

Green Jobs across BC: snapshots of an economy’s “green shoots”

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1. Introduction

BC has been, and could be again, a leader in the green economy. There are success stories from across the province that show us how to implement projects and policies that are good for both jobs and the environment.

Some in BC continue to promote the myth that economic growth and environmental protection are incompatible, despite evidence that “green economy” job growth is occurring faster than in the rest of the economy in jurisdictions across the globe. Countries, regions, and communities in our backyard and beyond, are showing that there is a path to a cleaner and more prosperous economy, paved with projects that communities can benefit from and be proud of.

BC’s success stories are from a wide range of communities. Vancouver’s “Greenest City” initiatives are likely the highest-profile. They grab the international headlines, and have the metrics that show their success. Fast-growing urban centres have the clearest opportunities to make green shifts in their building stock, transportation systems, and economic sectors like clean technology.

Communities province-wide are also finding important niches, such as minimizing waste and maximizing value from resources in Prince George, clean energy that benefits the community in the Kootenays, or new ways of collaborating and innovating with agriculture in the Cariboo. On top of region-specific initiatives, every corner of BC can benefit from more efficient buildings, cleaner energy and transportation, and many are embracing these programs and creating jobs in the process.

Technologies and practices that can make an enormous difference are already here. Most green initiatives that have been attempted have become success stories, working through challenges and establishing infrastructure of the future that pays back year after year. Early pilot initiatives pave the way for more and greater successes - once friends and neighbours see the benefits, once authorities are comfortable that risks are manageable, and once local workers have the skills and knowledge needed to deliver, the foundations are laid for future growth. Successful projects across BC are often working slowly but steadily with little support. The right policies could scale these up into broader initiatives that deliver meaningful numbers of jobs and transform communities’ economies.

Past governments have prioritized forward-thinking climate and industrial policies. The current BC focus on exclusively extracting and exporting raw resources misses the opportunity to create more jobs per dollar in the long term through community-level

initiatives focused on infrastructure, conservation, and sustainable practices. Where the government forces trade-offs by pushing forward potentially high-impact projects while cutting environmental oversight, there is greater conflict and fewer jobs. As the impacts of climate change affect our economies and spur action elsewhere, evidence is clear that the greatest public benefit and the largest number of jobs over the long-term will come from policies that take climate into account.

There are a number of policies that can help communities across BC:

- Increase investments in conservation and renewables
- Invest in transit and clean transportation infrastructure
- Expand programs and develop financing tools for building retrofits

And others targeted at specific sectors:

- Develop procurement policies at multiple levels
- Reinvestment a portion of resource revenues in trust
- Enhance and fund environmental regulation and enforcement
- Support for sustainable agriculture and tourism promotion

As we find the right mix of actions for BC’s distinctive economy, and move the dial forward on creating the jobs that communities want to see on the ground, BC is discovering that pragmatic action to reduce GHG emissions go hand-in-hand with economic and job growth

About GreenJobs BC and its 2014 Town Halls

GreenJobs BC is a coalition of labour and environmental groups working together to build a strong, sustainable economy in BC. Its Steering Committee consists of the BC Federation of Labour, BC Government and Services Employees’ Union, BC Insulators, the Columbia Institute, David Suzuki Foundation, Organizing for Change, Pembina Institute, Sierra Club-BC, Unifor, and Vancity.

Its formal mandate is: to strengthen communication and cooperation between labour and environmental organizations, in order to advance initiatives that: provide good green jobs; are socially equitable; are ecologically responsible; and result in the reduction of GHG emissions.

Building on [Jobs, Justice, Climate: Building a Green Economy for BC](#), GreenJobs held events that brought together hundreds of people from environmental organizations, labour unions, business, academia and First Nations. This produced a series of policy recommendations in the areas of [Buildings](#), [Energy](#), [Transportation](#), and [Forestry](#) that were released in 2013.

Recognizing that BC is a large and diverse province, GreenJobs undertook a series of Town Hall meetings through 2014 to get feedback from across BC on its recommendations and future priorities. 8 meetings were held - [Courtenay](#), [Gibsons](#), [Chilliwack](#), [Castlegar](#), [Kimberley](#), [Kamloops](#), [Williams Lake](#) and [Prince George](#) – and nearly 300 people attended in total. Meetings were geared towards obtaining feedback from community members and organizations on local initiatives and priorities for green job creation, which are different for each region. Each meeting identified different challenges, prioritized a different mix of sectors, and with each community showcasing success stories that demonstrate an emerging green economy in BC.

2. *BC’s economy and trends*

a. *Overview: 1 province, 2 economies?*

BC’s current economic performance is good enough to rate a “B” by the Conference Board of Canada. Unemployment has been dropping despite a decline in the absolute number of jobs last yearⁱ. 80% of BC employment is in service sectorsⁱⁱ. BC ranks first in Canada in terms of numbers of small businesses per capita, and second in terms of percentage of private sector employment in small business (55%)ⁱⁱⁱ. After a decade of cuts, public sector employment, at 18%, is the lowest in the country^{iv}.

BC has two very different economies within it, roughly grouped into Metro Vancouver and the rest of the Province. Vancouver and the Lower Mainland represents 53% of BC’s population^v, 62% of its jobs, and 65-80% of population and job growth^{vi}. Its economy is diverse, service-based, relatively resilient, and though decoupled from resource industry booms and busts it still has important linkages with BC’s resource economy^{vii}. Outside of the Lower Mainland, services still make up most employment, but resource industries influence economic cycles in towns and regions, and account for most of BC’s exports^{viii}. The fortunes of a mill, mine, or forest can often be the biggest determinant of a community’s economic health^{ix}. Diversification often happens out of necessity, as mills or manufacturing facilities have closed, and employment in forestry contracted.

What is a green job, anyway?

Green Jobs is a relatively new concept, with many definitions and opinions. The most commonly-used definition is the UN and ILO’s

“...work in agricultural, manufacturing, research & development (R&D), administrative and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity, reduce energy, materials and water consumption through high efficiency strategies, decarbonize the economy, and minimize or altogether avoid generation of all forms of waste and pollution.” (Green Jobs: Towards Sustainable Work in a Low-Carbon World, 2008).

Definitions and statistics exist for BC’s green economy. Globe Advisors’ February 2010 “British Columbia’s Green Economy” report found that 10.2% of BC GDP and 7.2% of employment was in the green economy, with a definition including activities like forestry. The City of Vancouver, using the UN definition as a baseline (and adding local food), found that 4.2% of the city’s jobs in 2010, and 4.9% in 2013, were green jobs.

GreenJobs BC has not established a definition of a green job, but uses a guideline that initiatives should: provide good green jobs that are socially equitable, environmentally sustainable, and result in the reduction of GHG emissions. In a context where progress is needed in all parts of the economy, we hope to engage workers and organizations from all industries - including those outside of existing definitions - in the discussion about the path to a sustainable future... “at the end of a successful green industrial revolution, all jobs would be inherently green” (Lee and Carlaw, 2010).

