractors to function well in remote locations.

Another type of KBE is temporary clusters such as fairs and festivals. These have positive spillover effects for the local economy. These can become creativity incubators and link creativity to place (for example, The Canadian Death Race in Grande Cache).

Educational Opportunities: Innovation and Collaboration in Rural Environments

Soots, Sousa and Roseland (2010, 1^{vi}) point out, “political and economic restructuring over the past 30 years has had a profound impact on the social and economic economy.” To adjust, non-profits, as well as educational institutes alike, have taken on a greater responsibility to address social needs, environmental concerns and fluctuations to the local marketplace. Furthermore, there is an increasing need, for an inter- and cross- disciplinary approach to the complex social, economic and environmental problems facing society today. (Soots, Sousa and Roseland, 2010).

Thus, it is with frequency and urgency that regions, around the globe are transitioning towards the knowledge based economy, to address these complex changes. Here, knowledge production and utilization, as well as innovation and social cohesion are key processes in addressing these issues in long-term sustainability. To this point, the European Strategy for Sustainable Development addressed the importance of education in the following way:

Education is viewed as a prerequisite for promoting the behavioral changes and providing all citizens with the key competences needed to achieve sustainable development. Success in reversing unsustainable trends will, to a large extent, depend on high-quality education for sustainable development (GHK Consulting, 2008, 6^{vii}).

Romer, (1986, 1990^{viii}), argues that technology and knowledge production are now essential components of the economic system (32). Yet, economic systems do not exist in isolation, but are bounded to community development strategies. Fundamentally, “both require human and social capital derived from higher education levels, skills development and the capacity for

knowledge transfer.” (11). As indicated, investment in a regional development strategy is multi-dimensional, and must enable all learners to cultivate skills, knowledge and networks that build cohesion, in addition to achieving measurable economic outcomes.

Social Capital and Entrepreneurism

In 2010, Hinton was named one of Alberta’s ten best communities for business^{ix}. Hinton’s relative close proximity to Edmonton (approximately 280 kms), access to scenic areas and recreational amenities (i.e. a 30 minute commute to Jasper), as well as a high average household income, were factored into the findings. While Alberta’s average annual income was \$73,823 in 2006, Hinton boasted a total annual average of \$82,069 in 2006. However, these numbers can be misleading. In the instance of resource towns, higher than average incomes likely mask greater income gaps and disparity between those with low paying service jobs and those with high paying industry jobs. As noted in Hinton’s Sustainability Plan, “the gap between rich and poor is also greater (2010, 21^x).”

The town site of Grande Cache was intentionally established in the early 1970’s to accommodate the development of coalmines. Since this time, the town’s economy has “been strongly affected by the ever changing markets for natural resources (2010^{xi}).”

As Fahy (2009^{xii}) describes, in 2008, Alberta generated, “the highest provincial growth rate in Canada, the lowest unemployment rate^{xiii}.” The province as a whole retains a competitive advantage drawn from its natural resource base. However, because an over dependence on resources, can leave a community vulnerable to change, the provincial and federal governments are seeking ways to capture new revenue streams related to knowledge production and utilization. Guiding this shift in economic priorities is the recognition that “knowledge and creativity have become the true measure of economic potential^{xiv}.”

Although dependence on the high incomes produced by the resource industries in the region is already established by the communities, what is not clear are the options for diversification and the stimulus for the creation of alternative industry. The key to finding these new opportunities lies in the creation of new ideas and entrepreneurial applications for using the local resources that are available. The net result of these concepts is the development of a Knowledge Based Economy. As in any area that has developed and evolved to new ideas and opportunities (Silicon Valley as an obvious example) clustering of groups, inter-dependency and local investment are the key factors.

Social Capital is a difficult measure, but is usually described as the frequency and value of transactions that occur as a result of relationships between groups (Putnam, 2001). Community owned businesses bring people together, and do so more frequently: investors, workers, entrepreneurs and a variety of support networks (customers, government, family, and media).As is typical with successful clusters of like-minded or inter-related companies, groups of local investors from these

fields, also called Angel investors in that their approach is usually guided by altruism and less by profit, can bring a wide variety of expertise to new business development opportunities and encourage more entrepreneurial ventures.

The greatest challenge in cultivating Social Capital and local entrepreneurship is the difficulty is matching the parties together. Farrell's (2001) study of Angel Investors found that many investors were seeking innovative enterprises to invest in, but had difficulty meeting entrepreneurs. This is a major step in the development of new ideas and local investment.

Another criteria often overlooked (or ignored) when assessing the long-term stability of resource-dependent communities is the contribution made by non-resource sectors. For example, non-resource sector jobs include a corrections facility in Grande Cache that employs 300 workers (2008 report) and Hinton's health care field employs more than 200 workers (Alberta Venture^{xv}). Furthermore, both towns express interest to develop and expand their respective tourism sectors as another area of economic growth.

Sustainable, creative, and inclusive municipal planning, encouraging entrepreneurship and local investment in the same, and the development of a knowledge-based economy able to attract talented, creative citizens, are key steps to the success of a long term, strategic diversification of Hinton and Grande Cache.

For example, emerging sectors in both communities include tourism, and potential growth in green technologies. Tourism is supported the area's vast assortment of natural amenities and near proximity to Jasper. The development of green technologies in Grande Cache, such as wood pellet production, thermal power generation and value added forest products operations^{xvi} is viewed as excellent potential for utilization of local knowledge and skills, economic expansion and job growth.

Also, vibrant communities that offer attractive amenities and services are viewed as key attractors to tech/innovative industries and new residents. For example, a market research study of more than 1200 high tech workers in Canada (1998,10) found that *quality-of-life* and *a close proximity to friends and family* to be the most important factors participants associated to the attractiveness of a job.

Knowledge based economies are not a 'one-size fits all' deal to planning. How new skills and information are utilized to foster regional growth may depend on a number of local factors and variables, including: the size of the town or region; existing infrastructure and partnerships; the degree a vision is shared across public, private and community stakeholders; resource commitment (e.g. funding); as well as the "ability of locales to generate, attract and retain the highly skilled workers" (Florida, 2000:8^{xvii}). Greater emphasis to invest in citizens through meaningful education, training and lifelong learning is required by all sectors, including economic, public, educational, civic and voluntary. As such, frameworks that emphasize educational opportunities as strategies for economic growth and community wellbeing are key to the success of planning for a Knowledge Based Economy.



Community Financing Options

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The global economy has undergone a profound socio-economic shift brought on by the changing structure of the global marketplace and the free flow of capital. In essence, investment capital is now free to move internationally seeking out the highest levels of return with little or no restrictions or social conscience. Without delving too far into globalization and the causes and impacts of economic restructuring, the free movement of capital in global markets can be attributed to the significant shift in investing away from traditional industries located in rural areas and towards the global financial sector and foreign markets. The increasing cost of raising capital through public offerings also prevents many communities from accessing the available pool of investment capital in the world markets. As a result, this global economic restructuring has created a “financing gap” in many smaller Canadian communities. With the strong competition of higher returns, it is difficult for rural communities to attract investment capital for local industry, or for cultural, social or municipal infrastructure improvements. Mainstream financial institutions such as banks and credit unions are unable to fill the void.

With the increasing difficulty of accessing traditional forms of financing and investment, communities have begun to look to innovative ideas and initiatives to help in raising local capital. To a greater extent, communities are looking inward to create a climate of investment and cooperation within the population. As more community members participate, they share both the risk and rewards in creating stronger local economies. There is also a greater emphasis on local empowerment because the control of the funds, schedule and outcomes stays within the community and is not ceded to outside control.

A circuit of local capital is different than that of the global investment market. It is based on raising pools of capital from a self-designated community to invest in a local business or infrastructure. Residents can invest by purchasing local securities in the form of shares (equity; essentially owning a part of the firm) or bonds (debt; loaning the firm a fixed amount over an agreed upon duration of time and interest rate).

Bonds involve a fixed term and rate of return, are typically connected to capital assets and are secured, usually by those assets. If the business does not succeed, the machinery can be sold to repay the debt.

With shares/equity the shareholder *owns* part of the business and their investment is *not* guaranteed. The risk is higher. The return on investment will depend on the success of the firm. As such, investors will most likely provide patronage to the business, and seek to connect with other local businesses and suppliers. The motivation to see a return on investment also encourages the transfer of investor business acumen and connections. More importantly, selling equity ensures that local businesses stay in their home communities. Even if the firm expands, local investment ensures the head office stays in the community.

But where is this local capital found? One primary source of local capital is the wealth that people in the community have invested in their bank accounts, investments and RRSPs. Much of this capital currently leaves the community to be invested globally. Attracting and redirecting this money back to the community can compound the advantages for the community and its investors.

Strengthening the Local Economy

By linking the broader community to local business through community investment, other resources are also mobilized. This not only increases the effectiveness of existing capital, but also helps local businesses obtain a highly effective mix of inputs to optimize productivity. Alongside efficiencies, community ownership encourages an increase in local patronage, as well as partnerships between local suppliers and services. This networking creates a multiplier effect whereby more money is *spent* locally and *stays* in the local economy. The Institute for Local Self-Reliance (2003) found that, for \$100 spent locally \$45 stayed in the local economy, whereas for every hundred dollars spent at a chain store, only \$14 dollars stayed in the local economy^{xviii}.

“in exchange for one new part-time job in a mega-discount store, about 1½ full time jobs are eliminated in smaller stores.” ...most jobs are minimum wage with little opportunity for improvement or promotion and most are non-union with all the ramifications implicit in such situations (i.e. absence of provision of benefits to large numbers of employees). In some situations, they report, the mega-retailers have closed down operations after several years. Having forced the closure of much of the local retail trade, the closures leave a retail vacuum and an exacerbated unemployment problem.

(Dalal, Al-Khatib, DaCosta and Decker, 1994)

In contrast, locally owned businesses strengthen the economy by clustering. In many communities, marketing of their products and produce externally is done under a regional banner.

Apart from bolstering local capital, other community resources can also be mobilized; in particular *human* and *social capital*. In terms of *human capital*, a group of local investors can bring a wide variety of expertise to bear as they scrutinize local business development opportunities and create well thought out business plans. This arrangement also allows for experienced investors and successful business managers to pass their expertise on to the next generation of novice local entrepreneurs.

Social capital is best described as the frequency and value of transactions that occur as a result of relationships between groups and people (Putnam 2001). Community owned businesses bring people together, and do so more frequently. This can help in finding good employees, suppliers and consumers while reducing advertising costs (word-of-mouth). Social capital also helps identify investment opportunities, connecting investors and entrepreneurs.

One example of the benefits of exploiting local capital is the Green Bay Packers of the National Football League, which is owned entirely by local shareholders. In order to finance the team to enter the league in the 1930s, the team sold shares to the community. Whenever they have needed to raise capital, it has come through additional public offerings. These shares (which cost \$250 USD) are non-tradable and cannot be sold back to the team. They do not come with any free tickets or other memorabilia. The success of the team (Green Bay has continuously fielded a competitive team and most recently won the 2011 Super Bowl) provides an effective community based business, marketing and community service mechanism. It is these social factors, rather than just capital, that strengthen local economies.

“Established communities, whether urban or rural, central or peripheral are known to be sources of social capital and the well spring of democratic action” (Johnstone, 2011)^{xix}.

As we plan for more sustainable communities, community ownership is integral in addressing local underdevelopment. It empowers communities to decide what they produce and consume rather than adhere to the objectives of large outside firms beholden to their shareholders. Profits are returned to community owners and are spent and/or reinvested locally.

The adoption of innovative ownership models also plays a part of any local sustainability initiative. Co-op Power, an American (Massachusetts based) clean energy Co-op, finances green energy projects while also addressing issues of social inequality based on class and race (www.cooppower.coop). To do so, they engage different communities around environmental issues, while providing opportunities for lower income individuals to participate through a multi-stakeholder share structure. Co-op members can loan the co-op money through purchasing a bond, or own part of the co-operative as a shareholder. Moreover, there are opportunities for members to earn shares through sweat-equity as well as buy-in to the co-operative over two years. This gives workers and members, many of whom have fewer assets, the opportunity to become owners and then benefit from any earnings.

Getting the different groups together to invest their savings as well as future earnings in ventures that might create only small tangible returns and intangible returns that might only be accrued by future generations is challenging. The group might be made up of people with different backgrounds, but they usually share common values, and a common vision towards their community. While this might seem strange to global investors, it is not uncommon local investor behavior. Farrell (2001) found that local or industry peer investors often invest as a group and, as such, they are less risk averse and are willing to wait longer to see a return on their investment^{xx}.

Comparing the ideals of the flow of global capital to the need for strengthening local economies, Michael Schuman (2011) explains:

If you can produce the goods and services you consume in your own backyard, it doesn't make sense to import them. Every time you import something unnecessarily you give away a piece of your economy. A key to economic vitality is diversifying your economy with as much self-reliance as possible^{xxi}.

Given that Canadians invest a great deal more outside of the country (Holden 2008), it is apparent that there is a great deal of potential to increase the scope and scale of community investment funds and local capital.

Local Financing and Investment Mechanisms

This section examines the various methods rural communities can utilise to raise local capital. It summarizes different strategies and provides some additional examples from other communities. These mechanisms are intended to link investors and local entrepreneurs. Underlying these financing mechanisms is a commitment to strengthening the local economy, supporting local businesses, keeping local jobs and fostering ethical and increasingly sustainable business practices.

Credit Unions

Credit Unions are local member owned financial institutions. Many credit unions provide business loans, as well as business banking and often other advisory services. Credit Unions are intended to be active in their community and tend to have a better understanding of local needs. The resurgence of community owned businesses in Nova Scotia, as well as in the UK, is attributed to promoting the role of Credit Unions in financing local business development (Perry, 2009^{xxii}; Nakagawa and Larratta, 2010^{xxiii}). A business loan from a Credit Union is the most basic and straightforward form of local capitalization, however it does not facilitate a great deal of community ownership.

Crowd Sourcing

This is a new technique based on leveraging support, often from the online community, through websites such as Kickstarter.com. Basically, an entrepreneur raises funds by posting their business idea online along with a request for start-up funding and interested people donate accordingly. While this doesn't have an ownership component, many entrepreneurs use this mechanism as a way to guarantee initial sales by offering an exchange of goods or services based on the amount donated. This crowd-sourcing method is gaining popularity and could easily be adapted on a community level.

