



# GREEN JOBS IN THE INNER CITY: Research Report 2009

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Opening Worlds

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## EXECUTIVE SUMMARY

Vancouver, like any other large urban city, has social issues such as poverty, homelessness, and underemployment. It also shares the global concern of a healthy environmental future and exhibits aspirations for a greener, cleaner, and more sustainable community.

Greening the Inner City is a movement that seeks to address both of these issues by recognizing that all residents have an interest in making our community healthy and livable. Until now, the environmental movement has been limited to those who can afford it; organic food, hybrid cars, and renewable energy all come at a premium. Yet emerging environmental justice movements across Canada and around the world are beginning to include people from all socio-economic backgrounds; providing employment and support for those who need it most, while developing initiatives to clean cities, support growth of green and sustainable businesses, and provide a better future for our children.

The green economy, green jobs, and green businesses can create new employment opportunities for inner city residents. These jobs are meaningful and fulfilling, provide dignity and a sense of accomplishment, and allow all of Vancouver's residents to participate in our greener and healthier future. There is significant opportunity for Building Opportunities for Business (BOB) to play a role in this process; employee support and training, business development and access to resources, and as a facilitator of the 'green jobs' movement in the inner-city.

## INTRODUCTION

Climate change, global warming, and other environmental concerns have become important obstacles that communities and nations must overcome through strong political will and brave actions. Poverty and human suffering have long been focuses for communities as they seek to advance the collective good of everyone. Until recently these two important issues were distinct and unrelated; however a critical review of both has led to the discovery that they are closely linked. Maslow's hierarchy of human needs shows us that people will first seek to meet basic necessities such as food, water and shelter but this can come at the expense of the seemingly indirect need to preserve and protect the environment, something that until now has been reserved for the wealthy. Traditionally 'saving the planet' involved buying a hybrid, eating organic food, and offsetting your travel emissions; tasks that were relegated to a very small percentage of the world population that could afford such luxuries. Yet if positive environmental change is truly going to happen in our lifetime it must be inclusive of everyone, regardless of race, nationality, or wealth.

This new type of inclusive environmental movement began earnestly in the US as part of the 'Green For All' and 'Greening the Ghetto' campaigns; however there are examples all over the world of people in economically disadvantaged areas taking control of their natural environment and speaking out for what has become known as the 'environmental justice' movement. The Green for All movement is based on the premise that both pollution and poverty can be addressed at the same time. In their own words, 'the national effort to curb global warming and oil dependence can simultaneously create well-paid green-collar jobs, safer streets and healthier communities'<sup>1</sup>. Investments in job creation, training, and other areas of the emerging green economy can turn the economic problems that we are facing into environmental solutions.

Vancouver, like any other large urban city, has social issues such as poverty, homelessness, and underemployment. It also has environmental concerns that all residents of our beautiful city can help to address. Greening the Inner City is a movement to do just that; provide employment and support for those who need it most, and develop and support initiatives to green our city and provide a better future for our children.

The following paper will address the question: what does the Green For All movement look like in Vancouver and specifically the inner city, an area of Vancouver that has been plagued by poor housing, social issues, and addiction problems. Who will be involved in this emerging green economy, what role will they play, and what types of businesses and jobs can be created as part of this movement to improve our environment, financial future, and social structure.

1 Green For All: <http://www.greenforall.org>. Accessed April 28, 2009.

## DEFINITIONS DEFINED

### WHAT IS A GREEN ECONOMY?

The definition of a green economy for Vancouver encompasses all four dimensions of sustainability: environmental, economic, cultural, and social (justice, equality). The green economy is comprised of businesses, non-profits, social enterprises, trade unions, consumers, and various levels of government, who together develop the right business climate, demand, and support for the green economy to flourish in Vancouver. At its core, the green economy and its various components are focused on moving processes and people towards a more sustainable and greener future for Vancouver. When measured against the status quo, these businesses and consumers in the green economy are taking steps to improve all of the sustainable pillars.