The industrial mix of these 2 economies is very different, and so is the carbon footprint. Jobs in forestry or construction are relatively low-GHG, as are services, but manufacturing and transportation create more emissions per worker, and oil and

gas the most^x, so different industries’ relative proportion in a region affects emissions profiles. These differences also mean there are different levers to affect positive change and create jobs.

b. Economic drivers in an era of rapid change

- i. A strong economy can go hand-in-hand with better environmental performance. From 2007-2012, BC reduced its emissions by 6% while its economy grew by 11.6%^{xi}, faster than in the rest of the country^{xii} (though jobs grew by only about 4%)^{xiii}. The City of Vancouver has found that green jobs in the city grew at about 6% a year from 2010-2012^{xiv}, more than double the rate of the rest of the economy. Key green economy sectors contribute to jobs and GDP in regions across the province, with strong growth potential^{xv}. Though green jobs make up a small percentage of all jobs, there are credible estimates that they could triple by 2020^{xvi}. This stems in part from the fact that green economy sectors generally create high numbers of jobs per amount of GDP, anywhere from 50% to 900% more than jobs in fossil fuel extraction, and at a fraction of the emissions^{xvii}.

Quality of life is becoming a key consideration for workers, which in turn affects location decisions for knowledge economy firms who need to attract talent^{xviii}. Smaller centers have difficulty attracting many firms due to a lack of qualified personnel or training^{xix}; unless there is a large project that draws people with the promise of high-paying jobs, the road to a strong economy is longer and slower than it is in urban areas. The lack of training and use of temporary foreign workers increasingly complicates this picture^{xx}. Vancouver, on the other hand, is increasingly attracting young people and companies based on its green credentials and quality of life^{xxi}.

Technologies are also playing an increasingly important role. They greatly enhance worker productivity, but Canadian service firms invest relatively little in their workers^{xxii}, and resource sector investments and facility upgrades often reduce the number of workers^{xxiii}. This perpetuates phenomena like rising inequality, “jobless recovery”, and others. As industries change, and it becomes easier to generate profits than jobs, governments need to develop tools that boost employment without holding back progress.

c. Climate change, and BC’s environment and economy

Climate change’s impacts are increasingly being felt^{xxiv}. In BC, the mountain pine beetle outbreak, infrastructure overwhelmed by flooding due to faster melts, and changing conditions for agriculture or winter tourism are all forcing adaptation planning. As jurisdictions like California are hit by drought, we are seeing not only price impacts for our imported food, but those jurisdictions moving the dial forward on implementing solutions to reduce emissions, water use, and pollution and waste

in various forms.

In 2008, the BC government recognized the importance of taking climate action, and its potential benefits. The policies implemented at that time - including the carbon tax - are working^{xxv}, and the government continues to hit emissions reduction targets^{xxvi}. Despite this success, the Province’s current strategy conflicts sharply with climate action leadership. Municipalities have picked up some of the slack, and GreenJobs BC has profiled a number of [local government success stories and policy options](#). But without the Province’s regulatory and spending powers, the kind of progress on climate that creates meaningful job growth is difficult.

d. ***Moving beyond boom and bust, building community resilience***

Resource industries produce the raw materials that are fundamental to our society in its current form, and those industries will continue to play an important role in communities across the province. BC has many examples of advanced production methods and practices that are models of sustainability, whether in fisheries, forestry, or industry. We know that the right investments, policies, and regulations can ensure sustainable resource use and buy us the time to avoid catastrophic climate change, but government policy is currently pursuing a path of resource extraction^{xxvii} and deregulation^{xxviii}. This is creating conflict and forcing trade-offs in communities and between industries that create heavy financial, economic, and environmental risks in the medium-term. A more sustainable long-term strategy would be to look to build community-relevant projects that prioritize efficiency, and grow industries that complement each other so that one job does not come at the expense of another. A green jobs strategy can provide a blueprint for a sustainable future.

3. ***Economic Foundations***

BC’s unique geography presents challenges due to distance and land use, but also provides a wealth of clean power infrastructure and natural resources. Since most BC jobs are in services, low-carbon energy means that many jobs have low environmental impact. When buildings are built efficiently, and communities and transportation systems are properly designed¹, the result is lower operating costs and higher quality of life. This economic infrastructure determines the environmental footprints of most people across BC, and is the source of many jobs. As a result, they are well-suited to provincial policies and investments, which can create many jobs and reduce GHG emissions. Past GJBC work has developed provincial policy recommendations around [Clean Energy](#), [Green Buildings](#), and [Clean Transportation](#).

¹ For examples of Smart Growth Principles, see Smart Growth BC <http://www.smartgrowth.bc.ca/Default.aspx?tabid=133>

a. **Energy**

BC’s hydro resources make it one of North America’s great assets of low-cost, low-carbon electricity. The emergence of wind and solar as cost-competitive technologies is reshaping global energy markets and creating jobs. BC’s low energy costs impede consumer-driven investment, and BC does not need to replace coal-fired capacity like Ontario or the US^{xxxix}. But BC Hydro’s baseload power gives it strong foundations for integrating renewables, as long as the public system is not undermined by integrating less reliable sources for private gain^{xxx}. BC’s utility sector is also at the top of the list of well-paid sectors^{xxxi}.

BC’s infrastructure and expertise make us players in a \$15-Billion global smart grid market^{xxxii}. Though renewables present system challenges for grids as new boundaries are pushed, places like Germany, California and Ontario are working through the technical challenges and pricing issues^{xxxiii}. The Pacific Coast Action Plan on Climate and Energy commits BC, Washington, Oregon and California to actions around smart grid and carbon pricing^{xxxiv}, creating an impetus and a market for BC’s clean energy, technology and expertise.

The US and Ontario have created tens of thousands of jobs from renewable energy^{xxxv}. BC has no market mechanism like a feed-in-tariff, but public investments like hydro dam retrofits, municipal initiatives like Kimberley’s Sun Mine^{xxxvi}, or citizen-led initiatives like solar power in the Cowichan Valley^{xxxvii} are all creating clean energy jobs. With conservation and demand management as a cost-effective lead strategy, BC has the opportunity to target new investments and policies towards renewable and low-carbon energy sources.

b. **Buildings**

Buildings are BC’s largest energy user – residential buildings make up 35% of BC Hydro sales, and commercial buildings 31%^{xxxviii}. Buildings also account for 11% of BC GHG emissions through natural gas heating^{xxxix}. BC’s construction sector employed 192,000 workers in 2013, 8.3% of all jobs^{xl}. Studies from the IPCC and others identify building energy efficiency as the most cost-effective way of reducing emissions, with conservation as the lead strategy^{xli}.

BC estimates show the construction sector creates high numbers of jobs per dollar invested, making building retrofits a win-win in terms of quick investment paybacks and high job creation^{xlii}. A BC building retrofit program focused on financing and incentives could have big benefits. Investing in school and hospital retrofits creates jobs and helps bring down costs for vital public institutions. A strong building code with effective enforcement will promote quality work and increased employment, and sufficient training and apprenticeship investments will ensure the skills are there to get these jobs done.

c. **Transportation**

Transportation is the largest source of GHG emissions in BC (38% of emissions), though since the carbon tax was introduced BC now uses 19% less fuel per capita relative to the rest of Canada^{xliii}. Electric vehicles will further bring down emissions from personal vehicles (and create jobs, though add challenges around capacity), but for now the discussion around clean and efficient transportation in BC revolves around transit. Since 2006 more people in Vancouver have shifted to transit as their way to get to work than anywhere else in North America, and it is now the 4th most transit-oriented region on the continent^{xliiv}. A victim of its own success, infrastructure is at capacity, and new investments are urgently required. In 2015, residents will vote in a referendum on funding improvements, and a positive result is critical to accommodate future growth and avoid gridlock. Transit investments will create up to 55,000 jobs in the construction phase, plus additional operations jobs, if the Mayors’ Council plan is adopted and funded^{xliv}.