Exemptions for Accredited and Eligible Investors

The federal government, under National Instrument 45-106P *Prospectus and Registration Exemptions* allows individuals of a certain income level and net worth to purchase exempt market shares in a local business without that business having to provide an offering document. The rationale is that these individuals are wealthy enough that they can incur the losses if their investment is lost. These shares are eligible to be included into a self-directed RRSP, or can be purchased by transferring existing RRSPs. As these shares are RRSP eligible it also allows the investor to defer part of their tax payments. This type of informal investing, if structured in a way that provided voting rights for all parties involved, could facilitate broader community ownership.

Community Investment Funds

Community Investment Funds (CIFs) are pools of capital drawn from a self-designated area to be invested locally, by a group of community members. While they do resemble and serve a similar function as venture capitalist firms, traditional lenders and (development) banks, they are structured in a way to not only provide a return on investment but also broader community benefits. CIFs mobilize more than just financial capital, but mobilize human and social capital as well by providing an opportunity for various stakeholders (investors, workers, entrepreneurs and community members) to harmonize their goals to create stronger local economies.

In this structure investors purchase shares in an investment fund which is then invested into a local business. This delineation prevents the CIF from micro-managing the firm they invest in. CIFs can invest in local business by employing two different strategies: providing loans (debt) or purchasing shares (equity). CIFs have been incredibly successful in Nova Scotia with their Community Economic Development Investment Funds (CEDIFs). This program assists eligible communities by providing templates for public offerings, as well as significant tax rebates for individuals who invest locally. Over the past eight years this program has mobilized over 40 million dollars to be invested locally. This has helped to create hundreds of jobs as well as expand their renewable energy sector.

Community Bonds

Community Bonds are a debt instrument that enables communities, as well as not-for-profits and charities, to raise capital. This strategy is typically used to finance the purchase of a large capital asset such as a building. Instead of going to a bank for a loan, the group sells bonds to their extended network of members for the same amount. These bonds are guaranteed, and typically have a fixed rate of return and are paid back over a longer term. An excellent example is Toronto's Centre for Social Innovation, which provides a program for local investment in community bonds. Currently there is no provincial program for community bonds in Alberta. However, the government is looking into the feasibility of using it to help finance the not-for-profit sector. Given certain exemptions under the co-operative act (see below) there are ways in which communities could create their own form of *ad hoc* community bonds.

Co-operatives

The legislation around co-operatives provides a number of opportunities to mobilize local capital. Most co-operatives require membership fees, and often have programs where members can provide loans. In Alberta members of a co-operative with less than 100 members are allowed to invest up to an initial amount of \$10,000, plus \$5,000 in every following year. As such, co-operatives can mobilize close to one million dollars to build or expand their business. However, given the constraints of the size and ability of the membership to raise capital amongst themselves, there is often a need to look at other local financing options. The following shows two programs that enable co-operatives to raise local capital.

❖ Canadian Worker Co-operative RRSP Program

Co-operatives (whether producer, consumer, solidarity, multi-stakeholder, or worker) are able to raise capital by selling shares to its members under a federal program administered through the Canadian Worker Co-operative Federation (CWCF) and Concentra Financial. In terms of the former these shares are eligible to be included as part of one's own Self-Directed RRSP, thus providing some tax relief to the shareholder when they are purchased. This process is relatively straightforward and has been successful in financing the growth of several successful co-operatives.

These key steps include:

- The co-operative registers with the CWCF RRSP Program and pays a yearly registration fee of \$100.
- The co-operative assembles an information package for its members and potential investor that will include:
 - The co-operative's history, its key financial information, etc.
 - An overview of the offering: size of the offering and what it will be used for, share size, minimum and maximum amount of shares an individual can purchase and other related information

Potential investors are also able to transfer existing RRSPs to purchase shares in a co-op. Dividends are paid directly into this account, or potentially reinvested within the co-op. Most offerings for co-operative shares are intended to be held for at least five years.

❖ *New Generation Co-operatives*

A New Generation Co-operative (NGC) allows members and non-members to purchase market exempt shares in an agricultural co-operative. However, unless they are a member, investors (shareholders) cannot vote on matters related to the co-operative. Voting rights are based on one-member one vote, not one share one vote. These shares are usually a mid to long-term investment (5 years).

This type of structure allows co-operatives to raise capital within a larger network beyond their membership. It invites and permits community members, patrons, suppliers, and other groups to become involved in owning local economic resources. Westlock Terminals NGC (founded in 2002) was able to initially raise over a million dollars to purchase and expand their local grain terminal, and more importantly to prevent its' closure. A second share offering in 2006 raised another 1.2 million dollars. There are some 270 members. Since purchasing the grain terminal there has been a significant investment in new capital, including new elevators and systems, an increase in profits and payback on investment shares of seven percent (Cabaj, et al. ,2009)^{xxiv}. In 2011 Westlock Terminals scaled up its operations, and purchased a stake in the ownership of GNP Grain Source, a major inland storage owned by 7 independent grain terminals with grain handling facilities for over 2.2 million metric tons of annual throughput.

The NGC model is popular in many other parts of the world, including the UK, Australia, New Zealand and the United States. Some of the recent literature (Cook and Chaddad, 2004) has also shown some interesting examples of how NGCs have transformed into what could be described as investment co-operatives. This has occurred most recently in the ownership structure of irrigation and dairy co-operatives in Australia (Plunkett, Chaddad, and Cook, 2010^{xxv}), and New Zealand (Trechter, McGregor, and Murray-Prior, 2003)^{xxvi} respectively.

❖ *Investment Co-operatives*

This is a relatively new type of co-operative and has shown some proven successes in Alberta. The Sangudo Opportunity Development Co-operative (SODC) has raised over a quarter of a million dollars locally in member loans to finance local business development (Evans, 2011)^{xxvii}. An investment co-operative is similar to a local institutional investor, or a community investment fund, but is structured like a co-operative. Like a CIF it facilitates the process of finding an opportunity that requires a capital investment and then sells shares in that opportunity to its members. This structure often has a development component to it as well, with a small portion of the profits being re-invested into a local

development fund. Like an NGC it follows the OMOV principal. This creates a set of checks and balances that prevent one group from controlling (and profiting from the sale of) a local business.

❖ *Other Co-operative Strategies*

Many co-operatives in Europe and North America also help in financing the development of new co-operative businesses, by pooling and reinvesting a small percentage of their profits. One example is the Arizmendi Association Model. In this case one co-operatively owned business (a bakery and cheese shop) helped another co-op get started. They assisted in the business planning and technical aspects of the business, but also helped them finance the initial start-up costs. Over the past 14 years they have done this six times (Marrafino, 2011)^{xxviii}. This has grown the size of their development fund, and by increasing the amount of members, they added to the amount of skills available. The Evergreen Economic Development Co-operative in Cleveland Ohio has followed a similar strategy on a slightly larger scale. They have started a worker-co-operative industrial laundry service for a large teaching hospital. Portions of the profits are kept to help start a renewable energy company that installs solar panels, as well as a large-scale urban green house agriculture project (Alperovits and Williams, 2010)^{xxix}.

Labour-Sponsored Venture Capital Corporations

There are a variety of local investment programs incentivized through tax credits at both the federal and provincial level. Labour Sponsored Investment Funds (LSIF) typically partner with local economic development agencies to invest in businesses, and often social-enterprises. Many of these funds are similar to the aforementioned CIFs in that job creation, as well as supporting workers' rights and collective enterprises, is in close proximity to the priority of providing a return on investment. These funds have also been highly effective in addressing the financing gap in disadvantaged regions. For instance the Solidarity Fund QFL, founded in Quebec in 1998, created seventeen decentralized regional funds to invest between \$50,000 and \$2 million in new businesses start-up capital.

Further:

On the local level, 87 local funds (SOLIDE) were established in collaboration with the Union des municipalités regionales de comtés (Alliance of Regional Municipal Counties). Half the capital was provided through a \$10 million central common fund (SOLIDEQ) created by the Solidarity Fund QFL and the remaining capital came from the municipalities and other sources. The approach of these funds is the same as the regional funds, but they target smaller projects (\$5,000 to \$50,000) (Hebb, Wortman, et al. 2006 citing Ninacs, 2003)^{xxx}.

Similarly in British Columbia LSIF Working Opportunities partnered with Community Futures and contributed \$750,000 to their community loan fund (Hebb, Wortman et al. 2006).



Entrepreneurship and Business Development

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Community Context

The Towns of Hinton and Grande Cache have developed around vital industries including coal, forestry, oil and gas, and tourism. In an attempt to mitigate the impact of “boom and bust” economic cycles on their local economies, both communities are seeking to diversify their reliance on natural resources by encouraging the development of entrepreneurs and alternative industries based on their current resources and their picturesque location. In relation to Alberta’s overall economic growth, emerging economies in the developing world provide the greatest potential for increasing the province’s exports of natural resources and value added refined products. The Government of Canada is also continuing to facilitate increased market opportunities for Canadian exports, entering into investment promotion and protection negotiations with a number of countries including China, India and Indonesia, for example.

The Government of Alberta shares the sentiments of these negotiations, stating specifically:

Energy is critical to our prosperity, but Alberta must diversify its customer base to achieve the greatest returns. [The Alberta] Government will actively design initiatives to access global markets and assist Canadians and our trading partners in understanding Alberta’s energy goals. The infrastructure necessary to get our resources to new markets must cross other jurisdictions, so any expansion will involve various partners at the provincial, national and international levels. (Speech from the Throne 2012)^{xxxi}

Recognizing that “Alberta’s current fiscal framework relies too heavily on volatile energy revenue as a source of income,” the double-edged sword of abundant resources necessitates strategic diversification, and both the federal and provincial governments have initiated economic development programs to facilitate greater economic growth.

Sustainable, creative and inclusive municipal planning with an eye to opportunity in energy-related sectors, encouraging entrepreneurship, maximization of local labour and resources, as well as the development of a revised knowledge-based economy able to attract talented, creative citizens, all provide a strategic approach to achieving the Hinton and Grande Cache region's greater potential.

Within this context, this report informs the following questions:

- 1. How have other resource-dependent communities diversified their economies and attracted more entrepreneurial risk takers and innovators? What might sustainable entrepreneurship look like?*

Many of the available answers to these questions were found in the work performed by the **Creative Cities Network of Canada (CCNC)**. The CCNC^{xxxii} is a network of over 100 academics, practitioners, policymakers, and officials working towards realizing the principles and practices of Creative Cities within Canadian municipalities. Nancy Duxbury, who has served as the Director of Research for the Creative City Network of Canada and the Director for the Centre for Expertise on Culture and Communities run out of Simon Fraser University, writes that “innovative action is doing something out of the norm, something new to that situation or context” and that “pressures for economic renewal drive innovation.”^{xxxiii}

One of the drivers is the need to identify a “niche” that includes attracting mobile citizens, investments and jobs; improving “quality of place”; and building identity through branding. The cases of Vancouver, Toronto, Ottawa and Halifax are also showcased as examples of cities implementing principles of Creative Cities. Some relevant indicators include:

- increased levels of financial investment,
- jobs created,
- new businesses started,
- increased number of visitors,
- attendance at cultural community events.

In order for creativity and innovation to take hold, local planning processes must value the following principles^{xxxiv}:

- Each city and community is *unique* in its history, development, human and other assets, challenges, aspirations and opportunities.
- Implementation of ideas and strategies in a community is an *art*, based on knowledge of, and sensitivity to, the complexity of a community's cultural ecosystem, and the broader contexts in which it operates.
- Development must be rooted in *authenticity*. Balance is key: for each standardized, mass-market introduction to a community, something should be done that emphasizes the uniqueness of the community, for example, through public art.
- Durable innovation depends on community involvement and shared ownership of processes and outcomes. Horizontal networks must be nurtured and supported on an ongoing basis across the community.
- Small projects that are sustained over time can make a difference. Incremental change intelligently applied can lead to significant innovation.^{xxxv}

There are also a number of factors that must be present:

- ***Collective will*** – Political and public will to mobilize resources, take risks and stay the course.
- ***Visionary Fit*** – The community's vision must resonate with its particular circumstances and possibilities, including local assets and constraints.
- ***Strong Community Networks*** – The existence of, and robust connections among, appropriate individuals and organizations are required to act on ideas.
- ***Strategic Resources*** – Resources for innovation are multi-dimensional, including: money, people with available time, expertise, skills, knowledge/information; and social relationships and spaces for networking.
- ***Time*** – This involves both the time required to make change, recognizing that plans unfold over long periods, and also the element of appropriate timing, which may mean speeding up processes as opportunities arise, or delaying to a more propitious moment.
- ***Flexibility*** – Implementing innovative ideas are, by their nature, experimental and require flexible approaches. In dynamic community situations, challenges and opportunities evolve, As such, visions, plans, and rules must be adaptable such that innovative projects can be implemented or tested out.^{xxxvi}

There are 4 innovative frameworks to building a creative city:

a) Innovative Knowledge

- “...developing internationally recognized research and education centres which generate leading-edge ideas and knowledge and develop new industries for the future.”^{xxxvii}

b) Niche Economic Development

- “...developing an international reputation for leading-edge research and industry in a few core industries.”
- “...actively nurturing the city’s distinct cultural resources, consciously and carefully developing and promoting its strengths as a unique cultural and heritage and tourism destination.”^{xxxviii}

c) Local Community & Economic Development with a Cultural Component

- “...the arts, culture and heritage fully recognized at decision-making tables and city planning processes.”
- “[cultural components] be incorporated into the community’s vision and ‘official’ mindset, and reflected in effective support structures and initiatives...”
- “A growing expression of community cultural development is cultural tourism, a strategy leading many municipalities to encourage creative activity in order to build their tourism industry.”^{xxxix}

d) The Creative City

- “...[explicitly includes] arts, culture, and heritage in the future plans and general visions for the city.”
- “...build strategically on opportunities arising, while addressing medium-term challenges.”^{xl}

2. *How can an entrepreneurial spirit be fostered in a resource-dependent economy to create greater socio-economic diversity and stability?*

The Organisation for Economic Co-operation and Development (OECD) notes that “enabling people throughout the economy and society to become entrepreneurs will provide new ideas, knowledge and capabilities, and enhance the influence of market demand on innovation.”^{xli} This report finds that for Hinton and Grande Cache, an entrepreneurial spirit can be fostered through the combination of:

- 1) the Global Entrepreneurship Monitor (GEM) framework, which promotes the role of large, established enterprises providing entrepreneurial spillover that can be used as a framework to conceptualize economic development opportunities; and
- 2) the EMPRETEC model, which is recommended to incubate entrepreneurship within individuals, help them cultivate individual competencies and talents, and support their entry and retention into the small and medium enterprise sector.