Traditional measurements of economic growth in the last 50 years have been limited to GDP and other monetary figures. Investment decisions are therefore based on this narrow view of growth and prosperity, rather than on more meaningful measures of human health and environmental well-being. Investments in new sources of fossil fuels forged ahead on subsidies while renewable energy projects battled for limited investment funds from private lenders. New mechanisms were put in place to facilitate sub-prime mortgages that subsequently led to lending woes. Lastly, the World Bank cuts its agriculture investments in developing nations from 30% in 1980 to 8% in 2008, resulting in a dramatic increase in food prices that heavily impacted the poorest nations. The various crises our world has recently seen - food, financial, and fuel - were in part brought about by a desire to increase financial capital without consideration of the other types of capital that our most basic needs rely on. This concept is not new, and has been written about by many well-known authors (Paul Hawken, Mark Anielski), but the combination of crises has forced us to re-think our measuring tools and consider a new way of doing business.

The green economy is this 'new way of doing business'. It embodies the concept of integrating more than just GDP measurements into economic growth, and seeks to incorporate social and ecological values into the existing economic framework. In the green economy, decisions are based on more than just immediate financial gain. The value of social capital, of community impacts, and of natural capital and resources are used as core determinants of a society's wealth.

From a more pragmatic viewpoint, the green economy is about investing in such areas as 'ecosystems, clean and efficient technology, renewable energy, chemical and waste management, biodiversity based business, and sustainable cities, buildings, construction, and transport'<sup>2</sup>. It is also about the recognition that the right investments create longer-term sustainable growth, and the wrong investments, while creating short-term wealth, actually prevent long-term growth and prosperity as the negative impacts are born by all. Lastly, the green economy is about equality and job creation.

2 Green Economy Overview: <http://www.unep.org/greeneconomy/index2.asp?id=ger>. Accessed May 2, 2009.

## DEFINITIONS DEFINED

### WHAT IS A GREEN ECONOMY?

### WHAT IS A GREEN BUSINESS?

*Businesses generally fall under two categories: a 'green business' or 'green green business'. A 'green business' is one that was created under more traditional business models, but due to personal choice or in response to changing public priorities the business has undertaken steps to reduce its negative environmental or social impact. A 'green green business' is one whose existence and mandate is to support sustainable practices and improve environmental quality through its operations. Often the products or services offered by this latter type of business are inherently sustainable and act as a key differentiator against competitors or substitute products.*

### WHAT IS A GREEN JOB?

*Green jobs within the context of a green economy are jobs that address or improve environmental quality, provide a living wage with opportunity for advancement, and generally support all aspects of sustainability. Green jobs have varied skill level requirements, support the local economy and environment, and exist in emerging sectors or areas of growth. 'This includes jobs that help to project and restore ecosystems and biodiversity, reduce energy consumption, de-carbonize the economy, and minimize or altogether avoid the generation of all forms of waste and pollution'<sup>3</sup>.*

A review of website hits for 'green jobs' provides many definitions, and even a few variations on the name itself. Some proponents of the environmental justice movement prefer to use the term 'green collar jobs' to distinguish these jobs from other higher-tech green jobs such as engineers. The term 'collar' is meant to draw a parallel between it and traditional blue-collar jobs, as they can similarly be low-skill and often require less formal training. However for the sake of inclusion, and an aversion to classifying job levels, we have chosen to go with the term 'green job'.

Green jobs are about both equality and the environment. They provide a fair, living wage to the worker and seek to improve the environment and community. Green jobs have varied skill level requirements, they support the local economy and environment, and they often exist in emerging sectors or areas of growth. Green jobs include such tasks as waste reduction or aversion, reducing or replacing energy consumption, or improving environmental quality for communities and ecosystems<sup>4</sup>.