Low-carbon transportation options, when combined with smart growth planning, can work for less dense communities as well as large urban centres. Communities are discovering that connected walking, cycling, and transit infrastructure can make low-carbon transportation more viable, with benefits for quality of life, tourism and more. Technologies like apps make it easier to coordinate transport modes and schedules, and enhance the utility of services like car sharing^{xlvi}. BC’s port infrastructure also plays a key economic role, and for both freight and passengers, transport by sea or rail is more efficient than by road. These modes keep vehicles off roads, as does transit/walking/cycling in urban centers where shipping bottlenecks typically occur. This also helps industry province-wide through more efficient goods movement^{xlvii}.

First Nations in BC: placing clean development at the forefront

BC first nations have been leaders in green economic development, with many nations and bands prioritizing sustainable job creation. One important aspect in many initiatives is economic systems based on natural systems, where interrelated projects reinforce one another, with maximum economic and minimal environmental impact.

The T’Souke First Nation on Vancouver Island became Canada’s first solar first nation. Their solar initiative trained workers who became a go-to workforce for the region’s solar projects, and created power for the nation’s sustainable agriculture (wasabi) and shellfish aquaculture initiatives. Coastal First Nations have built on the Great Bear Rainforest Agreement to establish a foundation of land and marine use plans that guide sustainable forestry, shellfish aquaculture, and fisheries initiatives. All of this is enhanced by a tourism strategy that showcases the region’s natural abundance, sustainable economic initiatives, and history and culture. The Tsleil-Waututh First Nation has a number of proactive economic development initiatives, from wind power to tourism, and green building.

The value of first nations approaches to land and resource stewardship is increasingly being recognized, reconnecting traditional (and unceded) first nations territories to a rich history of practices built up over thousands of years.

d. **Food and local economy**

Buying local results in twice as much money recirculated locally as buying from a chain or multinational^{xlviii}. Much of Canada’s manufacturing and distribution infrastructure has been eroded^{xlix}, and small businesses closed in hollowed out downtowns, but there are efforts to rebuild systems that support local jobs rather than transport raw materials far away for processing, only to return as finished goods in big-box stores.

Local food is an integral part of the local economy movement. BC’s agriculture sector accounts for only 3.5% of BC’s official GHG emissions, but this is likely low because BC imports about half its food (food is normally 10-12% of GHG emissions)ⁱ. Our dependence on imports exposes us to supply or price shocks, which are increasingly being caused by climate changeⁱⁱ. BC’s \$2.8 Billion in farm gate sales in 2012 could circulate \$9 Billion in the local economy with committed investment and supportⁱⁱⁱ. Farmer’s markets are growing rapidly across BC, which is helping local farmsⁱⁱⁱⁱ. Initiatives from the Cariboo and elsewhere are showing benefits to sustainability, as farmers use less fertilizer and pharmaceutical inputs, bring down their costs, and turn a profit with less revenue^{iv}.

Understanding stores’ and companies’ labour and environmental practices is important to ensure buy-local practices like 100-mile diets result in less environmental impact and better jobs. Big levers for boosting the local food economy are: investments in warehousing and processing infrastructure^v, institutional procurement^{vi}, and improved mechanisms for local food in larger stores’ supply chains when in season. The same mechanisms broadly hold for other aspects of buying local, as well as resources for awareness, collaboration (especially around infrastructure and supply networks), and pre-procurement work with local firms^{vii}.

e. Place-based services: Education, health care, public sector and the arts

Most local economies have a large number of place-based services such as health care, education and social services that underpin the human side of the economy – ensuring people are educated, happy and healthy enough to perform their work. The public sector typically affects 20-30% of the incomes in communities across BC^{lviii}. The public sector is also typically responsible for initiatives around water, waste, and recycling, which provide jobs and environmental benefits, as well as providing on-the-ground knowledge around environmental conditions and economic development that help grow the local economy without adverse impacts. The arts is a complicated addition to this mix. It is in many ways what makes a community distinctive, plays a role in boosting tourism, often helps boost quality of life that attracts and retains residents, and in some larger centres has strong relationships with creative and tech sectors^{lix}. BC has about 25,000 full-time artists, the highest percentage of the working population in Canada^{lx}.

All of these are sectors that play a valuable role in communities, but are often

omitted from the discussion of economic growth. BC’s status as a leisure and retirement destination also mean that non-employment income is relatively high in many communities^{ixi}, making quality of life a key consideration.

Kimberley, BC: transitioning to a diverse economy with green jobs as a bridge to the future

Once the site of the world’s largest lead-zinc mine, the city faced challenges when the Sullivan Mine was depleted and closed in 2001, and when a rerouting of Highway 3 bypassed Kimberley). A community planning process got in front of changes by developing a tourism strategy centred on a Bavarian-themed, pedestrian-oriented Platzl. Kimberley residents contributed to beautification and development, and a ski hill was developed by the community and workers.

Resource jobs are still important to Kimberley. Forestry operations are adopting sustainable practices, and some mills became viable again because of bioenergy. Mining is still a big employer in the East Kootenays, including Teck’s facilities in town, but Kimberley’s economy is now diverse. The city’s building sector has a reputation for quality and green building practices, bolstered by incentives from the city, training programs at the College of the Rockies, and advanced building standards.

The Mark Creek flowing through town has been restored from a concrete culvert to a natural ecosystem. Former industrial facilities like the Teck mine stairs and the rail spur between Kimberley and Cranbrook now anchor parks that attract residents for lifestyle reasons. A new Conference Centre hosts large events to boost year-round tourism, and is a showcase green building.

Kimberley most recently generated interest across Canada because of its Sun Mine, a multi-stakeholder partnership that uses a former mine site as the location for Western Canada’s largest solar farm. The city has turned a mixture of resilient systems – like energy-efficient buildings and a restored natural environment that attracts residents – with key sectors whose improved practices are creating and preserving jobs. Through foresight, planning and citizen engagement, Kimberley has developed a resilient, collaborative and green

4. *Economic Sectors*

The economic foundations discussed in the previous section affect most British Columbians’ lives and jobs. Economic sectors employ fewer people, but have a big economic impact. Even in forestry or fishing regions, there will typically be more teachers and health care workers than millworkers or fishers. But key sectors bring resources into the community that support retail, professional services and local-serving businesses. Communities have an interest in preserving these industries, complicated by the fact that they are private sector companies competing in the market economy, with labour and environmental practices ranging from excellent to poor. These sectors are also more volatile – government closure of a school or hospital is a rare occurrence, but businesses, mills, etc. open, expand, contract or close all the time.

a. *Forestry*

Forestry has arguably contributed more to BC’s development than any other sector,

and continues to be the most prominent industry in many regions and communities. Massive job losses over the past 2 decades have taken a toll on communities, but gains in terms of energy from waste wood, sustainable practices and better forest management, diversified markets, and a focus on better use of off-cuts for value-added production are restoring hope for the future in some places. BC Stats has quantified the degree to which different areas are dependent on different sectors, and forestry plays a big role in many communities, for example affecting 45% of local incomes in Quesnel (highest), 28% in Prince George, 23% in Merritt, 9% in Kamloops, 4% in the Stikine, and 1% in Victoria^{lxii}.