1. **The Global Entrepreneurship Monitor (GEM)**

The GEM “has sought to explore the widely accepted link between entrepreneurship and economic development” recognizing that the impact of entrepreneurship “varies according to [the national] phase of economic development.”^{xlii} The GEM notes three different kinds of economies:

1. **Factor-driven** - economic development is driven by basic requirements: development of institutions, infrastructure, macroeconomic stability and health and primary education;
2. **Efficiency-driven** - focussing on ensuring smooth mechanisms such as a proper functioning of the market; higher education systems, goods and labor markets and technological readiness;
3. **Innovation-driven** - entrepreneurial framework conditions become more important as levers of economic development [?] than basic requirements or efficiency enhancers.^{xliii}

According to this model, Alberta is in a unique situation because it has elements of all three types of economies. Among the aspects that have not yet been satisfied are insufficient labour markets and technological readiness, with labour shortages impacting the natural resource sector in particular, and the yet unforeseen impact of technological advancements in these fields. Alberta’s economic development could be enhanced as technological advancements are made in these areas.

2. EMPRETEC

A pioneering United Nations programme in developing entrepreneurship, this program is designed to encourage behavioural change in a select group of promising entrepreneurs. It is dedicated to helping them put their ideas into action and helping fledgling businesses to grow.

The EMPRETEC methodology identifies 10 key areas of competencies related to entrepreneurial development, each of which fall under three motivational types. These include:

Achievement

1. opportunity-seeking and initiative;
2. persistence;
3. fulfillment of commitments;
4. demand for quality and efficiency;
5. calculated risks;

Achievement

The motive for achievement is a need that helps people accomplish great things. They love challenges. They want to drive themselves so that they are capable of doing what they aim to do. The desire to achieve is evident in all aspects of their personal and professional lives.

Planning/Affiliation

6. goal-setting;
7. information-seeking;
8. systematic planning and monitoring;

Planning/Affiliation

We all have a relative in our family who loves to organize the New Year's Eve get-together. Their motive is a tremendous need for aggregation. Entrepreneurs love this lifestyle and love to associate with important people in the community.

Power

9. persuasion and networking; and
10. independence and self-confidence.

Power

Entrepreneurs love the freedom and independence of being their own boss. Entrepreneurs have to be free to pursue their own ideas, follow their own road. They are the movers and shakers, the people who make things happen.^{xliv}

Following from this framework, training can be developed suited specifically to Hinton and Grande Cache using the EMPRETEC training, and the International Finance Corporation's Small-Medium sized Enterprise (SME) Toolkit. The SME is an effective online resource for the creation and operation of small and medium sized businesses, which can be included in entrepreneurship development workshops.

3. Alternative Business ideas for the Towns of Hinton and Grande Cache

- innovative uses of pulp (e.g. nanocrystalline cellulose [NCC])
- integrated bio-technology opportunities through conversion of forest bio-mass to bio-energy, bio-chemicals and bio-material (use of roadside residue, undersized trees, trees killed by insects [e.g. pine beetle], non-merchantable salvage, mill residues, black liquor from pulping, and peat)
- establishment of a Research Park or other such research-oriented facility (partners could include Norquest, FPInnovations, Canadian Wood Fibre Centre (NRC), Alberta Innovates, CelluForce)
- R&D opportunities related to clean coal technologies (e.g. carbon capture and storage [CCS])
- manufacturing opportunities related to carbon capture transport and storage
- manufacturing of, and training related to, oil sands metal fabrication and oil and gas equipment and machinery^{xlv}
- manufacturing of, and training related to, pipelines construction (re: Enbridge Northern Gateway Pipelines)
- manufacturing of supplies and inputs for wind farms
- refining petroleum products and petrochemicals – see Saudi-based refineries model, where refineries are located further away from demand centers
- bitumen upgrading related supplies and businesses – by 2017, 88 per cent of total oil extraction in Alberta will be derived from bitumen
- depending on the materialization of shale gas plays, the opportunity exists to manufacture multi-stage hydraulic fracturing equipment, machinery, and related services
- residential and commercial uses for pine beetle affected wood
- application of successful tourism models related to low-impact river and wilderness-based tourism

- development of extended care facilities and retirement communities
- development of a vibrant arts and entertainment culture
- development of sport training centres
- encouragement of service industry and nightlife
- development of riverside businesses (tourism, recreation, restaurants)
- incubation of an NGO/NPO community, leaning on established centres such as churches and CBOs, to creates jobs.

Gross Market Opportunities for Bio-Products ^{xlvi}	
Product	Global Market Potential By 2015 (US \$ Billion)
Green chemicals	\$62.3
Alcohols	\$62.0
Bio-plastic and plastic resins	\$3.6
Platform chemicals	\$4.0
Wood fibre composites	\$35.0
Glass fibre	\$8.4
Carbon fibre	\$18.6

3. What other forms of entrepreneurial opportunities for innovation and social enterprise exist for both communities?

There are three main areas of focus resulting from the review of literature on how to enter the global economy, increase entrepreneurship, develop businesses and diversify the economies in Hinton and Grande Cache:

1. International frameworks, policy guidelines, programs, and training which can be applied to municipalities in Alberta

- a) The Global Entrepreneurship Monitor, which has outlined policies that different levels of government can undertake to promote local business development, for example, support of start-ups, entrepreneurship education, and management training programs.
- b) The UN Conference on Trade and Development (UNCTAD), specifically the EMPRETEC program, which focuses on individual competencies and training in cultivating entrepreneurship, can be used as a model for developing workshops and training.
- c) The World Bank Group's subsidiary International Finance Corporation (IFC) has produced a free, interactive SME Toolkit that can be used to develop training.
- d) World Bank Doing Business reports, which focus on the challenges faced by local entrepreneurs and how local governments can help to ease the burdens of starting a business, can be used as a model for easing constraints on SME development.

2. Local government strategies

- a) So far, we have examined some of the economic development trends in Grande Cache, company profiles in Grande Cache, community diversification strategies in Hinton, and a case study of Lethbridge's experience with a Taiwanese pork-processing plant.
- b) We have found that the Town of Hinton has devised planning that seeks to develop Hinton as an Educational Hub. It is pertinent to follow this line of thinking to determine what options exist for Hinton to be an Educational Hub within the context of Alberta's natural resource wealth.
- c) We have also found, through the example of Lethbridge, that it is important for local governments to take a two pronged approach when seeking to enter the global economy: this includes 1) a balance between managing the different interests of the citizenry, and helping businesses run more efficiently and at a higher profit; and 2) facilitating regional partnerships for economic development.

3. Knowledge-based economies, Creative Cities and the Creative Class: what can we add here?

One of the main goals of Hinton's Community Diversification Plan is to solidify the demographics by creating a community and culture that attracts the right mix of people that will promote economic growth. Included in this is the development of programs and support systems to attract young families and immigrants who could lend to an entrepreneurial culture in Hinton and Grande Cache. A number of questions emerge:

- a) How are knowledge-based economies developed and sustained?
- b) Are there examples of rural knowledge based economies? What social and community attractors are key? Will these attractors mesh with the existing culture of the communities?
- c) How can the resource-based knowledge that individuals have gained over time be leveraged for the transition to sustainability knowledge based economy?

Here, we have been reading Richard Florida's *The Rise of the Creative Class* in order to understand the changes in modern, industrialized economies around notions of work, leisure and home. Specifically, these ideas can provide insight into how Hinton and Grande Cache can attract the right mix of individuals who can help develop each municipality as a Creative City (Town).

Focusing on the "Location and Community" aspect of Florida's research^{xlvi}:

- Creative workers have noted that location and community involvement are vitally important to their job search.
- Creative workers also "use location as their primary criterion in a proactive sense: They will pick a place they want to live, then focus their job search there."
- "In a 2001 survey of U.S. workers, nine out of ten reported quality of life (i.e. in the surrounding community) as being important in their decisions to take their current jobs."
- In a 2001 survey of people looking to switch jobs, the Wall Street Journal reported that location was second only to salary as their prime motivation.
- Florida also notes that Creative workers also spend their free time on community projects, "People use their extracurricular activities as a way of cultivating their interests, values and identities both in the workplace and in society more generally."

Florida discusses *Quality of Place*^{xlvi} as having three dimensions:

- “*What’s there*: the combination of the built environment and the natural environment; a proper setting for pursuit of creative lives.
- *Who’s there*: the diverse kinds of people, interacting and providing cues that anyone can plug into and make a life in that community.
- *What’s going on*: the vibrancy of street life, café cultures, arts, music and people engaging in outdoor activities – altogether a lot of active, exciting, creative endeavours?”



Affordable Housing

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Each community's experience with affordable housing is tied to its location, context and competing interests within the community, underscoring the differences between rural and urban housing issues. Many of the sources within this report point to the fact that there are numerous similarities and shared problems across national and continental divides. For example, although the UK and the US differ from Canada in terms of its history, policy context, demography, and numerous other factors, many regions in the UK and the US (like Canada) are facing a housing crisis, and this crisis is particularly acute in the area of affordable housing (Crook et al. 2006^{xlix}; Bogdon 1997^l; Shaw and Ingram 1990^{li}; Warson 2001^{lii}). Many regions are grappling with socioeconomic and racial segregation and gentrification (Dwyer 2009^{liii}; David 2009^{liv}; Phillips 2004^{lv}), inadequate and dilapidated housing (Morton et al. 2004), and a predominance of single-family housing that does not meet the needs of existing residents (Jones and Tonts 2003^{lvi}).

Rural areas are often identified in purely quantitative terms (such as population density, primary industry and average income for example), which misses the differences in access and resource allocation in these communities (Steven 2010^{lvii}). The specificity of rurality has important implications for policy and planning, as analysts have argued that housing policy for rural areas “must give full regard to the social, economic and cultural attributes of rural life and not just the criteria of environment and landscape” (Scott and Murray 2009^{lviii}).

More specifically, rural communities in Canada face barriers to increasing affordable housing due to limited quantities of rental housing, population decline in some communities, and an emphasis on single-family detached units and homeownership. These problems disproportionately affect youth, single parents and the elderly seeking affordable housing (Slaunwhite 2009^{lix}).

A shared issue across North America is the cuts to federal funding of affordable housing, and the concomitant shift of responsibility for affordable housing provision from the federal level to state/provincial, regional, and down to local levels of government (Katz et al., 2003^{lx}; Sazama, 2000^{lxi}). Canadian historians have pointed out, however, that Canadian federal

housing policy has never been particularly focused on social welfare, geared instead primarily to “market welfare” or ensuring continual production of housing, rather than its affordability to marginalized groups (Hulchanski, ^{lxii}1986). Economists have often assumed that producing more housing in general will lead to more affordable housing, since increased production tends to lower demand and reduce prices. However, empirical study of the affordable housing submarket reveals that this is not the case (Somerville, 2001^{lxiii}).

Subsidies for affordable housing—whether federal, provincial or local—have been an important tool for creating housing affordability and have been associated with reductions in violent crime and dependence on welfare (Schwartz 1999^{lxiv}). Unfortunately, federal housing funding in the US, the UK and Canada has significantly diminished over the past two decades, and especially in the wake of the 2008 economic crisis (Schwartz 2011^{lxv}; Wehrwein and Pollack, 2005^{lxvi}).

Some studies focus on the capacity of community members to respond to housing problems collectively, pointing to the importance of mutuality, sharing of information, inclusiveness, and the participation of local governments (Morton et al. 2004^{lxvii}; Scott et al., 2011^{lxviii}). Others focus more on community economic development, emphasizing market-based strategies as a tool to create collective benefits that address inequalities (Steven, 2010^{lxix}). These community-based strategies sometimes take place at a local level (defined by the boundaries of a municipality) or at a regional level (encompassing multiple municipalities). In an era of population and employment decentralization, some authors have argued that the metropolitan area—not the individual political jurisdiction—represents the appropriate level at which to think about and act on access to affordable housing (Katz et al., 2003^{lxx}).

Another factor is the historic relation between federal policy designed to encourage affordable housing, and local policy designed to discourage it and attract single-family housing, especially in the United States (Katz et al., 2003^{lxxi}). Although federal policies have encouraged affordable housing, these policies are often pursued as a strategy to achieve other purposes, such as creating jobs during the Depression, quelling dissent in the 1960s, and stimulating the economy in today’s recession (Edson et al., 2011^{lxxii}). Furthermore, the contemporary context has shifted, with the decline of federal-level affordable housing policy and increasing local interest in promoting affordable housing (rather than discouraging it) through land use planning and regulation. Some argue that subsidies will continue to form a crucial component of housing policy (Ball 2000^{lxxiii}). Analysts of very low-income residents have argued that continuing subsidies are the only way to meet the needs of this demographic (Lloyd, 2009^{lxxiv}). Others have suggested that the major barrier to affordable housing development is the complex array of stakeholders that often end up in adversarial relationships, pointing to the need for more meaningful processes of negotiation and collaboration (Field, 1997^{lxxv}).

Barriers to rural affordable housing include:

- High building costs
- Not In My Backyard mentality (NIMBYism)
- Limited economic options, economic uncertainty, and lack of viable housing markets
- Limited economic return on rental housing
- Lack of community service infrastructure
- Lack of community leadership
- Ineffective or counterproductive public policy and regulations

Opportunities for rural affordable housing include:

- Innovative ownership models such as Community Land Trusts
- Introducing new municipal planning, zoning, and development practices
- Creating proactive community leadership
- Converting/renovating buildings to create affordable housing
- Responding to market demand from seniors
- Integrating assisted housing for seniors, disabled people and others
- Embracing manufactured housing

Seniors housing

Seniors housing comes with its own complexities and there are often regulations in place that impede the development of housing appropriate to the needs of seniors (Weeks and LeBlanc, 2010^{lxxvi}). In a study of seniors housing, Rosenthal (2009^{lxxvii}) identifies the following obstacles: zoning and subdivision ordinances that restrict the types of housing that can be built; limits on multifamily structures or manufactured housing; minimum setbacks, square-footages and lot sizes, and maximum floor-area ratios; controls on additions of accessory dwelling units (secondary suites); treatment of assisted-living operations as commercial rather than residential; and excessive parking requirements ignoring lower ownership and usage rates by seniors. Most of the regulations identified by Rosenthal are part of exclusionary zoning regimes, designed to encourage single family detached housing, and discourage other, higher-density housing forms that are more accessible to low-income populations and seniors.