Green jobs can sometimes be right under your nose: a recycling company, a used book store, and a backyard gardener are all examples of jobs that reduce waste, re-use materials, and support the local economy. As our economy moves away from a reliance on fossil fuels, green jobs will play an ever-increasing role in our community by helping us use less, recycle more, and maintain a healthy environment.

3 UNEP Background paper on Green Jobs, United Nations Environment Program, 2008.

4. ibid

## Employment Effects and Job Creation

Not all green jobs are created equal. Some employment opportunities to arise out of green economic development will be additional jobs, but others will not. Some jobs to be created might in fact be jobs that have been redefined or substituted as consumers and manufacturers switch between fossil fuels and alternative forms of energy. This isn't to say that redefined jobs are bad; rather it is important to keep in mind the overall effects of any job creation effort and consider what might have been eliminated to create the new green job. Jobs may also be created through the direct or indirect results of green policies, new emerging technologies, or new business opportunities. Indirect jobs are a result of multiplier effects and reduced energy costs, as well as an increasing demand for intermediate products and services. Temporary versus long-term sustainable jobs is also an important defining characteristic. Temporary jobs are often created through construction or installation opportunities, and through the creation of a specific policy or initiative. Sustainable jobs are more often associated with maintenance of existing products or services<sup>5</sup>. Lastly, some jobs will be lost, as demand for certain products or services declines. Transition and retraining programs will be important components to alleviate the negative impacts of job loss.

### Job creation for persons with barriers

Creating jobs, be they green, blue, or white, is a complicated matter; creating jobs for persons with barriers to employment is an even more difficult task and must be approached with skill and flexibility. Job creation involves focusing on both the supply or 'people' side as well as the demand or 'place' side. If efforts are made to make persons 'job ready' yet there are no jobs available to take them on, unemployment will still be an issue. Likewise, if emphasis is on employers and job creation, yet the people available to fill the opportunities do not have the required skills to take on the job, unemployment rates will not be affected. Hence, research shows that the best efforts to mitigate unemployment and create job opportunities that people are able to fill, especially given barriers to employment, focus on both supply and demand side of the employment equation<sup>6</sup>.

A successful job creation strategy for residents of the inner city must have some key components that work together to provide the flexibility, resources, and support that the residents need.

1. Flexibility and individualization: Residents are faced with multiple barriers and each situation is different and requires a unique approach; one mass solution will not meet the needs of every resident. Therefore this means that the businesses and jobs must also be flexible in order to work together. Not all businesses and job opportunities can provide the level of flexibility required, so careful consideration should be given to what will work and what will not. Jobs must be able to be attended on a casual basis and ideally not rely solely on individual employee attendance. Businesses who are customer facing or have time-sensitive products or services have a difficult time hiring casual labour or employees with barriers since there is a need for consistency and reliability in these types of operations. Conversely businesses whose processes are largely customer-free or whose workload is not time-sensitive can hire people with barriers since there is more flexibility inherent in the business.

5 Green Jobs: Towards Sustainable work in a low-carbon world (UNEP preliminary report) Michael Renner, Sean Sweeney, Jill Kubit. WorldWatch Institute, Dec 21, 2007.

6 Action to Reduce Worklessness: What works?. Green, A., Hasluck, C. Institute for Employment Research, University of Warwick, UK

2. Community and outreach: Residents must be comfortable in taking steps to obtain employment, and this is most likely to happen in a familiar, stress-free environment. Community-based organizations and informal networks play an important part in this process, and can help to define and influence attitudes of the residents, while providing a safe place for them to ask questions and take risks. Unemployment is often described as a 'culture' because residents see their peers without work and so 'worklessness' becomes an acceptable practice. Attitudes and motivation must therefore be part of the changing process for residents and community plays an integral part in this change. Residents need positive role models and tools to improve self-esteem and aspirations.

3. Holistic and on-going support: Residents often have multiple barriers that cannot be addressed in isolation, nor can they be addressed once and then presumed fixed. Residents require an approach that takes into account all facets of their lives and provides on-going support as they return to work and face new challenges. Both employees and employers benefit greatly from continued support during employment, as the employer is unlikely to be prepared to deal with issues as they arise.