With the right approach, forestry is a sustainable resource that can employ more people in communities across BC. Targeted policies could produce huge jobs gains in value-added manufacturing (10,000 jobs), tree planting and forest health (5,200 seasonal jobs), wood waste processing (2,400 jobs) and the Forest Service (200 jobs)^{lxiii}. These policies could restore forest health and knowledge, and create good local jobs. BC currently gets 4-5 times fewer jobs from the same amount of wood as other Canadian provinces^{lxiv}. Prince George and Vancouver are both becoming important centres for research into value-added wood, and each are using local buildings to demonstrate the possibilities and aesthetics of wood^{lxv}. GreenJobs BC has additional policy recommendations in the area of [forestry](#).

b. *Agriculture and Food*

BC’s food production fell more than 20% from 1991-2011, and employment fell nearly 20% over the last decade to 27,000 people^{lxvi}. The BC agriculture sector decreased its emissions by 15% from 2007 to 2012. The industry contains everything from small organic and hobby farms, to large Fraser Valley berry operations and industrial-scale agriculture for export, to ranching in the Interior. Agriculture also underpins jobs in food manufacturing (23,000 jobs)^{lxvii}, and the retail, wholesale and food service sectors. The agriculture sector was exempted from the carbon tax in 2012, though statistical evidence showed the tax had not hurt the sector^{lxviii}.

As noted in the local food section above, actions can be taken to boost productivity and profitability locally and regionally. Protection of existing agricultural lands alongside incentives for cultivation of smaller parcels and fallow lands could start to replace lost production^{lxix}. Continued protection of Agricultural Land Reserve lands and regulations is a critical long-term issue^{lxx}.

c. *Clean Technology*

The global clean technology market is exploding, growing at around 11% annually^{lxxi}. In 2011 there were estimated to be over 200 BC companies generating \$2.5 Billion in revenue and employing 8400 people. Vancouver is recognized as a top-10 global clean tech center^{lxxii}. Canadian clean tech employment is growing at about 8% annually^{lxxiii}, and BC’s job growth may be even higher^{lxxiv}.

These companies make technologies for: energy generation, storage, and transmission; transportation; recycling, resource and water management; and more. Exported products and solutions can significantly reduce emissions globally while creating BC jobs, as with energy management software maker Pulse Energy who are helping 1 million UK companies reduce their emissions through British Gas^{lxxxv}.

These research-intensive companies benefit from research tax credits, and the clean tech industry is the country’s 2nd-largest investor in R & D^{lxxxvi}. The sector can be further supported through opportunities and support to deploy solutions locally^{lxxxvii}, such as UNBC’s bioenergy facility and Sustainable Communities Demonstration Program^{lxxxviii}, and Vancouver’s Green and Digital Demonstration Program^{lxxxix}.

d. **Tourism**

BC’s natural beauty means that just about every community in the province has tourism opportunities close at hand. Tourism supports 3-9% of incomes in most communities (double digits in a few regions)^{lxxx}, and wilderness tourism alone is valued at \$1.5B^{lxxxii}. Tourism is compatible with most sectors, and creates positive synergies with agriculture through culinary tourism, environmental and conservation organizations through eco-tourism, and boosts local small businesses when tourists seek an authentic experience^{lxxxii}. Tourism is often looked at as a potential source of jobs in areas hard-hit by job losses^{lxxxiii}, and many regions have found that modest investments in sport or wilderness tourism infrastructure have paid off quickly^{lxxxiv}. However, these relatively low investments also result in low worker productivity, and the tourism sector is known for the lowest average pay^{lxxxv}.

e. **Mining**

One of the province’s legacy industries provides about 15,000 jobs province-wide, about twice the number as a decade ago^{lxxxvi}, and generates \$8.5B in GDP (about 43% of this from metallurgical coal)^{lxxxvii}. Both its environmental and economic footprint are very high in the communities where they operate – it affects 44% of incomes in Fernie, 37% in Kitimat, and 22% in Terrace, but 1-2% or less in most centers^{lxxxviii}. Mining recently became the BC sector with the highest average wages^{lxxxix}. The Mount Polley tailings pond leak has raised overall questions about the lack of oversight and enforcement of the industry, although a number of BC companies take their environmental practices and role in the community seriously (see Kootenays and Kimberley examples).

f. **Fisheries**

Commercial fisheries play a large role in a small number of communities, affecting 16% of incomes in Prince Rupert, and 2-7% in a number of communities on Vancouver Island and the North Coast^{xc}. This is in addition to sport fisheries, a tourism activity that provides an additional boost to many of those same communities^{xcii}, and manufacturing/processing jobs. Sustainability in the industry has

long been a concern, and a number of organizations work alongside fishermen to ensure a vibrant industry exists alongside healthy stocks and marine environments^{xcii}. First nations have been among the leaders in sustainable aquaculture and fish farms^{xciii}.

g. **Education**

Last but not least on this list are BC’s colleges and universities, which are often at the heart of a region’s green initiatives. Because the techniques and technologies are often cutting-edge, green initiatives require high-level skills and knowledge. Universities can also play an important corporate role as early adopters, as well as providing research linkages that can assist best practices and continuous improvement. University research spinoffs are at the heart of Vancouver’s clean tech sector. Whether Thomson Rivers University’s agricultural research, UNBC’s wood engineering, or UBC’s Living Lab, local institutions are finding ways to propel forward their local green economy.

5. **BC’s Regions: Snapshots & Success stories**

Each of BC’s regions has a distinctive economic mix, and distinctive green economy projects, alongside some commonalities like building retrofits. The lowest unemployment rates are in the relatively “green” Kootenays (5.2%) and the oil-and-gas-heavy Northeast (4.9%), and the highest in Thompson-Okanagan (7.1%) and Abbotsford-Mission (7.8%). Larger authorities like BC Hydro have been the driver behind a number of province-wide initiatives like the now-scaled-back LiveSmart program. Municipalities are often the driving force behind the regional green initiatives that differentiate different regions’ green economies. Some additional municipal success stories can be found in GreenJobs BC’s [Best Practices for Municipalities](#) document.

a. **Vancouver**

Vancouver has become a global centre, expanding its roots as a resource head office location and port into a broader service centre with growing technology firms^{xciv}. The region’s real estate has become a hot commodity, and local governments have used a building boom to push forward greener building codes that expand Vancouver’s reputation for sustainable city planning^{xcv}. The City of Vancouver’s Greenest City Action Plan set targets in 10 areas that aim to transform the city into the world’s greenest (it is already often ranked as North America’s greenest^{xcvi}). The region has had tremendous success shifting transportation to sustainable forms, with 1 in 5 people taking transit to work region-wide, and 44% of all trips in the city itself from walking, cycling or transit in 2011^{xcvii}.

A recent update on the greenest city plan found 19% growth in green jobs from 2010-2013, with municipal policies creating strong growth in local food, green buildings and more^{xcviii}. The city was able to boost local food by, for instance, prioritizing food truck permits for operations using more sustainable and local ingredients^{xcix}. Other initiatives from protection of industrial land^c to demonstration

projects^{ci} have helped boost the local clean tech sector. Clean tech is one of the region’s big success stories, with firms all across the region – head offices downtown, research and manufacturing clusters in Burnaby and near UBC, even engine assembly on Annacis island. BC’s service exports are beginning to pick up, including sustainability/environmental consulting services^{cii}, and Vancouver is typically the global brand recognized abroad, bolstered by its green credentials.