Employment

One study suggests that the most important factors affecting the need for affordable housing in Canada are employment levels and sources of household income (Skaburskis, 2004^{lxxviii}). Others argue that enabling low-income families to live closer to employment centers (and stronger schools) in the regional economy not only will benefit those families and their children, but will also help reduce commute times, meet employer needs for workers and ameliorate other negative consequences associated with current metropolitan growth patterns. (Katz et al., 2003; xii^{lxxix}) Employee housing can be particularly important for rural

areas, where it can be difficult for job-seekers to find affordable housing and (for the same reason) difficult for employers to recruit and retain employees. Joel Derbyshire discusses an innovative example of employee housing in which a bakery worked closely with a housing association to create affordable housing, training and development programs and other community-based initiatives (Derbyshire 2006^{lxxx}). The issues of employee housing can be particularly acute in the case of migrant labourers, especially in the agricultural sector, where employees are often extremely marginalized and live in overcrowded, substandard conditions (Ziebarth, 2006^{lxxxix}). One study focuses on the development of farmworker housing to address these problems, and finds that the provision of safe and affordable housing for farmworkers created an important space of belonging for a particularly marginalized population (Nelson 2007^{lxxxii}).

Social Inclusion: First Nations, Metis, Immigrant Labour and Amenities In-Migration

The sustainability plans of the two communities did not specifically address the specific needs of **First Nations and Metis peoples**. Nor did they discuss issues of in-migration as they relate to migrant labour and amenity migration. The different groups provide particular opportunities and challenges for the provision of affordable housing.

Good quality, affordable housing is an important determinant in community well-being and health (Robson 2008)^{lxxxiii}. Policies are often designed and implemented by professionals rooted in urban contexts, which are disconnected from the needs and challenges of remote communities (Chislett et al 1987^{lxxxiv}; Bone and Green 1983^{lxxxv}). Yet some characteristics of housing policy are shared in both the urban and rural context. Historically, municipal zoning regulations have tended to produce informal socioeconomic and racial segregation, resulting in an underlying structural racism in housing policy.

These problems can be particularly pronounced in communities with large populations of **seasonal migrant labourers**, who often lack access to affordable and appropriate housing (Ziebarth, 2006)^{lxxxvi}. Conflicts between competing visions of community belonging (the long-time residents vs. the newcomers) underscore the need for rural affordable housing to be sensitive to the divisions that may run through tighter-knit rural communities (Nelson, L. (2007)^{lxxxvii}. The poverty associated with temporary, low wage, and unemployment can be particularly acute in rural areas, where lack of affordable housing is often compounded by a lack of access to important services such as healthcare and public transport and education, along with hidden costs associated with rural living (Brereton et al, 2011^{lxxxviii}; Zimmerman et al 2008^{lxxxix}).

Migrants to rural areas can also be extremely wealthy, exacerbating socio-economic divisions. The phenomenon of “**amenity-migration**” can produce rapid growth as people settle in regions based on their environmental characteristics, natural resources and rural lifestyle (Cho et al 2005^{xc}). Amenity-migration can lead to escalating demands on housing, producing a crisis of housing affordability. (David W. Marcouiller, et al, 2002^{xcii}; Stefanick, 2008^{xciii}).

Amenity-based development (and rural development more generally) also tends to generate real and perceived tensions between environmental and social objectives (Satsangi and Dunmore, 2003^{xciii}), particularly as they pertain to nature resource development. Although there are important tensions between ecological preservation and housing development, scholars have pointed out that these tensions often have more to do with the ways in which policies are framed and implemented, rather than any irreducible tension between environmental and social agendas (Satsangi, 2009^{xciv}).

Key Terms in Affordable Housing

The following section defines some of the key terms in the literature on affordable housing. Although there are commonly held definitions of numerous concepts related to affordable housing, the meaning of many of these concepts is also deeply contested. This contestation is an important and irreducible part of affordable housing and local politics as policymakers, planners, developers, advocacy groups, non-profits, and other stakeholders attempt to modify and redefine concepts to serve different interests and aims. Elites (such as developers and policymakers) often have much more control over these definitions, and the stakes of this contention can be quite high, as definitions of concepts such as ‘affordability’ or ‘sustainability’ can determine the future of development, regulation, planning and policy (Sturzacker and Shucksmith, ^{xcv}2011). These insights highlight the importance of participatory governance that engages citizens and stakeholders in collective processes and mitigates unequal power relations and exclusions.

- **Affordable Housing:** Canadian Mortgage and Housing Corporation defines housing affordability as a situation where no more than 30% of gross household income is spent on housing. This standard of approximately 30% is common to virtually all definitions of affordable housing, including rentals and homeownership. A household is considered in core housing need “if they cannot find somewhere to live that is in reasonably good condition and is big enough for their household without spending more than 30% of their income.” The target population for affordable housing providers is generally those individuals earning 80% or less of the area median income (Daniels, 2003^{xcvi}). Many non-profit housing providers (and their funders) have a mandate to target individuals and families below the low-income cut-off, as defined by Statistics Canada. Other major funding agencies (such as BC Housing) have similar measures for affordable housing property management (Housing in Greater Vernon, 2010^{xcvii}).
- **Amenities:** pleasurable aspects associated with natural wilderness, agricultural landscapes, historic structures and cultural traditions. Natural amenities refer to characteristics directly associated with land and water. The value of these amenities tends to be driven by aesthetic associations with trees, forests, open space, waterways and other features of the natural landscape. Amenities have been particularly important in rural contexts because they are often key drivers of growth and development (Clendenning et al., 2002^{xcviii}).
- **Amenity migrants:** those who make locational residence or travel decisions based on the availability of amenities. This demographic creates much of the demand for development in amenity-rich areas.

- **Community Land Trusts** are nonprofit, tax-exempt corporations. Their mission is to deliver permanent, affordable housing. They have the flexibility to provide different forms of housing and can be used to develop additional place-shaping facilities including workspace, gardens, renewable energy and amenities. Land can be acquired in diverse ways through purchase, tax abatements or donation.

In this context, Community Land Trusts have been championed as a more stable, community-based, and equitable form of homeownership that preserves affordability (Stein, 2010^{xcix}). There are numerous factors that make CLTs a stable form of affordable housing, but a major factor is their capacity to cure mortgage defaults and avoid foreclosure.

- **Demand-side Programs:** programs designed to make housing more affordable, meaningful and accessible for those who use it (renters and homeowners). These include homebuyer financing programs or rent subsidies, for example.
- **Density bonus:** many inclusionary zoning policies include “cost off-sets” to help defray the cost of creating affordable housing. These cost offsets often include density bonuses (which allow a developer to build more homes or apartments on a parcel of land than would otherwise be allowed under the base zoning); zoning or design flexibility; parking reductions; fee waivers; an expedited review or approval process; tax breaks; or local, state, or federal subsidies.
- **Developer Exactions (aka Impact Fees):** fees levied on developments to help offset the costs incurred by municipalities in providing infrastructure and capital costs made necessary by new developments. (Bosselman, 1985^e). Impact fees were developed in part as a response to ‘leapfrogging’ – a process in which developers skip over properties to obtain land at a lower price further away from cities or towns, despite the existence of utilities and other infrastructure in the bypassed parcels (Heim, 2001^{ci}). Like inclusionary zoning, there has been opposition to impact fees on the basis that they impede the production of housing and increase housing prices. However, it is important to keep in mind that these fees are designed to ensure that new developments reflect their true cost in terms of infrastructure so that these costs are not imposed on local governments.
- **Development Credits Programs:** these programs permit the transfer of development potential from one area to another, creating incentives to preserve certain areas of undeveloped land. The owner of restricted parcels receives the development credit, which may be sold or transferred to another parcel more suitable for development (Kwasniak, 2004^{cii}).
- **Exclusionary Zoning:** regulatory policies (usually land use and zoning regulations) that require large lots or impose strict limits on density, usually to encourage single-family detached housing. These policies tend to deter affordable housing development and exclude lower-income and minority households (Katz et al., 2003^{ciii}). Historically, the prevalence of exclusionary zoning has tended to reproduce socioeconomic and racial segregation (Rothwell and Massey, 2010^{civ}). They have also been associated with suburban sprawl and increased environmental degradation (Robert, 2003^{cv}).

- **Homeownership and Fiscal Literacy**

Homeownership has been actively promoted in North America (particularly in the US) as a way to incorporate marginalized communities into the economic mainstream while promoting growth and overall economic activity (Bogdon, 1997^{cvi}; Stegman, 1995^{cvi}; Warson, 2001^{cvi}). Others have pointed to homeownership as a determinant in individual well-being and quality of life (Brereton 2011^{cix}). Immigrants and minorities are less likely to be homeowners even after controlling for income.

A lack of home buying and credit knowledge is a major barrier to homeownership for all demographics (Sirmans, 2003^{cx}) with some calling for the promotion of “fiscal literacy” to promote homeownership, arguing that increased ownership will rejuvenate neighbourhoods (Song, 2000^{cxi}). During the US mortgage crisis in 2008-2009, the promotion of homeownership as an economic growth strategy backfired as thousands of low-income households faced foreclosures and the US spent billions to bail out some of its largest financial institutions. Even before this mortgage crisis, housing analysts had pointed to the dangers of low-income homeownership with very little equity and increasing reliance on high-cost mortgage products (Saegert and Benitez, 2005^{cxii}; Stanton, 2009^{cxiii}; Stegman, 1991^{cxiv}; Stein, 2010^{cxv}).

- **Inclusionary Zoning:** refers to the practice of requiring the inclusion of affordable homes in the development or redevelopment of market rate housing or mixed use communities. In most cases, this takes the form of a local ordinance or policy that requires all developments of a certain size (e.g., ten or more units) or all developments that meet certain characteristics (e.g., developments that require a special permit) to include some percentage of affordable housing. (Brunick ^{cxvi}and Maier, 2010).
- **Local Housing Trust Fund:** allowing developers to pay a fee in lieu of including affordable housing in the market rate development (or to donate land in lieu of including affordable housing). These fees are then typically deposited into a local housing trust fund and used to help subsidize the creation, preservation or operation of affordable housing in the community.
- **Social Housing:** the intervention of public authorities in providing or owning stock, and allocation management. From the perspective of those who occupy the housing, the key characteristic is generally their inability to be otherwise housed appropriately at a decent standard within the private market (Noya et al., 2009^{cxvii}).
- **Social Residualization:** the effect created by an exodus of people from a neighbourhood or community because it is no longer a desirable place to live, leaving behind a ‘social residue’ and a population faced with concentrated poverty and stigmatization^{cxviii}.
- **Supply-side Programs:** programs designed to increase the supply of affordable housing. These programs regulate or incentivize the production of housing, or its preservation and maintenance. These include inclusionary zoning and density bonuses, for example.



Education: Context and Opportunities

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In most communities, education and educational opportunities are considered crucial for stabilizing the local population and for supporting the development of a skilled workforce. However, in many smaller centres, providing education and educational opportunities to the local population is limited because of their limited resources and smaller population. The towns of Hinton and Grande Cache have identified several issues and objectives for improving their educational opportunities, which include:

- determining the communities' needs and priorities associated educational opportunities;
- conducting a comprehensive inventory and in-depth analysis of existing educational opportunities in the region;
- integrating any new initiatives into existing opportunities; and
- exploring innovation or learning centres.

Case studies are provided here as examples of the application and implementation of innovative ideas associated with education and educational opportunities. The intention is that this report will complement the additional literature reviews by strategically situating education and potential educational opportunities within a broader perspective.

Background:

Current issues in Hinton and Grande Cache include:

- The current primary and secondary school systems do not provide sufficient choice for professional parents with respect to programming for their children;
- Both communities lack a physical post-secondary institution, inhibiting on-going education locally;

- There is a perception that young adults do not understand the benefits of higher education as unionized workers can command relatively high incomes without post-secondary education;
- By comparison, governments in other countries are diversifying their resource-based communities by encouraging and demanding that students continue their education;
- Adults have little opportunity to continue their education because of work and family demands;
- There could be educational opportunities that take advantage of the geographic proximity to Jasper National Park; and
- Research and graduate study opportunities relating to resource knowledge could be further developed.

➤ **Barriers to Access and to Learning**

Providing accessible and relevant options for all learners supports “many different, yet related outcomes that may include those associated with economics (e.g. greater financial prosperity) and the workforce (e.g. new career paths) or those associated with individual and community wellbeing” (Fahy & Steel, 2011, p. 21)^{cxix}. And yet as we will learn, rural communities and their learners are more likely than their urban counterparts to encounter serious obstacles to participation in post-secondary education. Consequently, addressing barriers to adult learning and education for all members of the community is as much an economic as a social issue.

It is fair to say that, as a whole, rural learners have not benefitted equally from public services, such as post-secondary education. For example, 26 percent of Albertans aged 25-34 were recipients of a university degree in 2006; yet in Hinton and Grande Cache, these numbers were significantly lower at 9 and 8 percent respectively. It comes as little surprise, when Gibbs points out, “overall, economic and educational opportunities and resources in rural communities continue to lag behind those of urban areas (Gibbs, 2004)^{cxix}.”

Whether an individual pursues higher education depends on several knowable factors, “including the local labor market, social class, gender, and often the encouragement or discouragement received from both parents and teachers (Sherman & Sage, 2011 p. 2)^{cxix}.” The following section identifies potential barriers to learning that may be internal or external to the participant. When possible, the analysis of the barrier includes information relating to, or drawn from Hinton and Grande Cache. Strategies that break down barriers and create more inclusive opportunities for lifelong and life-wide learning will be explored in greater detail towards the end of the report.

The town of Hinton recognizes their disadvantage, as they “can’t offer the full menu of training and apprenticeships that would allow students to fully prepare right here for jobs with our largest employers” (Mahaffy & Agnew, 2011, p. 21)^{cxix}. Without a

locally based post-secondary institution, more learners go away to study, or do not study at all. This, in effect, limits the pool of skilled labourers that are locally available and creates other challenges for those resigned to leave for learning.

Much has been written of the challenges students face when they leave their community (or commute back and forth) to pursue post-secondary education. For example, findings on participants' views and preferences for post-secondary education in four remote northern Alberta communities consistently showed, "that most rural residents prefer to remain in their home communities while taking post-secondary training" and, "leaving the familiarity of the community and the support of family imposes a heavy emotional and financial burden on many students (Fahy & Steele, 2009, 49; 53)^{cxxiii}." In addition, a survey of Northern Ontario residents found "a striking 89% preferred to stay in their community to pursue educational and training goals" (Advanced Education Report, 2005, p. 6).

Other studies point to the high costs of fulltime studies and expenses as real barriers to participation (McMullan, 2004; Fahy et al, 2009), thus rural learners require greater access to funding and grants. Rural students "tend to have lower levels of awareness of advanced education opportunities and supports available" than their urban counterparts (Alberta Advanced Education, 2005, p. 5)^{cxxiv}, including access to social networks, role models and supports that place a higher priority on post-secondary education.