4. Working with partners: A successful approach to inner city job creation cannot be accomplished without the support of both employers and other social organizations. Employers control the access to job creation in the area, and so must be actively engaged in social hiring policies to create the needed job opportunities. Good working relationships with employers, local hiring policies, and Employment Zones all play a role in sustaining local employment and training. Similarly, good relationships with other social agencies are key to a seamless process of addressing residents' needs and providing support. Rather than engaged in competition, agencies need to be working together to provide the range of services required and supporting a seamless and integrated process for the residents. Sometimes simple barriers can be enough to distract a residents' intended goal.

Job creation for inner-city residents who most desperately need employment is a complicated and intricate process that must address all aspects of an individuals' life. Aspirations, self-esteem, and support from community organizations and informal networks play a key role. Flexible and engaged businesses who support employment creation for residents are also important for linking residents to job opportunities. Lastly a system for residents that treats their barriers using a holistic approach and provides on-going support is critical to long-term success. Traditional methods for job creation are likely to be unsuccessful in a demographic that has very unique needs.

## Social Benefits of 'Green Jobs'

Jobs provide inner-city residents with hope and personal fulfillment. They provide a connection to the community and a sense of accomplishment in a sometimes seemingly meaningless existence. For a group of citizens that have been ignored and marginalized, obtaining a job is an indication that they do have value to provide. Casual employment also provides additional income without forcing the individual to leave existing benefits programs, thus providing a more gradual inclusion into the traditional labour workforce. Often programs that require residents to go from no employment to 40-hour workweeks are not sustainable and provide no flexibility as residents deal with other barriers. Casual employment (less than \$500 a month) is an excellent transition option for residents as they build towards more permanent traditional forms of employment.

Green jobs have an added benefit to the employee in that the work is part of a larger movement aimed at community and environmental protection or betterment. The value derived from a job that is supporting a cleaner, healthier future can sometimes far exceed that of a more traditional low-skill job. Green jobs often involve working in nature (agriculture, landscaping); something that has long been recognized as soothing and therapeutic. Green jobs also provide added value to the larger community in which that are employed. "Research shows that communities that actively protect their environment have higher rates of job growth, fairer taxes, lower energy costs, better than average public health, and a better quality of life overall"<sup>7</sup>.

## Green Economic Development

Green economic development describes the movement away from reliance on fossil fuels and towards economic development that minimizes its impact on the environment and creates jobs. Both features are desperately needed to secure a world future that mitigates and avoids environmental damage and provides for quality of life for everyone rather than a few. Investment in certain industry sectors will facilitate meeting these needs; alternative energy supplies, transportation, energy efficient buildings, materials management, manufacturing, and agriculture.

### Alternative Energy Supply

New forms of clean energy investment are one of the fastest growing green economic sectors; investment in clean energy from 2004 to 2008 increased from \$35 billion to \$155 billion and represents approximately 10% of global energy infrastructure spending<sup>8</sup>. More importantly, the alternative energy sector 'generates more jobs both per unit of capacity and per dollar invested', resulting in job creation and a reduction in fossil fuel consumption<sup>9</sup>. Other important aspects of this industry are its need for both technical and highly skilled labour along with lower-skill manufacturing employment opportunities. This provides a region with a balance of skill and resource needs to meet a varied demographic. The industry also represents a potential for regional competitive advantages. Vancouver, given its location and proximity to abundant natural resources and inputs (thermal, wind, hydro, biomass), and a highly skilled workforce, has significant potential to develop a strong regional renewable energy sector.

The downside of the renewable energy sector is that manufacturing jobs can be exported or lost to lower-cost countries and the industry is reliant on large amounts of exporting and importing to make it feasible over the long-term (manufacture and ship). This type of business model would inhibit local sustainable development by promoting reliance on external market forces, and also be complicated by existing trade laws and international barriers.