Several municipal governments are opposed to some large-scale resource development projects like the Transmountain pipeline expansion, arguing that those projects create climate risks and damage the brand that attracts the people and technology firms that increasingly fuel Vancouver’s economic growth^{ciii}, as well as risks to property values^{civ}. The growing proportion of green jobs in the economy demonstrates the success of policies across the region, and in many cases provides a policy template and a willing partner for other urban areas in the province to implement their own policies.

b. Fraser Valley/South of the Fraser

The Fraser Valley’s urban and suburban areas contain some of BC’s most important agricultural and industrial land.

Surrey is pursuing a widespread green agenda that takes advantage of their industrial land to attract and grow green manufacturing firms, like Endurance Wind Power or PowerTech Labs^{cv}. It is also using its status as one of Canada’s fastest-growing regions to develop its urban infrastructure as a showcase for green practices. For instance, the firm that designed the Surrey City Centre complex using BC wood^{cvi} was subsequently commissioned for projects in Washington, DC, which opened up a new export market for BC value-added wood. The new Centre houses SFU Surrey, a key player in local/regional green initiatives.

Endurance Wind also has an alliance with the Tsleil-Waututh Nation to grow clean energy and jobs^{cvi}. First Nations in the region have been some of the leaders on green initiatives, including the Sto:lo Nation in Chilliwack who have been green building leaders in that community.

The Fraser Valley accounts for 35% of BC’s agriculture and 55% of its food processing^{cviii}. Water protection is an important issue for the Valley, because it requires balancing local agriculture, residential growth, and the Fraser River’s salmon run^{cix}. Farmers’ markets are growing in the region, though local sourcing in larger BC stores has an even greater potential to boost Fraser Valley farm incomes^{cx}. Sustainable transportation is growing in the region in part due to pressure from students and citizens, and initiatives are underway to connect the broader Fraser Valley to Metro Vancouver’s transit infrastructure^{cx}. For the Abbotsford-Mission region, currently experiencing the highest unemployment in the province at 7.8%, creating low-cost transportation that integrates the labour market could help future

prosperity.

c. **South Coast:**

The South Coast and Sunshine Coast are heavily influenced by tourism, fishing and forestry. As elsewhere, some of the biggest successes on the coast are being led by First Nations. The Sechelt first nation has completed a run-of-river hydro project that has won awards for its environmental performance^{cxii}, and will be used to power sustainable shellfish aquaculture and other economic development initiatives for the band. Tourism in the region is increasingly based on the region’s natural beauty, and adapting sustainability features. Large industries like the Howe Sound Pulp and Paper Mill have gone from being an “environmental travesty” to solid employers for the community^{cxiii}. The

Sunshine Coast’s layout makes it more suitable to public transit, which is relatively good, and car-sharing, which is growing. Because many local workers are engaged in professional services (or tourism), broadband connections and good ferry service are especially

GreenJobs BC Town Halls

At each of the 8 GJBC Town Halls, participants were asked 2 questions:

- *What do you see as the industries, projects or initiatives in your area that you’re proud of, and how do you see them creating Green Jobs in the future?*
- *Looking at the GreenJobsBC areas of policy focus (buildings, energy, transportation, forestry), select an area that you think is relevant for your region and think of 2-3 ways of making jobs in this sector a reality in your community*

Community members’ responses, success stories, and challenges were all collected, collated, and posted on the GreenJobs BC website.

important for the economy^{cxiv}, as well as providing jobs in their own right. The coastal tourism industry likely lost tens of millions of dollars in tourism revenues this year when BC Ferries cut the Discovery Coast route to save \$725,000^{cxv}.

d. **The Kootenays**

The Kootenays may be the best example of a diverse green economy, with jobs in nearly all parts of the economy having a green element. Much of the region’s hydro infrastructure provides both employment and community benefits. Many Kootenay forestry operations are undertaking advanced environmental management practices and certifications, and local forest products manufacturers have initiatives ranging from collaboration on allocating timber supply to bioenergy that are improving footprints and bottom lines.

Municipalities and Institutions are often spearheading green initiatives, and large and small communities in the region have programs to incent retrofits. Nelson is the most well-known of these, having pushed its market towards a tipping point in green building practices through a committed staff person, and facilitated by its ownership of the local utility^{cxvi}. Other municipalities are seeing innovative programs implemented, from Selkirk College’s Renewable Energy Technology Program, to the

Slocan’s Integral Forestry Cooperative to Kimberley’s initiatives (see text box p.9). There are also large industrial and resource facilities, like Teck’s operations in Trail and the Elk Valley, that are committed to cleaning up previously harmful practices^{cxvii}, and workers, environmental groups, and the company can effectively pursue the same ends in terms of minimizing impacts and preserving jobs.

A distinct feature of the region is the number of projects receiving support from the Columbia Basin Trust (CBT). CBT receives revenue in trust from local hydro facilities that are reinvested in community projects like environmental education and restoration, and economic development^{cxviii}. For example, CBT recently undertook retrofits of existing dams that created hundreds of jobs^{cxix}, and will now see those facilities producing clean power that generates an additional revenue stream to further benefit community initiatives. These many green initiatives and community reinvestments are contributing to a region that has the second-lowest unemployment rate in BC despite difficult transport connections.

e. ***Southern Interior/Okanagan***

BC’s interior has always been a strong forestry and fruit-producing region, and increasingly a vibrant tourist and lifestyle destination as well. The ability to leverage different aspects of tourism, like culinary tourism and eco-tourism, is creating opportunities to tap into new markets from improved practices, and a growing number of vineyards are switching to sustainable practices^{cxx}. This builds on larger changes in local agriculture, which are moving to lower-till practices, and out of necessity adopting plans like the Okanagan Sustainable Water Strategy^{cxxi}.

Institutions like UBC Okanagan and Thompson Rivers University are finding ways to make their curriculums and research relevant to the local economy^{cxii}. The TRU trades school is helping build the region’s green building expertise. Kamloops’ role as the intersection of 2 railways gives it the opportunity to act as a freight entrepot and inland port that can support recycling and manufacturing jobs. A number of local mills have implemented pellet production and energy production to make use of waste. Merritt has even used its EV charging stations to leverage potential tourist stopovers, and is linking its pedestrian, cycling and transit infrastructure to give residents a viable network of low-carbon transport options.

f. ***Vancouver Island***

The T’Sou-ke First Nation became Canada’s first solar first nation with an initiative that started in 2008^{cxiii}, and has leveraged its expertise in systems and installation into projects in conjunction with local partners, such as the Solar Colwood initiative undertaken by the nearby municipality^{cxiv}. The first nation has now added agricultural and greenhouse projects, clean energy initiatives involving wind and waves, shellfish aquaculture and more, creating an integrated model for green economic development in the future^{cxv}.

The Cowichan Valley is also experiencing an explosion of interest in sustainable practices. A citizen-led initiative to bulk buy solar panels has joined forces with a co-op of tradespeople to deliver the installs^{cxxvi}. With a municipality that has won awards for its Climate Action Plan^{cxxvii}, and an emerging Community Carbon Marketplace that is helping small businesses enter the carbon credit market^{cxxviii}, there is an exceptional amount of (clean) energy around small-scale initiatives.