➤ **Leaving to Learn and Outmigration**

In *Learning to Leave* and subsequent articles, Corbett (2007; 2009)^{cxxv} draws attention to the well established connection between formal education and mobility out of rural areas. He argues that, "place should occupy a more central place in the way we think about and deliver education." By studying fishing towns in Eastern Canada, Corbett learned a great deal about the relationship between community, schooling and education. He found place relates to relationships between the community, its' history and primary industry, and includes the way school is "understood and experienced by parents, educators and students (2009, p. 1)." This experience led him to ascertain that formal education is designed for those who leave and favours certain participants (e.g. in terms of social-economic class and gender) over others. As the communities of Hinton and Grande Cache begin to address social and economic issues through regenerative educational strategies, the challenge of how to, "re-embed education into the community, for the community and all learners (Corbett, 2009, p. 1)" becomes significant.

When rural-based students leave their communities for educational opportunities, few return to find employment. For example, findings from Alberta indicate that, "while 40% of all post-secondary graduates completed high school in a rural area, only 14% returned two years after graduation (2005, p. 6)^{cxxvi}."

Furthermore, the precedents to increase locally available educational options may increase participation in adult education overall, as "those beyond a commuting distance from community colleges were less likely to pursue adult education than individuals with college institutions close to their area of origin (2005, p. 5)^{cxxvii}."

➤ **Options and Strategies for Lifelong Learning**

Across all levels and ages, programming for rural learners must be relevant, flexible (e.g. to suit work schedules) and, in some instances, offer a clear path from education achievement to job attainment. In the instance of Hinton, the lack of capacity to offer relevant career related programming locally is viewed as a missed opportunity. For example, the town has large numbers of health care providers, trades workers, educators and equipment operators, yet it does not provide a locally available training facility in any of these fields (Mahaffy & Agnew, 2011). The same pattern repeats itself; students are required to leave their community to receive formal education linked to local jobs in high demand and, as stated earlier, few return.

If a shift to a knowledge-based economy is viewed as a priority for future planning in these communities, then providing cutting edge educational programs in those fields is needed locally. Programming may include, but is not limited to:

- information and computer technology,
- communications,
- small and virtual business development,
- life sciences,
- natural resources,
- etc.

The following is a list of available post-secondary educational programs for distance learners in Alberta:

Campus Alberta

Campus Alberta promotes partners with additional post-secondary institutes such as Grande Prairie Regional College, MacEwan University and NAIT to expand off-campus programs to rural communities, such as Hinton and Grande Cache^{cxxxviii}.

Currently, Campus Alberta offers courses in the following areas: high school upgrading, degree transfer, diploma and certifications. Programs are delivered at the local level through the use of technology, such as video conferencing, on-line course work and WebCT. The latter can include, in some cases, a synchronous delivery system where students 'attend' the class daily, in a scheduled block, in real time.

eCampus Alberta

eCampus Alberta is a consortium of sixteen Alberta-based post-secondary institutions, including eleven Comprehensive Community Institutions (CCIs), one distance-learning university, two Baccalaureate and Applied Studies Institutions (BASIs) and two polytechnical Institutions (PIs). See website for list of the member post-secondary institutions in Alberta.

All programs offered through eCampusAlberta are delivered online, to distance education students, through a “lead” and “partner” model, where:

The lead institution develops and offers the course or program and provides the instruction and materials in an online environment. The partner institution offers support services, such as access to the library and exam supervision as well as research and study skills support. (eCampusAlberta, 2012)^{cxxix}.

	2006-07	2007-08	2008-09	2009-10	Total Enrollment	Town Population
Hinton	19	14	22	106	274	9,825
Grande Cache	2	4	2	13	39	3,783
Jasper	3	9	17	11	60	5,236

Table 1: eCampusAlberta Student Enrollment (distance, Online learning)

Benefits of Site-based Post-Secondary Education

Recent discussion put forward in Hinton and Grande Cache involves the development of a site-based, post-secondary institute. Looking to the past, a 2009 plan explored the likelihood of developing partnerships and opportunities that would support a post-secondary institute in Hinton, dubbed Campus Alberta West. According to the report:

The Town of Hinton sees an expanded post-secondary education presence as a key element in achieving its four focus areas of sustainable community economic development and diversification, promoting tourism, linking innovation and entrepreneurship, and ensuring that Hinton is a place that people, especially young people, want to stay.” (Yates, Thorn & Associates, 2009, p. 8)^{cxxx}

Site-based, post-secondary institutes support regional social and economic development in a number of ways, as indicated by the Government of Alberta:

Rural colleges are repositories of knowledge and human resources, and provide the appropriate environment in which to foster innovation and new ideas. As deliverers of higher education, they develop human and social capital, as well as the skills required by regional labour market needs. (Advanced Education Report, 2005, p. 14)^{cxxxi}

Post-secondary institutes also produce spillover effects into the community, such as the transmission of knowledge, and the direct spending from staff, students and the university, all of which support the region's local economy. However, some maintain that a region with a small population should not assume a university of this scale would be profitable or even operate on a cost-recovery basis (Fahy et al., 2009).

Forward linkages, as summarized by Mille (2004), benefit the community “in the form of a change to the level of human capital, to the knowledge pool and to the attractiveness of the local area to households and firms” (p. 80). She goes on to add, that universities positively contribute to a local economy through the networks they create:

Firstly, education and training activities improve the level of human capital of the individuals attending universities and of society as a whole and, secondly, universities' basic and applied research activities, whether contractual or not, contribute to improving the economy's stock of scientific and technological knowledge (Mille, 2004, p. 81). ^{cxxxii}

Additional ways post-secondary institutes contribute to their host region is through reciprocal relationships that may help a community define, “or diagnose” their competitive advantage for regional development. According to Drabentstott (2008), the combining impact of globalization means more so than ever, that how regions compete matter. Put simply, new products (e.g. innovation), drive economic growth and universities are amongst the greatest engines for innovation.

Other strategies focused on revitalization, attracting new residents, business development and encouraging networking will need to be undertaken simultaneously to enhance the rural quality of life. As described by Malecki (2003):

Attracting migrants should be complemented with education and training of people in existing businesses. Building networks to encourage interaction among entrepreneurs, and between entrepreneurs, and other local leaders in education and government, rather than in isolation, will increase information sharing that might not take place otherwise (p. 212). ^{cxxxiii}

Regional Partnerships with Government, Post-Secondary and Industry

Universities, industries, firms and non-profit organizations each have a vested interest within their community related to the twin goals of economic and social development. In Alberta and beyond, many positive examples show ways different groups work together to advance educational opportunities, strengthen community, and improve quality of life.

A recent study from Bow Valley College, located in southern Alberta illustrates this last point, of partners partaking in a joint search for solution. In 2011, college representatives visited four towns in southern Alberta to learn what community priorities were regarding post-secondary education and what role the college can undertake to provide for these needs.

In the case of Hinton and Grande Cache, both communities can draw on experience from existing, and past partnerships with post-secondary institutes. More recently, partnerships include developments between the Athabasca River Basin Research Institute (ARBRI), the community and Athabasca University. Also, the Foothills Research Institute works with graduate students on research, and other provincial post-secondary institutes. Of which, a recent project includes the development of a world class, animal-tracking device (the Animal Pathfinder), that is licensed and commercially available. In the past, the Hinton Training Centre (HTC) coordinated with NAIT to deliver year round, academic courses in Forestry.

Conducting an assessment of current (and past opportunities) available in Hinton and Grand Cache would help to identify existing, and potential partnerships, as well as serve to indicate those commonalities shared between local organizations, the community and post-secondary institutes.

What other partnerships can be drawn on between schools and locally based organizations? To understand how best to meet the needs of current learners and their families, and position the towns' development towards a knowledge based economy will require the collection of information from users to learn what types of program and delivery methods best suit their needs and interest, and what programs align with future career options (e.g. renewable resources).

➤ **Building Sustainable Partnerships**

Prins (2006), indicated the, “hallmark of good partnerships is the recognition that neither universities nor communities are monolithic entities” (p.11). The setting, participants, project deliverables and supporting roles can change over time. University partners are encouraged to consider the following, when planning for partnerships with their host community:

Find a balance between supportive and directed roles;

Enable the community to take initiative and have a greater say in shaping the partnership— they are the ones who live in the setting the research is focused on;

Increase internal coordination among personnel and academic departments (Prins, 2006)^{cxxxiv}.

➤ **Enabling Educational Success and Growth**

Barley and Andrea (2007) found those factors that contribute to the success of rural schools were grouped into the following themes: leadership, instruction, professional community and school environment.

Relevant, hands-on programming is recognized to strengthening students' participation and interest in school. In the example of Hinton, creative partnerships recognize this value, and work together to make learning relevant to the needs of its learners, and their community. For example, since 2003, the Foothills Research Institute (FRI) celebrates 'GIS day' by opening their

doors, each year, to student learners. FRI offers fun, hands-on learning about GIS tools, Geo-Caching and natural sciences relating to the local environment, to more than 400 grade 7 and 8 students from Hinton.

Other locally based, hands-on programming is provided through a partnership between the Palisades Stewardship Education Centre (PSEC) in Jasper National Park, and the Grande Yellowhead Regional Public School Division (GYPSD). Wherein, “the foresight and innovation shown by GYPSD administration has helped make the Palisades a leading environmental educational facility within Canada” (Parks Canada, 2011)^{cxv}.

➤ **Career Development Programs and Training**

➤ Training programs and apprenticeships are offered in Alberta through partnerships with regional stakeholders that can include: government (e.g. green certificate), local organizations (e.g. the Learning Connection in Hinton), school districts (e.g. career and technology class), post-secondary institutes (e.g. dual-credit programs) and industry (vocational training and apprenticeships). Typically, these programs target secondary students, adult learners and employees. They prepare learners to make transitions at work and throughout their life. As an indirect benefit, these programs can strengthen a participant’s sense of belonging and build community.

➤ **Training and Career Development Programs for Secondary Students**

The province of Alberta supports a number of training and school-to-work programs for secondary students. The role of the provincial government is often supportive and administrative to these programs that operate as partnerships with industry, school districts and additional government branches. As a whole, these programs bridge K-12 knowledge with career paths, and more importantly, help ensure seamless entry from high school into post-secondary training. For example, the average age for entry into first year welding in Alberta was 28, (Silva & Phillips, 2007, p. 48)^{cxvi}, whereas successful registered apprenticeship program participants (see below) are able attend their second year of apprenticeship as early as age eighteen.

○ **The Registered Apprenticeship Program (RAP):**

<http://www.tradesecrets.org/>

The RAP allows students to begin training towards careers in trades (with upwards of 50 options to choose from) as early as grade 10. All apprenticeships provide students with pay, allow students to earn upwards of 40 credits towards a high school diploma and lead to the accumulation of hours towards the students’ first year apprenticeship at a post-secondary institute. Participants must be under the age of 20 to participate. Provincial scholarships are available to assist with costs.

Benefits associated with Career Development Programs and Areas for Improvement

A report on career development services for Canadian youth suggests those programs and activities that prepare learners for future career paths have the following benefits (Bell & Bezanson, 2006, p.3)^{xxxvii}:

- Increase motivation to continue learning after high school;
- Reduce the number of school leavers in either high school or post-secondary;
- Increase career certainty and academic success;
- Build work readiness;
- Support the integration of labour market information;
- Change attitudes that decrease career choice (e.g., support young women's entry to science, technology and engineering careers)
- Reduce poverty and unemployment by getting youth to stay in school longer; and,
- Increase focus on a career path when work experience is attached to some form of career-development reflection.

Grubb (2001) describes economic strategies that use “schools to enhance economic development often lead to narrow forms of vocational education and training” (p.53)^{xxxviii}. Rather, communities are urged to advocate for broader and more integrated approaches to career development and school-to-work programs that promote other goals (e.g. community stewardship, entrepreneurship and sense of community) in addition to higher education and employment for rural youth (Rojewski, 1999)^{xxxix}.

➤ Senior Learners

Opportunities that address the specific learning needs of senior learners, and that recognize their contribution to community wellness, are important aspects of sustainable communities. At present, Grande Cache and Hinton have a younger population than the provincial and national average. As such, senior learners make up a relatively small portion of the total population. Yet, planning should not overlook the needs of, and contribution that senior learners impart to their communities. After all, these learners represent those most able to mentor, volunteer and donate their time to community development activities.

For example, what can be learned from regions that offer specific programs for mature learners such as Cariboo Chilcotin Elder College at Williams Lake BC. The college is a volunteer organization committed to meeting the learning needs and educational interests of older adults in Williams Lake and surrounding areas^{cxl}.

➤ **Multi-generational Learning**

Finding bridges between the young and old can facilitate the exchange of knowledge and skills, enhance participant's quality of life, and strengthen community bonds. North Peace School Division No. 60 (BC) created an Intergenerational Program to realize some of these benefits, by providing a framework for developing relationships and a sense of belonging at school and in the community.

➤ **Economic and Non-Economic Outcomes**

Non-economic outcomes of education are viewed in “intellectual, political and ethical terms as creating critical thinkers and members of a participatory democracy” (Pittman, McGinty & Gerstl-Pepin, 1999, p. 21)^{exli}. In this regard, education focused on the full capacity of learners is a powerful tool that builds sustainable futures. As elegantly described by one practitioner from South Africa:

Education is at the heart of reconciliation, reconstruction and nation building programs. Is education not a tool to enhance the realization of people's full potential? If this were the case, the act of plunging into education is an empowering process. It is an act of enhancing the capacity and ability of people to act in a manner that directly and indirectly benefits them, their environment and the rest of creation (Mkhabela, 2008, p. 63)^{exliii}

Funding Opportunities for Adult Learning and Training

Participation in educational opportunities related to career training is typically funded by individuals, and through grants as well as scholarships. For example the Northern Alberta Development Council (NADC) Bursary program qualifies fulltime, post-secondary students who are able to work in select industries, in select northern regions (including Grande Cache) with \$12,000 over two years. The bursary is meant to encourage students to train for those jobs in high demand in northern Alberta, which include education, medical and health, engineering and technical fields and social work (NADC)^{exliii}.

Funding through provincial and federal partnerships, such as those through the Western Economic Partnership Agreement (WEPA), fund post-secondary institutes, on the premise of supporting innovative, entrepreneurial and sustainable communities.^{exliv}

➤ **Paying to Train: Employers and their Contribution to Adult Learning**

In industry-based towns, students are likely to choose immediate employment in low-skilled entry jobs during strong economic times, and as others leave to pursue higher education, the sustainability of the community is weakened. This holds true for industry as well; as the availability of skilled workers is limited firms may struggle to find a suitable, local workforce. These challenges pose real concern, as both Hinton and Grande Cache cite shortages of skilled labour, and the lack of students participation in higher education, as a persistent challenge to their future development.