Further north on the island, Comox Valley residents are looking at combining their existing strengths into a broader package. The area has long had abundant and sustainable shellfish aquaculture operations, and there is a growing ecotourism industry alongside one of the world’s premiere sportfishing locations. Along with a social enterprise initiative to boost the local food sector^{cxxix}, there are opportunities to build out infrastructure and destination marketing that will boost local jobs.

g. ***The Cariboo***

The Cariboo region is building on history, industry and community connections to establish a more viable long-term economy, including a continued focus on sustainable use of its resources. Local mills’ addition of pellet and bioenergy facilities now produces more value from waste wood. The area has developed a reputation for expertise in timber-frame construction, and small value-added producers are providing employment that rivals a mill in some areas.

A number of ranches have been experimenting with low-till agriculture in conjunction with a Thomson Rivers University research team, and are enjoying benefits from sustainable practices that are expected to increase as researchers find ways to further improve practices. Cooperation is also growing on the supply and distribution side. Tourism infrastructure in the area is strong and the potential exists to leverage heritage, food, and environmental assets further in this regard. Although 5 mills and 2 mines are operating in the area, many local businesses still struggle to make ends meet and downtowns are hollowing out here as elsewhere. Buy local initiatives could play an especially valuable role in building out the region’s infrastructure and businesses while resource sector incomes booming.

h. ***Fraser-Prince George***

Prince George, BC’s “Northern Capital”, is clearly dominated by resource extraction. There is currently an emphasis on adding capacity that will find ways to add value to those resources. A number of bioenergy and pellet plants have been opened in the region, taking wood waste from the area’s many mills and turning it to productive uses. Further efforts are underway to develop new products, spearheaded by the University of Northern British Columbia (UNBC) and the newly-completed Wood Innovation and Design Centre, housed in a building that itself demonstrates the possibilities for engineered wood products.

UNBC is making a contribution to the region on a number of levels, including its leadership through carbon-neutral operations, and its Bioenergy plant and Sustainable Communities Demonstration Centre, which allow people to see sustainability in action. All of this supports its slogan of “Canada’s Green University”.

i. ***A note on other regions***

Regions such as the Northeast and North Coast have not been covered in this report, as GreenJobs has not developed on-the-ground knowledge from visits and events in these locations. This work will be forthcoming.

6. ***Conclusion/Recommendations***

There are many reasons to hope that BC can once again discover that climate leadership is good for its economy. The province has countless projects that demonstrate that efficient practices make good business sense, and are supported by communities. Examples of job-creating climate action can be found in every region, and are magnified in our largest city.

Government has a strong role to play. The introduction of the carbon tax and climate initiatives in 2007 built on BC assets to jump-start low-carbon economic development. Over that time, the province rolled out a range of tools and regulations to spark desired economic changes. UNBC’s energy initiatives enjoyed financial support alongside regulatory requirements, while private sector firms expanded to take advantage of new markets and a focus on trade in technology. Currently, it is municipal and citizen-led initiatives that are garnering the headlines, and these could be bolstered by a more supportive policy environment from the BC government.

There are a number of policies that can help communities across BC:

- Increase investments in conservation and renewables
 - scale back up the Live Smart program and its equivalents
 - focus investments in new generation in low-impact renewables with a priority on public and community-led projects
- Invest in transit and clean transportation infrastructure
 - ensure a winnable referendum question in Metro Vancouver that allows for sustainable funding
 - continue to roll out electric and low-carbon vehicle infrastructure across BC
- Expand programs and develop financing tools for building retrofits
 - bring back and expand on-bill financing pilots
 - provide homeowners access to low-cost government debt via loans

And others targeted at specific sectors:

- Develop procurement policies at multiple levels

- provide resources and incentives for local/regional/provincial governments, schools, hospital districts and/or businesses to purchase from local suppliers, with priorities based on local industries (i.e. use of wood and wood plastics for buildings in the North)
- create an infrastructure fund to scale up market access for and collaboration among local food and value-added producers.
- Reinvest a portion of resource revenues in trust
 - in recognition of future risks and impacts, ensure that a portion of resource revenues are invested in an arms’ length trust to invest in regional economic and environmental priorities.
- Enhance and fund environmental regulation and enforcement
 - restore cuts made to government science and environmental professionals
 - renew regional offices to provide greater on-the-ground information on local environment and economy issues
- Expand support for sustainable agriculture and tourism promotion
 - support for marketing, business planning and evaluation of improved practices
 - support for regional initiatives that build collaboration among sectors

These policies and investments will allow BC communities to scale up successes in the green economy, and build labour markets that provide more good jobs with less environmental impact.

ⁱ<http://www.vancouversun.com/opinion/columnists/Barbara+Yaffe+better+than+middle+pack+economic+player/9864373/story.html>

ⁱⁱ<http://www.bcstats.gov.bc.ca/StatisticsBySubject/LabourIncome/EmploymentUnemployment/LabourForceStatisticsAnnual.aspx>

ⁱⁱⁱ<http://www.bcstats.gov.bc.ca/Files/618092ea-7336-4df0-a20f-f744ca30d3a4/SmallBusinessProfile2014.pdf>

^{iv}https://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2013/04/CCPA-BC_Public_Sector_Reality_Check_0.pdf

^v<http://www.bcstats.gov.bc.ca/Files/7b7c178e-da8e-468c-922b-0faae039c8db/2013Sub-ProvincialPopulationEstimates.pdf>

^{vi}<http://www5.statcan.gc.ca/cansim/a26> , <http://www.workbc.ca/WorkBC/files/5f/5fc26f16-3c0f-4884-ab99-b475ca7448b7.pdf>

^{vii}<http://ojs.library.ubc.ca/index.php/bcstudies/article/view/1690/1737>

^{viii}http://static.squarespace.com/static/52012782e4b0707e7a30fda8/t/5240c1c2e4b0eb37f4220fd2/1379975618159/ufi_regions_resources.pdf

^{ix}http://www.unbc.ca/assets/community_development_institute/research/housing_transition_study_final_report_2000.pdf

^xhttp://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2010/09/CCPA_bc_climatejustice_green_jobs.pdf

^{xi} <http://www.bcstats.gov.bc.ca/Files/79634eaf-a795-4663-a8a0-12c6f3a147c0/BCEA-GDPIncomeAccount.xlsx>

^{xii} <http://www.pembina.org/blog/lessons-from-bcs-carbon-tax>

^{xiii} <http://www.esdc.gc.ca/eng/jobs/lmi/publications/e-scan/bc/bc-e-scan-201303.pdf>

Employment growth was largely in service sectors, offset by weakness in goods-producing sectors like manufacturing, agriculture, and oil/gas/mining.

^{xiv} <http://www.vancouvereconomic.com/page/green-job-report-summary>

^{xv} http://bcgreeneconomy.globeadvisors.ca/media/227/bcge_report_feb_2010.pdf

^{xvi} http://globeadvisors.ca/media/3322/wcce_report_web_final.pdf p. 6. US renewable growth is already growing far faster than the rest of the US economy

<http://www.renewableenergyworld.com/rea/news/article/2014/01/solar-jobs-growing-ten-times-faster-than-national-average-employment-growth>

^{xvii} <http://greenjobsbc.org/wp-content/uploads/2013/07/GreenJobs-Full-Policy-Booklet.pdf>

^{xviii} http://www.vancouvereconomic.com/userfiles/file/news/BCBC%20Report_March%202010.pdf

^{xix} <http://www.theatlantic.com/past/docs/images/issues/200510/world-is-spiky.pdf>

^{xx} <http://www.policynote.ca/temporary-foreign-worker-program-changes-who-do-they-help/>

^{xxi} http://www.vancouvereconomic.com/userfiles/file/news/BCBC%20Report_March%202010.pdf

^{xxii} [http://rd-review.ca/eic/site/033.nsf/vwapj/R-D_InnovationCanada_Final-eng.pdf/\\$FILE/R-D_InnovationCanada_Final-eng.pdf](http://rd-review.ca/eic/site/033.nsf/vwapj/R-D_InnovationCanada_Final-eng.pdf/$FILE/R-D_InnovationCanada_Final-eng.pdf)

^{xxiii} <http://www.vancouver.sun.com/business/Advances+expected+help+protect+forestry+jobs+fuel+expansion/9813182/story.html>

^{xxiv} http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap26_FINAL.pdf

^{xxv} <http://www.economist.com/blogs/americasview/2014/07/british-columbias-carbon-tax>

^{xxvi} <http://www.pembina.org/blog/bc-climate-action-plan-2>

^{xxvii} BC LNG Strategy:

http://www.gov.bc.ca/com/attachments/LNGreport_update2013_web130207.pdf

Departure from climate strategy: <http://www.theglobeandmail.com/news/british-columbia/bc-liberals-pull-plug-on-key-part-of-climate-change-strategy/article21250599/>

Examples of resource dependence and need for diversification in the economy:

<http://www.ica.bc.ca/kb.php3?pageid=4752>

^{xxviii} <http://wcel.org/our-work/environmental-deregulation>

^{xxix} <http://www2.epa.gov/carbon-pollution-standards/regulatory-actions>

^{xxx} <http://www.straight.com/news/john-calvert-bc-clean-energy-act-escalates-private-power-agenda>

^{xxxi} <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/labor93k-eng.htm>

^{xxxii} <http://spectrum.ieee.org/energywise/energy/the-smarter-grid/china-pushes-past-us-in-smart-grid-spending>

^{xxxiii} http://solarindustrymag.com/e107_plugins/content/content.php?content.13895

^{xxxiv} <http://www.pacificcoastcollaborative.org/Documents/Pacific%20Coast%20Climate%20Action%20Plan.pdf>

^{xxxv} US: <http://www.nrdc.org/energy/renewables/energymap.asp> Ontario:

<http://bluegreencanada.ca/node/129>

^{xxxvi} <http://metronews.ca/news/vancouver/1088971/b-c-town-builds-western-canadas-largest-solar-farm/>

^{xxxvii} <http://www.desmog.ca/2014/10/19/something-amazing-b-c-just-happened-solar-energy>

^{xxxviii} <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/integrated-resource-plans/current-plan/0002-nov-2013-irp-chap-2.pdf>

^{xxxix} http://www.townsoftomorrow.gov.bc.ca/docs/ghg_assessment_guidebook_feb_2008.pdf

^{xl} <http://www.bcstats.gov.bc.ca/Files/2bd86b08-a46b-4ed3-88e6-b14e27bda5b3/EmploymentbyIndustry.pdf>

^{xli} http://www.ipcc.ch/publications_and_data/ar4/wg3/en/contents.html

^{xlii} <http://greenjobsbc.org/wp-content/uploads/2013/07/GreenJobs-Full-Policy-Booklet.pdf>

^{xliii} <http://www.theguardian.com/environment/climate-consensus-97-per-cent/2013/jul/30/climate-change-british-columbia-carbon-tax>

^{xliiv} City of Vancouver Department of Transportation. “Regional Transportation Investment and the Broadway Subway”. Presentation to the Vancouver Board of Trade, January 17, 2014.

^{xliv} Author’s calculation based on comparison to construction of similar line in Ontario, Metrolinx job creation estimates: <http://www.vivanext.com/mediarelease/related/mediarelease/viva-rapid-transit-construction-underway/>

Viva Line investment \$1.4B, Metro Vancouver Mayors’ transit plan \$7.5B

<http://mayorscouncil.ca/transportation-investments/>

^{xlvi} <http://www.straight.com/life/758361/go2gether-ride-sharing-app-promotes-carpooling-vancouver>

^{xlvii} <http://www.bcbusiness.ca/manufacturing-transport/how-vancouvers-traffic-nightmares-hurt-all-of-bc>

^{xlviii} http://www.sauder.ubc.ca/Faculty/Research_Centres/ISIS/Research/Social_Innovation/~media/Files/ISIS/Reports/Social%20Economy%20Reports/The_Power_of_Purchasing_-_The_Economic_Impacts_of_Local_Procurement.ashx

^{xlix} <http://www.bankofcanada.ca/2014/10/opening-statement-22-10-2014/>

^l http://pics.uvic.ca/sites/default/files/uploads/publications/Food%20Security_2011.pdf

^{li} <https://www.vancity.com/SharedContent/documents/pdfs/News/Vancity-Food-Study.pdf>

^{lii} <https://www.vancity.com/SharedContent/documents/pdfs/News/Vancity-Food-Study.pdf>

^{liii} [http://www.bcfarmersmarket.org/sites/default/files/files/BCAFM%20Economic%20and%20Social%20Benefits-%20Final%20Report%202013\(2\).pdf](http://www.bcfarmersmarket.org/sites/default/files/files/BCAFM%20Economic%20and%20Social%20Benefits-%20Final%20Report%202013(2).pdf)

^{liv} Cariboo example outlined at the end of:

<http://greenjobsbc.org/wp-content/uploads/2014/10/GreenJobsBC-Town-Hall-Summary-Williams-Lake-Sept-30.pdf> based on information from <http://inside.tru.ca/2009/01/14/new-research-chair-will-support-cattle-industry/> and other sources, and interviews with local ranchers

Further examples of low-till agriculture:

<http://www.bcagclimateaction.ca/wp/wp-content/media/FarmPractices-ConservationTillage.pdf>