In Canada, funding for adult education and training is equally divided between the employer and the individual through self-financing (Rubenson, Desjardin & Yoon, 2007)^{exlvi}. Yet, for those employers in more remote communities who find it difficult to recruit workers in the region with necessary skills and training, one obvious solution to the problem is for employers to facilitate more training of their existing workforce.

Green, Galletto and Haines (2005)^{exlvi} showed that larger firms are more likely to finance training opportunities for their employees than small firms and that firm size was the largest predictor related to employer participation in school-to-work apprenticeship programs. Evidence of these findings are found in Alberta's north, where a large northern employer—Canadian Natural Resources (CNQ), “makes available \$3000 annually to its employees for reimbursement for costs of tuition and resource” if directly related to the job, or the learner's career with CNQ. (Fahy et al., 2009, p. 23)^{exlvii}.

Lastly, strategies may include formal partnerships between post-secondary institutes and potential employers, where large firms finance specific programs delivered through post-secondary institutes for the purpose of training a local workforce. Already, many career-related programming exists through CampusAlberta, which provides training for areas deemed to be in high demand in northern communities.

Educational Opportunities: Innovation and Collaboration

Soots, Sousa and Roseland (2010, p. 1)^{exlviii} point out, “political and economic restructuring over the past 30 years has had a profound impact on the social economy and economic economy.” To adjust, non-profits, as well as educational institutes alike, have taken on a greater responsibility to address social needs, environmental concerns and fluctuations to the local marketplace. Furthermore, there is an increasing need for an inter-/cross- disciplinary approach to the complex social, economic and environmental problems facing society today. (Soots, et al., 2010).

Thus, it is with frequency and urgency that regions around the globe are transitioning towards the knowledge based economy to address these complex changes. Here, knowledge production and utilization, as well as innovation and social cohesion are key processes in addressing these issues in long-term sustainability.

To this point, the European Strategy for Sustainable Development addressed the importance of education in the following way:

Education is viewed as a prerequisite for promoting the behavioral changes and providing all citizens with the key competences needed to achieve sustainable development. Success in reversing unsustainable trends will, to a large extent, depend on high-quality education for sustainable development (GHK Consulting, 2008, p.6)^{exlix}.

Positioning Educational Opportunities for Growth in a Knowledge Based Economy

Romer (1986, 1990), argues that technology and knowledge production are now essential components of the economic system. Yet economic systems do not exist in isolation, but are bounded to community development strategies. Fundamentally, “both require human and social capital derived from higher education levels, skills development and the capacity for knowledge transfer” (p. 11). As indicated, investment in a regional development strategy is multi-dimensional, and must enable all learners to cultivate skills, knowledge and networks that build cohesion, in addition to achieving measurable economic outcomes.

Learning Communities

The concept of learning communities is gaining momentum in Europe, Australia, as well as at home, in Canada. Estimates suggest there are more than 300 learning communities worldwide. Learning communities take an integrated and comprehensive approach to planning for sustainable futures and this concept is informed by over thirty years of research and development by UNESCO (Faris, 2001). Faris, a strong advocate behind the movement in Canada, provides the following, widely used definition:

Learning communities are neighbourhoods, villages, towns, cities or regions that explicitly use lifelong learning as an organizing principle and social/cultural goal in order to promote collaboration of their civic, economic, public, voluntary and education sectors to enhance social, economic and environmental conditions on a sustainable, inclusive basis. (Faris, 2007, PowerPoint Presentation)^{cl}

Put simply, learning communities are focused on the integration of lifelong learning into community planning. Often, communities that are preparing to transition towards a knowledge based economy, adopt this concept as a framework to inform decision making and goal setting. This approach aids in the transition from resource dependency to knowledge production, through its emphasis on the mobilization of learning resources and expertise across all community sectors including the economic, private, public, civic and voluntary (Faris, 2001).

In Canada, the development of learning communities has been supported at the national level by the Canadian Council on Learning (CCL). In the past, this organization has worked with several communities to help them measure their progress in achieving their goals and objectives as officially designated learning communities. Communities with official designation include large urban centers, such as Victoria (BC), Vancouver (BC) and Edmonton (AB), as well as smaller communities including Fort Erie (ON) and St John's (NFL).

➤ **Education for Sustainable Development**

Hinton and Grande Cache are looking for sustainable solutions that address the current needs of all lifelong learners, and desire to enhance educational opportunities over time (e.g. a site-based post-secondary institute). Both communities further express a need to remain viable in a changing marketplace and attractive to families and professionals. Education for Sustainable Development (ESD), offers a successful planning framework that may be useful to Hinton and Grande Cache to address areas relating to education and community development.

Like Learning Communities, ESD is a planning framework that is also gaining strong momentum, specifically in Europe (e.g. Holland and England), Australia and New Zealand. From 2005, the United Nations emphasized the importance of activities in this area, by launching the decade of Education for Sustainable Development. At its core, ESD seeks to integrate, “the tenets, values and practices of sustainable development into all aspects of education and learning” (UNESCO, 2009)^{ci}.

➤ **Innovation and Learning Centres: Multi-Use and Co-Location Strategies**

Co-location in the context of this report refers to partnerships between various educational institutes, non-profits and public agencies, joined together in one facility. For example, the Community Learning Campus (CLC) in Olds, Alberta is comprised of a collaborative partnership between a rural-based school division and a regional college. The high school and wellness facility are co-located in the same building, where additional space is rented out to service providers such as Family Services, and includes a career centre.

Drawing on research on the social economy and organizational clustering, co-location is shown as an effective means to facilitate broader social change leading to sustainable futures. Innovation and Learning Centres, such as the Community Learning Campus in Olds or the Banff Centre, bring a variety of players and expertise together under one roof to help foster and support the kind of collaboration and innovation needed to address those challenges of the 21st century.

Brotsky (2004) points out that the place-based nature of these Centres creates dynamic hubs for the broader community to meet and organize, thereby extending the benefit of co-location to the local community. This has been the case for university led partnerships that have evolved to create and coordinate innovative and collaborative programs in response to the needs of their community and environment.

For example, the University of Winnipeg's Innovative Learning Centre (ILC), is a collaborative partnership with the local school district to encourage continued student enrollment in secondary and post-secondary education. ILC programs connect young students to hands-on learning grounded in science and nature, as well as traditional knowledge through summer camps, attending classes at the university, and by coordinating after school care at ten inner city schools.

Lastly, multi-use and co-location facilities may have significant presence in the community, both physically and through their reputation. The physical building's infrastructure often embodies the values of the organization that works within it. As in the case for the Banff Centre, in Banff National Park, the 43-acre 'village for the arts' provides space and infrastructure that complement the natural environment and are designed to inspire collaboration. Evidently, Soots et al., (2010) point out that "the layout of these Centres is almost always intentionally designed to facilitate collaboration, co-operation, as well as the cross-pollination of ideas and, spawn new and innovative initiatives" (p. 10)^{clii}.

Moving Forward – Recommendations

As stated in the introduction to this report, the purpose was to provide the members of Hinton and Grande Cache with a sense of how to understand the role of education and what educational opportunities should be explore. As shown above, there are a number of options that could be strategically considered should education become a priority focus for future research. To that end we provide four recommendations that we ask the readers to consider.

➤ Determine the local needs and priorities for educational opportunities

The content of this report serves as an introduction to educational opportunities which can be considered for both Hinton and Grande Cache. However, we approached this report with very little background and understanding of the communities' actual needs and priorities. We conducted this review while keeping a broader perspective and future research should aim to narrow any review by conducting a systematic analysis of what the communities' educational needs are.

➤ Conduct a comprehensive inventory and in-depth analysis of existing educational opportunities in the region

As shown above, there is a lot of exciting and potential work that is currently implemented in different jurisdictions. However, we do not suggest that these efforts be prescriptively implemented in Hinton and Grande Cache. Furthermore, we are not suggesting that we captured all of the efforts that are occurring in Hinton, Grande Cache and the surrounding region. For that reason we recommend that an inventory and analysis be conducted in order to understand the region's assets as well as potential gaps.

➤ **Integrate any new initiatives into existing opportunities**

Should an inventory be conducted it should be expected that any initiative recognize the unique nature of the individual communities. A key strength of Hinton and Grande Cache is that each brings a strong tradition of resiliency to address the complex challenges. For that reason any new educational initiatives should build upon what is already in place in order to strengthen the local economy and establish public support.

➤ **Explore innovation or learning centres.**

As shown above, innovation and learning centres have been a successful approach that many communities have developed for a variety of purposes. These centres can be sites for business training or community development. In all cases these centres are there to support different forms of community. We suggest that an innovation or learning centre in Hinton and/or Grande Cache should be based on a partnership approach and should capitalize on the communities' proximity to Jasper National Park.



Community Identity

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Community can be understood as a social group of individuals who reside in a specific locality, have a common cultural and historical heritage, and shared values and beliefs (Houghton, 2005)^{cliii}. The sharing of locality, values and a history, among other factors, results in the development of a “sense of community.” Community as an entity can take many different forms: religious, environmental, volunteer, sports teams, cultural, ethnic, professional or academic (Outhwaite, 2006; Afzal, 2008)^{cliv}. Further, a community can be defined based on its administrative unit, political jurisdiction, physical characteristics or special features in the form of natural boundaries and landscape features such as rivers, mountains, and highways (Environmental Protection Agency – EPA, 2002)^{clv}.

A snap-shot of each of the towns of Hinton and Grande Cache provides an image of a community with an abundance of renewable and non-renewable resources, unique sceneries, thriving industry, and a population composed of all year residents, permanent and casual employees and tourists, among others.

A community provides a structure in which its members interact and, as a result, develop shared understanding and traditions, which in turn guide individual behaviour. Consequently, community becomes a source of identity for individuals and groups; and the interaction of individuals within any community will have an influence on individual thinking and shape perceptions of such things as their environment, knowledge and value preferences (Afzal, 2008^{clvi}; EPA, 2002^{clvii}). Attracting a diverse group of new residents into a community requires an understanding of what makes places meaningful to people, which raises the question: what is the best way to preserve and enhance the quality of life in rural communities, especially for the residents who reside in the community long term?

This section overviews the various physical, emotional and social attachments that help create community identity. Attachment to place is understood and analyzed from different dimensions: community attachment, social attachment, attachment to the natural environment, and sense of place (Brehm et al, 2004^{clviii}; Brehm et al, 2006^{clix}; Tigges, 2006^{clx}). It then discusses challenges to social integration, and concludes with assessment of the issues pertaining to the development of community identity and culture in Grande Cache and Hinton.

Development of identity through attachment to place

Community attachment is of particular interest to scholars studying rural centres (Theodori and Luloff, 2000)^{clxi}. In contemporary times, the focus on rural areas relates to natural resource exploitation, and amenity-based migration that has brought in new residents (Brehm et al., 2004)^{clxii}. The resulting population (local residents, migrants, and employees of industry) raises questions in terms of what type of attachment these different individuals and groups have towards the place, and therefore how integrated they become into the community.

Attachment to the natural environment is measured in relation to the level of attachment to physical features in an area (Tigges, 2006)^{clxiii}. These include landscapes, wildlife and opportunities for outdoor recreation. Gustafson (2001)^{clxiv} asserts that a relation between the self and the environment is mainly accrued from one's knowledge of a place.

Brehm et al. (2004; 2006)^{clxv} suggest that a person's social attachment is best assessed through a measure of their attachment to friends, family ties in the area, local culture and tradition, and opportunities to be involved in community activities.

Scholars studying place attachment in communities that are undergoing change in the social and environmental spheres identified the following factors as significant: length of residence; residential satisfaction; home ownership; participation in community activities and decision making; financial investment; higher sense of neighbourhood; lower sense of crime; social cohesion and control (Brown et al., 2003^{clxvi}; Tigges, 2006^{clxvii}; Proshansky et al., 1983^{clxviii}; Goudy, 1990^{clxix}; Brehm et al., 2004; 2006^{clxx}). Such information may be useful to policy makers and community leaders to better comprehend key cultural values that exist in a community, gain better insights on common values among residents, and therefore use such information to identify biophysical attributes that are highly valued and necessary in the enhancement of community identity.

Brehm et al. (2004; 2006)^{clxxi} use a case study from the rural West to argue that both long and short term residents can develop strong attachments to place with variations in influencing variables: recent in-migrants were found to express a stronger initial attachment to certain variables of the environment (landscape, wildlife) than they do to the social dimensions of community life. On the other hand, long term residents will tend to have stronger social attachment, and sometimes strong attachments both to the social and physical environment.

Twigger-Ross et al. (2003)^{clxxii} hold another view; that attachment is achieved through the quality of relationships such individuals maintain in the particular environment. What determines one's identification with a place can be a combination of factors that include length of stay, the social image of the locality, the state of the physical environment, and the quality of and neighbourhood functionality in terms of services and green areas. Thus, a desired state of a physical environment will tend to encourage people to self-identify with such a physical place (Proshansky et al., 1983)^{clxxiii}.

Individual attachment to community can be identified through an assessment of collective action in terms of involvement and participation of community members in communal activities. The concept of place attachment involves positive bonds to physical places and the emotions associated with it, which subsequently enhance one's identity (Brown et al., 2003^{clxxiv}; Tigges, 2006)^{clxxv}. Positive attachment to a place results in people proudly identifying with the particular neighbourhood or natural environment, and such an attachment enables the residents to achieve a sense of stability, familiarity and security (Brown et al., 2003)^{clxxvi}. Hay (1998)^{clxxvii} posits that place attachment provides defense against identity crisis especially in periods of transition. Place attachment subsequently benefits the community as "attached" people tend to get more involved in local affairs (Lewicka, 2005)^{clxxviii}. Therefore, an understanding of people's attachment to a community is of value to development agencies and policy makers.

What is clear in this overview is that scholars dispute the importance of the various dimensions of attachment to place. What is also clear is that attachment is a complex concept; policy makers should be mindful of this complexity.

Challenges to Social Integration

In view of the current reality of communities composed of groups of people with diverse interests, perceptions and objectives, to what extent can they work together towards the achievement of social sustainability? Jaffe and Quark (2006^{clxxix}) use examples from a field study in Saskatchewan: they single out neoliberalism and its related practices as issues that need to be dealt with on the road to community sustainability.

The authors question the current practice whereby policy makers assume that members of rural communities are united (through their characteristics of trust, common values, and networks of mutual benefit) enough to take over social and economic development in their localities. The authors see the opposite; they argue that social cohesion is a dynamic process for solidarities, alliances, groups and identities are always in the process of forming and transforming as they conflict or conform to changes in the broader societal structures (Jaffe and Quark, 2006)^{clxxx}. The process of achieving social cohesion (integration of their constituent members/groups) will need to take the following realities into consideration:

- There are existing unequal relations (material and discursively) in which groups are embedded.
- Neoliberalism brought great changes; restructuring in the social, cultural, economic and political relations of the state, market and society based on its basic idea of financial deregulation.

- Local structures are hierarchical, complex and nested in larger systems. The example in Saskatchewan shows that relationships at the local, regional and global levels are being redrawn as the state and capital have downloaded risk to local levels, while shifting decision making capacity and market share upward.
- Within all the above, each local community has very specific dynamics of development conditioned by a unique history, social forces and contingency.
- Within each community are found lines of inclusion and exclusion based on income inequality, language, gender, ethnicity, sources of income, class and duration of membership.

Which way for Social Cohesion?

The process of integrating members of communities and societies involves the building of shared values and communities of interpretation, reducing disparities in income and wealth, enabling people to have a sense that they are engaged in a common enterprise, facing shared challenges, and a feeling that they are members of the same community (Maxwell, 1996:13, cited by Jaffe and Quark, 2006)^{clxxxix}. Social cohesion is built around a dominant group that determines how the goods and benefits of change are distributed; who gets access to productive assets and relationships; and generates the basis on which some are included and others are excluded.

The result of the reduction of concentration of ownership of productive assets in many rural areas of Canada is depopulation. Fewer people means a lower rural tax base for the maintenance of services and facilities (Jaffe and Quark, 2006)^{clxxxix}, which further leads to decreased formal and informal networks of mutual aid and volunteerism which have traditionally helped create a sense of community.

Resource-rich communities, however, face different challenges. This is particularly true in those communities that attract workers who either settle temporarily, or who only work in the community, but reside somewhere else. Storey (2010)^{clxxxix} explores the benefits and challenges brought to communities by remote rural resource areas by the fly-in, fly-out work commute. There are few economic benefits to the local people in terms of employment or benefitting local business enterprises. The outcome can be increased unemployment resulting in young people from the rural communities emigrating to other places in search of employment. Consequently, resource based areas benefit little from industries' accrued benefits, yet they are expected to provide services to the transient workers.

The fly-in, fly-out workers have put high demands on medical and other services used by the local populations, while town businesses continue to lose clients. Most noticeable is the significant reduction in the number of people who have any involvement in the organization of, and participation in, community activities such as sport or social groups. This can lead to a decline in the number of school children, questioning the viability of schooling in the community.

Using the example of the Regional Municipality of Wood Buffalo and Fort McMurray, Storey (2010)^{clxxxix} elaborates on challenges brought about by a high population growth of residents and fly-in, fly-out workers: The municipality has struggled to cope with the high pace of growth in demand for infrastructure and services.

The Development of Community Identity and Culture

What is most notable in the literature reviewed is that little research has been carried out in Hinton and Grande Cache to establish the best way to facilitate creation of a community culture. Therefore, the reviewed literature provides information on issues of focus/emphasis in any endeavours aimed at fostering local community identity and culture. The following is a summary of issues that will require attention:

- The literature indicates existence of sub-communities within any large community. Specifically, individuals belong to many sub-communities where they hold different roles. There is need to identify and do a critical analysis of communities in Hinton and Grande Cache as a way to understand the structures which have an influence on individual/group identity.
- Social structures are a result of long periods of interaction between members, and the resulting knowledge structures guide individual behaviour. This calls for a study to comprehend the level of interaction between individuals and existing communities, therefore providing a chance to understand the knowledge construction process.
- Since community organizations are formed mainly to meet the needs of community members and since they provide a structure within which community decisions are made and practiced, an understanding of social organizations will provide insights into issues such as community leaders and followers, who holds authority and who is actively involved in decision-making processes, among others.
- The ideas and views put forward by the various authors (in the literature) in relation to place, sense of place, place attachment, etc. can be used to map meanings of specific places or to compare what meanings a place has to different members of society e.g. women, men, workers, residents, newcomers, etc.
- Further, studies of place attachment tend to focus on attachment to specific physical settings; therefore the Hinton Grande Cache study can focus on understanding the preferences, values and beliefs of stakeholders in relation to land use. This can be used as a means to unearth information on the common values and meanings among the divergent groups in the community.
- Many scholars emphasize the role played by social-cultural and environmental factors in understanding people's attachment to place. There is need to carry out a qualitative study to generate information on common values that could become the basis from which community identity could be created, thus fostering cohesion and sustainability.



Advancing Environmental Sustainability

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Multi-Use Landscapes

This review studied the variety of alternatives available in land use planning. Often, there are a multitude of values that are associated with a given geographic region; the same area may be a timber supply area (TSA), a recreational site, a viewscape or a favourite berry picking spot. Recognition that these multiple values exist is an important factor in sustainable development planning. Diversified use of the landscape assists communities in responding to boom and bust cycles typical of single resource extraction industries. When more uses are preserved across the landscape it creates communities that are more resilient to boom and bust cycles by providing diversified sources of revenue from the landscape. Moreover, it is well documented that multi-use landscape planning is more ecologically sustainable as well.

The *Athabasca River Valley Community Landscape Vision Process*^{clxxxv} (CLVP) is an innovative public-input process that provides valuable information and a recommended community based mapping approach to set out and prioritize values for sustainability planning at the landscape scale. The process utilized public forums for local/regional people to engage in sharing and “mapping” their vision for future land-use while safeguarding important community values in the Athabasca River Valley area. These ideas for future land-use planning include:

- Future Development
- History and Traditional Use, Aesthetics and Character
- Recreation
- Water
- Wilderness and Wildlife

A different study done by Larry Stamm^{clxxxvi} on the communities of McBride and Valemont in BC compared to other rural areas within the Robson Valley, suggested that the communities throughout the Robson Valley are transitioning rapidly from primarily resource based economies to service based ones. This transition has resulted in more members of the community earning lower wages and working multiple jobs while not receiving health benefits.

Another study by Adam and Kneeshaw^{clxxxvii}, used to assess aboriginal forest ecosystem values, suggests that establishing a clear criteria and supporting indicators of forest management objectives can provide a “platform” for consideration of non-hierarchical, ecological priorities. The review recommends a more balanced and less segregated criteria and indicator framework that considers the cultural values associated with forest management. The aboriginal criterion that was reflected in non-aboriginal frameworks includes:

- culturally important ecological indicators
- aesthetics management objectives
- access to resources indicators were more complex than those of the non-aboriginal frameworks.

Non-timber Forest Product Development

Non-timber forest products (NTFPs) are an important part of local diversification strategies as they offer alternative uses of the land base, which provide satisfaction to multiple user groups. Non-timber forest products may include berries, pelts, hunting and trapping experiences, recreational opportunities and mushrooms.

In an examination of available NTFP by the British Columbia Inter-agency Non-timber Forest Resources (IANTFR) committee^{clxxxviii}, the marketing possibilities for these products are explored. They identify the challenges of reaching NTFP markets and create a feasibility checklist for forest owners and managers, with case studies of successful agroforestry. This study identifies a number of regional linkage possibilities in British Columbia for selling products and creating consumer awareness such as culinary and wilderness tourism, festivals and special events. Their recommendations for commercial purposes include:

- demand must exceed supply
- the resource must not be readily available for free (exclusionary)
- experience and willingness to interact with the public
- competency in running a service oriented business

In a report by J. Freed^{clxxxix}, the use of NTFPs in Mason County, Washington was used as a case study. The report notes the historic importance of these products to Aborigines as well as early European settlers, and observes the resurgence of interest in these products for medicinal, nutritional and aesthetics purposes in the 1970's. This intensification in interest has resulted in increases in conflict over access to these products but, as emphasis on greater public access is placed on to these products, there is likely to be a decrease in conflicts over timber management.

A review by T. Tickten explores the ecological impact of harvesting non-timber forest products. The review examines 70 harvest studies of various NTFP to determine their influence on species physiology, demographics, genetic patterns and community-ecosystem dynamics. The authors explain that the harvest of NTFP can affect all levels of ecological processes and that effects of harvesting may vary spatially and temporally. It also documents significant influence resulting from human management practices such as pruning, restocking, sparring etc. The review concludes that over harvesting may result in low recruitment rates, changes in species composition, and long term declines. The review recommends the adoption of adaptive management strategies for regulating harvests to reflect these thresholds.

Aesthetic Management of Landscapes:

This section demonstrates how local communities can work with resource managers to implement logging practices that are creative and less visually invasive than traditional harvesting practices, thereby reducing the impact to viewsapes and providing for recreational opportunities on the landscape such as skiing and hiking etc.

In the report prepared by Stephen Sheppard and Paul Piccard^{exc} concerning visual resource management policy in British Columbia and implications for timber availability, they explore case studies from the Mt. Hood Wisconsin recreation area, a road corridor in California, the Nelson Forest Region, as well as the Robson, Strathcona, Arrow, Cranbrook and Golden timber supply areas in BC. Each of these areas had different visual quality objectives requiring specific planning. Piccard and Sheppard illustrate that visual quality can be maintained, and even enhanced, in sensitive areas through use of alternative harvesting regimes such as partial cutting, single tree selection, or clear cutting with reserves. Discretion lies with the Forest District manager on where to establish visual quality objective and where to relax them.

Renewable Energy

History and context of renewable energy in Canada

This section discusses renewable energy opportunities in Canada including wind, geo-thermal and bio-industry. These renewable energy sources help reduce our reliance on traditional energy that produces greenhouse gases. Attention to these markets, investment into green energy technology and purchasing energy from renewable sources will help to expand this sector beyond its current range.

Development and Acceptance of Green Energy

A report by the National Energy Board of Canada^{exci} identified the provinces with current green power developments and those that have future opportunities for development as well as some of the current major utility providers. It notes that Alberta was the first province with green energy retail competition and that Ontario recently instituted a number of power projects that offer green power to major power users and to distribution facilities. Saskpower of Saskatchewan developed two wind farms in 2001 that generate approximately 175 MW of wind energy, and Prince Edward Island and BC have established municipal utilities that supply residential and business power.

A report by L. Bird^{excii} studies the emergence of preference based purchasing that encourages the emergence of green energy markets. Bird examines power marketing in Australia, Canada, Japan, the United States and Europe to gain insight into current demands for renewable electricity, existing suppliers, and favourable legislation. Despite increases in green power marketing in Canada, only a relatively small number of utilities and marketers offer green energy products. In British Columbia, BC Hydro has offered green power since 2002. Additionally, Alberta has two incumbent utilities that have managed to subscribe approximately 6,000 customers to green power supplies, which accounts for 1% of their respective customer bases. Saskatchewan and Prince Edward Island have begun developing green power markets, aided in part by purchases by municipal governments. Growth is also expected in the Ontario market, Nova Scotia and Newfoundland have developed a small number of wind power projects.

A study by Büchs, Smith and Edwards^{exciii} explores the potential role of third sector organizations (TSOs) in implementing low carbon sustainable practices in the “everyday lives of society.” They state that the individual social model used for understanding behavioural change focuses only on individual behaviours and neglects the wider context of those behaviours such as the social circles they participate in and the role governments and other TSOs play in influencing those behaviours.

The article recommends that our actions be understood as social collective phenomena, identifying five influencing factors of social practices:

- meaning,
- competences
- social structures
- artefacts / infrastructures
- environmental context

Bio-industry Development

This is a new industry that is showing some promise. According to J. B. W. Allyson Jeffs^{exciv}, the Province of Alberta's Innovation and Science Branch has allocated \$250,000 in funding to assist Bio-products Alberta (a non-for-profit organization) to develop a sustainable business plan and to secure additional investors for their project. Bio-products include: bio-degradable plastics, bio-fuels such as ethanol and biodiesel, nutraceuticals such as Cold FX, agricultural products, and energy production.

The BC Grain Growers Association^{excv} suggests the potential for biodiesel production in the Peace River area could produce 22.7 million litres of biodiesel, approximately 24 skilled jobs and \$25 million in revenue annually. Additionally, the plant will require 56,000 tonnes of canola per year from local farmers.

Finally, a report from the Canadian Press^{excvi} states that Federation of Canadian Municipalities has committed \$347,000 towards a feasibility study, which will examine the potential for developing a bio-fuel plant based in Rimby, Alberta. The plant is a considered a pilot project focussing on the small scale production of ethanol from herbaceous crops as well as municipal waste. It has the potential to mitigate the costs associated with municipal waste disposal as well as provide heat and electricity. Finally it is anticipated to provide between 25-50 full time person hours annually.

Geo-thermal Development

The Geological Survey of Canada^{excvii} has compiled a 48 year study on the geo-thermal development potential of Canada. The National Geothermal Energy Program identified Canada as a "significant" source of geo-thermal development opportunities. Case studies identified in the survey include: Meager Mountain British Columbia, where resources of up to 290 °C were discovered (resulting in a pilot electrical demonstration plant); the University of Regina's direct heating application and Springhill, Nova Scotia's abandoned mine heat reservoirs. The inventory also identifies north-western and central Alberta as having a number of abandoned mine sites suitable for geo-thermal energy production, however, these presently remain undeveloped.

Most barriers to exploration are associated with exploratory drilling costs, transmission infrastructure and load centers. While the technology to develop Enhanced Geothermal Systems (EGS) is still developing, calculations suggest that as few as 100 projects could meet Alberta's energy needs. Establishing a long-term geothermal production tax credit is an important part to creating an incentive to invest in geo-thermal energy production. Additionally, it can reduce the uncertainty currently associated with public funding. Geothermal energy production has increased globally and for some countries it now forms a significant proportion of their electrical supply. Geothermal energy production in the United States amounted to 3,153 MW in 2009, replacing 60 million barrels of oil (29 million tonnes of carbon dioxide).

An article by Majorowicz and Grasby^{excvi} extends the research of previous studies by assessing the thermal power output of potential EGS which are areas of high heat and low permeability underlying sedimentary basins. Alberta and British Columbia were determined to potentially contain suitable EGS. The article examines cost of infrastructure and depth-temperature mapping to identify the most suitable areas of development. Very high heat flow values, >80 mW/ m² are characteristic of the northern part of the Western Canadian Sedimentary Basin (WCSB), especially in north-eastern BC and north-western Alberta. The article identifies Hinton as having a suitable geotherm for electrical EGS development at a depth of 4.94-5.95 km and with an estimated cost of \$23M -28M.