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- lv [http://www.vancouvereconomic.com/userfiles/file/Local-Food-in-Vancouver-webversion\(1\).pdf](http://www.vancouvereconomic.com/userfiles/file/Local-Food-in-Vancouver-webversion(1).pdf)
- lvi http://greenjobsbc.org/wp-content/uploads/2014/10/GreenJobsMunicipal_procurement.pdf
- lvii <http://www.civicgovernance.ca/wordpress/wp-content/uploads/2014/01/FINAL-Buying-Local.pdf>
- lviii <http://www.bcstats.gov.bc.ca/Files/788c0316-83ee-45e3-81ce-3352b9d3a76a/BCLocalAreaEconomicDependencies2006.pdf>
- lix <http://www.theholmteam.ca/votewendy/media/PowerOfTheArts.pdf>
- lx <http://www.hillstrategies.com/content/artists-and-cultural-workers-canada%E2%80%99s-provinces-and-territories>
- lxi <http://www.bcstats.gov.bc.ca/Files/788c0316-83ee-45e3-81ce-3352b9d3a76a/BCLocalAreaEconomicDependencies2006.pdf>
- lxii <http://www.bcstats.gov.bc.ca/Files/788c0316-83ee-45e3-81ce-3352b9d3a76a/BCLocalAreaEconomicDependencies2006.pdf>
- lxiii <http://www.policyalternatives.ca/greenforests>
- lxiv <http://greenjobsbc.org/wp-content/uploads/2012/01/GJBC-forestry.pdf>
- lxv http://www2.news.gov.bc.ca/news_releases_2013-2017/2014JTST0088-001654.htm ,
<http://www.vancitybuzz.com/2014/09/ubc-wooden-building/>
- lxvi <http://www.bcstats.gov.bc.ca/Files/2bd86b08-a46b-4ed3-88e6-b14e27bda5b3/EmploymentbyIndustry.pdf>
- lxvii <http://www.bcstats.gov.bc.ca/Files/2bd86b08-a46b-4ed3-88e6-b14e27bda5b3/EmploymentbyIndustry.pdf>
- lxviii <http://pics.uvic.ca/sites/default/files/uploads/publications/Carbon%20Tax%20on%20Agricul-tural%20Trade.pdf>
- lxix <https://www.vancity.com/SharedContent/documents/pdfs/News/Vancity-Food-Study.pdf>
- lxx <http://thetyee.ca/Opinion/2013/11/25/BC-Agricultural-Land-Worth-Saving/>
- lxxi <http://www.analytica-advisors.com/sites/default/files/Stand%20alone%20ES.pdf>
- lxxii http://www.canada.com/story.html?id=78c1a275-3374-4594-bfee-82a4db6aaada#_federated=1
- lxxiii http://analytica-advisors.com/sites/default/files/CCTIR_2013%20Prospectus.pdf
- lxxiv http://www.ballard.com/files/PDF/Media/Cleantech_Report_Card_for_BC.pdf
- lxxv <http://www.pulseenergy.com/pulse/british-gas-business-april-16-press-release/>
- lxxvi <http://www.analytica-advisors.com/sites/default/files/Stand%20alone%20ES.pdf>
- lxxvii http://www.ballard.com/files/PDF/Media/Cleantech_Report_Card_for_BC.pdf
- lxxviii <http://www.unbc.ca/green/energy/sustainable-communities-demonstration-project>
- lxxix <http://www.vancouvereconomic.com/page/green-and-digital-demonstration-program-gddp>
- lxxx <http://www.bcstats.gov.bc.ca/Files/788c0316-83ee-45e3-81ce-3352b9d3a76a/BCLocalAreaEconomicDependencies2006.pdf>
- lxxxi <http://www.wilderness-tourism.bc.ca/value.html>
- lxxxii http://www.academia.edu/151775/Scoping_Paper_Local_food_Tourism_and_Sustainability
- lxxxiii See Kimberley example, or more recent example from Tumbler Ridge:
<http://www.northeastnews.ca/tumbler-ridge-unescos-newest-geopark/>

- lxxxiv <http://www.bccc.bc.ca/press-release-tourism-april-2012/>, <http://www.wilderness-tourism.bc.ca/value.html> <http://www.northerndevelopment.bc.ca/explore-our-region/success-stories/williams-lakes-boitanio-bike-park-helps-to-diversify-the-economy-through-sport-tourism/>
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- xc <http://www.bcstats.gov.bc.ca/Files/788c0316-83ee-45e3-81ce-3352b9d3a76a/BCLocalAreaEconomicDependencies2006.pdf>
- xc i http://www.destinationbc.ca/getattachment/Research/Research-by-Activity/Water-based/Fishing_Sector_Profile.pdf.aspx
- xc ii <http://www.bucksuzuki.org>
- xc iii First Nations’ Aquaculture Association: <http://www.aboriginalaquaculture.com>, Namgis First Nation’s closed containment aquaculture: <http://www.namgis.bc.ca/ccp/Pages/default.aspx>
- xc iv http://www.vancouvereconomic.com/userfiles/file/news/BCBC%20Report_March%202010.pdf
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- c http://greenjobsbc.org/wp-content/uploads/2014/10/GreenJobsMunicipal_industry.pdf
- ci <http://www.vancouvereconomic.com/page/green-and-digital-demonstration-program-gddp>
- c ii <http://bcgreeneconomy.globeadvisors.ca/bc%E2%80%99s-green-economy.aspx>
- c iii <http://www.kpmg.com/Ca/en/IssuesAndInsights/ArticlesPublications/Documents/6943-BC-Tech-Report-card-FY14-web.pdf>
- c iv <http://credbc.ca/wp-content/uploads/2013/12/Pipeline-spills-property-values.pdf>
- c v <http://business.financialpost.com/2013/10/08/b-c-community-looks-to-clean-tech-as-driver-of-economic-diversification/>
- <http://www.surrey.ca/city-government/16004.aspx>
- c vi <http://www.bingthomarchitects.com/project/central-citysfu-surrey/>
- c vii <http://www.endurancewindpower.com/2011/02/endurance-partners-with-tsleil-waututh-nation-for-clean-power-future/>
- c viii <http://www.fvrd.bc.ca/InsidetheFVRD/RegionalPlanning/Documents/Regional%20Snapshot%20Series/Agriculture%20Snapshot.pdf>
- c ix <http://www.waterwealthproject.com/homewaters>
- c x [http://www.vancouvereconomic.com/userfiles/file/Local-Food-in-Vancouver-webversion\(1\).pdf](http://www.vancouvereconomic.com/userfiles/file/Local-Food-in-Vancouver-webversion(1).pdf)

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- cxix <http://greenjobsbc.org/wp-content/uploads/2014/07/GreenJobsBC-Town-Hall-Summary-Chilliwack-May-13-20141.pdf>
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- cxix <http://www.nelson.ca/EN/main/services/electrical-services/energy-grants/on-bill-financing-q-a.html>
- cxix file:///C:/Users/jkassian/Downloads/Teck_2013_SustainabilityReport.pdf Elk Valley p. 72
- cxix http://www.cbt.org/About_Us/
- cxix Statistics from Allied Hydro Council of BC. Approximately 150 people were employed throughout the retrofitting of the Mica dam, approximately 220 for the Waneta dam.
- cxix <http://www.winebc.com/wines/sustainability>
- cxix http://www.agf.gov.bc.ca/resmgmt/water/Ag_Water_Management.html#waterstrategy
- cxix <https://news.ok.ubc.ca/2014/07/31/making-wine-a-greener-enterprise/>
- cxix <http://www.tru.ca/sustain/initiatives.html>
- cxix <http://www.tsoukenation.com/index.php/services/resources/tsou-ke-solar>
- cxix <http://www.solarcolwood.ca>
- cxix <http://www.theglobeandmail.com/news/british-columbia/tsou-ke-first-nation-turns-to-wasabi-in-renewable-energy-push/article20187542/>
- cxix <http://www.bcsea.org/blog/guy-dauncey/2014/10/10/bulk-buying-solar-pv-cowichan-valley>
- cxix <http://www.northcowichan.ca/EN/main/departments/planning-development/climate-action-and-energy-plan/climate-change.html>
- cxix http://www.communitycarbonmarketplace.com/carbon_community/
- cxix http://www.socialenterpriseCanada.ca/en/newsroom/service.prt?svcid=enp_newsroom1&iidoc=339153