Anaerobic Digestion

Grow the Energy Circle Ltd. or Grow-tec (www.growtheenergycircle.com) is a farm based in Coaldale, AB, that is attempting to become environmentally sustainable. Grow-tec is developing a anaerobic digester that will produce enough energy to power farm operations and feed a continuous 630KW of electricity to the Alberta power grid. Feedstock for the digester will be sourced from neighbouring feedlots, culled potatoes, processor waste and biodegradable landfill waste. Reduction in the spreading of raw manure and other methane producing biodegradable waste will provide a substantial benefit to the community by reducing emissions from organic material biodegrading across the landscape. A portion of the funding for the project came from the Alberta research council and the Alberta Biorefining Commercialization and Market Development Program (BCMDP) as part of its Nine Point Bioenergy Plan; the grant covered approximately 50% of the cost.

In Stream Power Generation (run-of-river)

BC Hydro has assigned 19 wind and run-of-river projects^{excix}. The projects include 5 wind-turbine projects and 14 run-of-river projects. It is estimated that these projects require \$3 billion in capital investment and provide 3,000 person years of employment. Additionally, BC Hydro has another 28 projects planned. The BC Ministry of Environment states that provincial and potentially federal environmental assessments will be completed for each of the projects.

The federal government is extending funding opportunities to First Nations desiring to purchase shares or equity stake in renewable hydro projects in British Columbia (Rudan, P. ,2009, May 21^{cc}). The Aboriginal Energy Partnership is collaborating with Eco-trust Canada with the hope s of establishing as FIRST Generation Regeneration Fund for equity financing. Some funding has already been announced for a two-megawatt run-of-river hydro project owned by the Taku River Tlingit First Nation near Atlin in northern B.C. Future opportunities for First Nation involvement in run-of-river projects exists, as there are numerous clean energy opportunities on First Nations land in BC (www.regenerationfund.ca).

Sigma Engineering Ltd. (2002). *Green Energy Study for British Columbia* report explores and inventories the potential for development of independent power projects, which vary in size between 500 kW to about 47 MW. The report also documents differences in costs per unit of energy based on differing terrain, capacities and different hydrology. It estimates that 40% of the project sites are developable at less than 7 c/kWh. It concludes that larger projects are typically more cost effective; however, these are associated with increased financial risks of development. The inventory is based on sizing each project to the mean annual flow and operating on a run-of-river basis. The report includes individual project assessments which include transmission costs to the nearest location on the BC Hydro (BCH) grid. It also outlines potential environmental implications associated with run-of-river projects.

Large Hydro-electric Projects (Dams)

A report by MPE Engineering Ltd. (2008 ^{cci}) evaluated 10 major river basins in Alberta to inventory and explore their potential for dam site development. The criteria considered for assessment and scoring of the identified potential water storage sites included:

- Evaluate undeveloped sites and intra-basin diversions only.
- Inter-basin sites to be excluded from evaluation and ranking.
- Suitability of geological site conditions.
- Suitability of site hydrogeology.
- Flooded area – storage volume ratio.
- Estimation of water supply and demand in the area served.
- Aiding and balancing apportionment requirements.
- Improving current efficiencies and benefits.
- Improving conditions in basins with moratoriums.
- Current design conforming to present guidelines and legislation.
- Site availability.
- Improved water supply to 2050 for multi-use projects.
- Presence of protected or other significant land areas.
- Dam dimension and storage volume considerations.
- General environmental impacts.
- Reservoir safety.

Subjective criteria includes:

- Historical documented costs.
- Public opinion.
- Project timelines.
- Proximity issues.
- General environmental issues.
- First Nations' involvement.
- Water supply-demand.

Results of the report indicate that there are three sites within the Athabasca River Basin that received an 'A' rating, suggesting they are favourable to on stream developments based on the criteria discussed above.

In their 2010 report, Hatch Consulting^{ccii} points out that a number of feasibility studies were completed during the 1980's for the Dunvegan hydro project on the Peace River and the Slave River hydro project. The Dunvegan was approved for a 100 MW low head run of river development, but is not yet under construction. Hatch consulting estimates that smaller projects in the southern basins and larger projects in the northern basins are likely to be developed over the next 30 years as costs fall and demand increases for renewable power. Total development in this period might be as high as 20 percent of the province's ultimate potential of 53,000 GW hours per year. However, to realize this capacity, it is necessary for at least two major projects to be constructed. Once constructed these developments would result in large amounts of energy being conserved, reduction in carbon emissions and provision of renewable energy for the provincial electric system.

Wind Energy

Wind energy has good potential in the Hinton, Grande Cache area. Presently 5% of Alberta's energy is derived from wind power. Mainstream renewable anticipates that this amount will increase over time with reductions in costs of technology and increased offset requirements. All renewable energy produced will be sold back to the grid in Alberta with an expected expansion into the United States.

Knowledge Based Industry

A look at possible knowledge based scenarios for the sustainable development of industry.

Research Forests

The Canadian Model Forest Network (2012)^{cciii} brief highlights the Weberville Community Model Forest (WCMF), approximately 33,000 hectares of both privately owned and crown land located in Peace River, Alberta, as an example of how alternative types of forest tenure can provide increased opportunities for economic growth, sustainable forest management and fostering a sense of community. The WCMF attempts to integrate the goals of multiple woodlot owners and in doing so, provides a more organized approach to private forest management and a larger timber supply area. Landowners are able to effectively combine their lands in order to take advantage of immediate opportunities such as tree planting, recreational trail systems and woodlot inventories, and also invest in future opportunities such as biomass energy projects and carbon credit trading.

Another article in *Economics Week*^{cciv} highlights the study of land use and landscape changes in the Ogawa Forest Reserve in southern Abukuma Mountains, Japan. Socioeconomic forces have brought dramatic changes to the forest landscape and local biodiversity for the past 100 years that reflect shifts in both the use of forest resources. Clarifying temporal-spatial landscape changes by understanding the historical relationship between humans and the landscape provides useful information for optimizing conservation and management planning.

Eco Tourism Opportunities

A study of alternative, eco-friendly industries that can be developed in this area.

Youth and Elder Hostels

This section investigates hostel networks within Canada and the United States as potentially sustainable development opportunities. Hostel networks may provide a viable way to diversify revenue streams in Hinton and Grand Cache by attracting visitors looking for unconventional and outdoor oriented recreational experiences at lower costs than traditional hotels or motels. Cost effective accommodations may also encourage visitors to stay longer thereby increasing potential spin off revenues in these communities.

For example:

The *Hostel Detroit* opened April 17, 2011^{ccv}. The hostel was founded by Emily Doerr, who leased the space and began the business with the support of the Detroit community. The hostel operates as a not-for-profit organization and has a capacity of 18 guests. The hostel averages six to 10 visitors during the week and 12 to 18 on weekends with prices for rooms between \$18 and \$45 a night. Due to the success of the venture the non-profit has extended camping to guests in the backyard and is considering adding a four-bed dorm in the near future.

The *Hi-Calgary City Center Hostel*^{ccvi} has been running since 1975. It features multi-person rooms (with a maximum of 6 beds per room) and is the only hostel available to travellers on their way to or from the Rocky Mountains. Rooms average \$24.00 for Hostel International members, while non-members pay \$28.00 per night for shared accommodations. Private rooms are also available for \$56.00 per night. They receive 25,000 travellers annually.

Road Scholar elder educational adventures were created by Elder Hostel Inc. (www.roadscholars.org), an organization that has been offering low cost lodging to elders since 1975. Road Scholar is a not-for-profit service that assists elders in achieving lifelong learning opportunities. They have over 5 million participants and provide over 6,500 educational, travel opportunities in 150 countries. Some of the featured program foci of Road Scholar include but are not limited to:

- Walking and hiking
- Biking
- Intergenerational adventures
- National parks

Byron Bay, Australia^{ccvii}, whose tourism strategy focuses on promoting low-impact entrepreneurial developments, is centered upon local values and environmental sustainability. A significant backpacker market exists here, which contributes \$6.9 million annually to the local economy. Presently six hostels service this market.

A study of this industry assessed the hostels for 30 sustainable business criteria and asked respondents if they had selected the hostel based on any of the sustainable practices. The results of the study were important to understanding visitor preferences in Byron Bay. However despite this economic model the findings suggest that only two of the six hostels implemented more than 50% of the sustainable business practices and only a few (2-3%) of the visitors responded that eco-friendly practices were a factor in selecting a hostel. Some visitors did qualify this response however stating that the hostel failed to advertise eco-friendly practices. Respondents indicated that they would choose an eco-friendly hostel over a non eco-friendly hostel if informed prior to making their selection.

River Tourism

River tourism is a growing, eco-friendly industry providing boat tours, white water rafting and extended camping tours on the water. Companies such as Silverspray Rafting (www.silversprayrafting.ca) and Stellar Descents White Water Rafting (www.stellardescents.com), both operating in the interior of BC, are examples.

Industrial Tourism

Unique concepts in attracting tourists in an eco-friendly environment include historic and industry tours, such as the Mine Tour in Likely, BC (www.likely-bc.ca) and the Cape Breton Miners' Museum in Glace Bay, Nova Scotia (www.minersmuseum.com).

A study in Cordoba, Spain^{ccviii} provides an informative study of industrial tourism. A survey was taken of the local population and tourists who frequent that region to determine public opinions on industrial tourism activity. Visitors surveyed between 40 to 64 years of age, believe it would be complimentary to other types of tourism as it would serve educational and cultural purposes. While those surveyed between the ages of 30 to 44, saw it as a means to create new businesses, employment and socio-economic growth. A challenge that emerged from the study was the need to establish infrastructure to support industrial mining tourism while still maintaining the historic integrity of the region.

Another study^{ccix} in the province of Zamboanga, Philippines looked at Agri-tourism to create an additional source of revenue. Agri-tourism has the potential provide additional tourist destinations and activities within a rural, agricultural area. In Zaboanga, tourists will be able to visit organic farms and sardine factories and learn about their operations. Other local companies and farm owners are being encouraged by government and business leaders to develop their farms into tourist destinations, and providing accommodations such as bed and breakfasts.

Supportive Municipal, Provincial and Federal Programs and Policies

- **Enabling Municipal Policy**

City of Revelstoke Active Transportation Plan

The city of Revelstoke, BC in partnership with Boulevard Transportation Group have developed an Active Transportation Plan^{cxv}, which seeks to increase demand for sustainable transport such as biking or walking, as well as some forms of public transport. The AT Plan identifies regulations which would facilitate implementation, facilities that may be used in establishing a culture of active transport, as well as information on public demand for alternative transportation.

- **Enabling Provincial Policy**

Challenges in Sustainability Planning

A cautionary study by Steven Kennet^{cxvi} reviews ten years of decision making on land and resource use in the Castle River area of Alberta, summarizing a more detailed study published by the Canadian Institute of Resources Law. Similar to Hinton and Grande Cache, Castle River area is a resource dependent township located in south-western Alberta. This article focuses on a series of land-use decisions by the Alberta government that failed to meet the statutory established under the Environmental Protection and Enhancement Act, and have far-reaching implications not only for this area, but also for the broader Crown of the Continent ecosystem that extends through south-western Alberta, south-eastern British Columbia and northern Montana. Both the Energy and Utilities Board (EUB) and the Natural Resources Conservation Board (NRCB) apply statutory ‘public interest’ tests that require attention to economic, social and environmental effects when reviewing proposed projects. These tests revealed a number of threats to ecosystem sustainability in new infrastructural developments in Castle and underlined the urgent need for specific regulatory and management responses. These concerns were not addressed in the Castle Integrated Resource Plan (IRP); specifically the public interest committee was concerned that the IRP does not provide a sufficiently detailed plan upon which to base land use decisions.”

Community Forest Program

The **British Columbia Community Forest Program**^{cxvii} was initiated in 1996 to devolve power to local communities to manage timber resources within their communities. It was anticipated that this would provide jobs and access to resources locally as well as to mitigate conflicts related to timber harvesting in contentious areas. Revelstoke Community Forest Corporation provides an example of how the CF program may successfully provide local community benefits as well as revenue generation when harvesting timber.

The **Revelstoke Community Forest Corporation (RCFC)** is a community forest that operates under a tree farm license (TFL) within the Columbia Forest District in Revelstoke. The RCFC was incorporated on April 20, 1993 following the purchase of TFL #56 from Westar Ltd. for 3.5 million dollars, and has a timber harvesting land base is 33,700 hectares.. The City of Revelstoke is the sole shareholder with one common share. The institutional model of RCFC provides community members with a say in management decisions that may affect them. The RCFC board of directors is composed of local community members and encourages involvement from within the community. The management objectives of RCFC include a diversity of values including wildlife and biodiversity management, ecologically sustainable silvicultural practices, aesthetic management in visually sensitive areas, and local employment opportunities.

- **Enabling Federal Policy**

Federal Government programs designed to support rural economic, environmental and social sustainability in Canada:

- 1) *The Community Futures Program*: The community futures program is a nationally lead economic diversification program. It is composed of volunteer boards and staffed with business professionals. Its central focus is implementation of community directed economic development in rural areas.
- 2) *Habitat Stewardship Program* - As part of Canada's national strategy for the protection of species at risk, the federal government established the Habitat Stewardship Program (HSP) for Species at Risk. The HSP allocates between \$9 and \$13 million a year to projects that conserve and protect species at risk and their habitats. Retrieved from: <http://www.ec.gc.ca/hsp-pih/>
- 3) *The Aboriginal Fund for Species at Risk (AFSAR)* was established in 2004 in an effort to engage Aboriginal People in the protection of species at risk in Canada. AFSAR provides Aboriginal communities with funds for the purpose of implementing programs under the Species at Risk Act. The specific objectives of AFSAR are to provide capacity to Aboriginal communities for the implementation and protection of species at risk and their habitat. AFSAR is divided into the Aboriginal Capacity Building Fund (ACBF) and the Aboriginal Critical Habitat Protection Fund (ACHPF).
- 4) *Pulp and Paper Green Transformation Program*- Seeks to improve the environmental performance of Canada's pulp and paper industry. Retrieved from: www.nrcan-mcan.gc.ca
- 5) *Value to Wood Program* - Provides technological solutions directly to wood product manufacturers in all regions of Canada through research and communication Retrieved from: <http://www.valuetowood.ca/html/english/index.php>
- 6) *Forest Communities Program - The Canadian Forest Service*. Forest Communities Program encourages community-level partnerships to take advantage of emerging resource-based economic opportunities. Retrieved from: www.nrcan-rncan.gc.ca

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