8 Green Jobs: Towards Sustainable work in a low-carbon world (UNEP preliminary report) Michael Renner, Sean Sweeney, Jill Kubit. WorldWatch Institute, Dec 21, 2007.

9 New Energy Finance: <http://www.newenergyfinance.com>

## Transportation

The Transportation sector as it pertains to green economic development is focused on two areas; energy efficiency (emissions reduction), and mass or alternative transport. Individual car trips will never completely disappear, so the approach to mitigating GHG emissions from transportation investments must account for the ongoing need for cars while also recognizing the cost and emissions savings from using mass transit, walking, or riding a bike.

While energy efficiency and reduced emissions are critical components of the future car industry, there are little net employment gains made from investments in energy efficient cars. Cars are simply manufactured in new, cleaner ways. Conversely, there is net positive employment creation for transportation as individuals move from private vehicles to other forms of transportation (rail, bus, bike). Additional employment is needed throughout the life cycle of these mass transportation products; buses need drivers and mechanics to maintain the equipment. In either case - fuel efficiency or alternative transport options - studies show that investment does lead to broader economic impacts and job creation as 'consumers purchase less fuel and are able to purchase other goods and services from more labour-intensive industries'<sup>10</sup>.

Transportation investments (mass transit only) provide ways for a community to simultaneously reduce emissions and create employment, while also contributing to congestion and traffic issues that continue to plague large cities. Time saved during commuting translates into dollars saved and community investments as people spend less time commuting and more time being productive or with families. Studies have shown a direct correlation between quality of life and commuting time.

## Energy Efficient Buildings

The UN IPCC, UNEP, and other studies have identified energy efficiency in buildings as the most cost-effective way to reduce GHG emissions. In fact, "4 out of the 5 most cost-effective measures to reduce GHG emissions involve energy efficiency in buildings (insulation, lighting systems, HVAC, water heating)"<sup>11</sup>. Similar to the alternative energy supply sector, energy efficiency in buildings requires all types of employment including construction and trades, engineers, designers, architects, and labours. However unlike the energy supply sector, a larger portion of these jobs are local construction and installation opportunities that cannot be exported. They are labour-intensive and require moderate skill levels that can be attained through training programs. As with any energy reduction plan, the cost savings from reduced energy consumption is freed up and can be re-spent in the community on other goods and services. Multiple studies show a correlation between energy savings and new job creation<sup>12</sup>.

Adoption of energy efficiency building measures has been slow to date, due in part to lack of political interest and various barriers to implementation. The upfront capital cost of conducting retrofits is a disincentive, as are ownership and land use structures. Landlords who own buildings but do not pay the utility bills have no incentive to conduct retrofits since the benefit - cost savings - is paid to the tenant. Property owners who are unsure how long they will hold onto a property or building also are reluctant to upgrade; if the property is sold the owner no longer reaps the cost savings, which are often used to pay off the loan payments.

10      ibid

11      UNEP Background Paper on Green Jobs, United Nations Environment Programme: 2008.

12      ibid

## Agriculture

Sustainable rural agriculture is under continued threat from a host of sources: plantation and commodity crops, mechanized farming practices and its chemical inputs, market power of large retailers, and the rising consumption of meat. Sustainable urban agriculture is also facing formidable obstacles that require political support to overcome. Despite these difficulties, rural and urban agriculture offer the greatest potential for green job creation and positive environmental impact. The jobs created through sustainable urban and rural agriculture are local, have a positive impact on the environment through the use of sustainable farming practices, create low-skill employment opportunities, and reduce the 'food miles' traveled from local food production. Intensive sustainable farming practices require more labour than mechanized farms, and the profits on local food production stay in the community. Yet the food systems have been trending in an unsustainable direction for a very long time; changing the system will require strong action and recognition that the food system and its security are vital pieces of a sustainable and just future for the community.

## Materials Management (Waste)

As landfills fill up and the price of oil rises, there are going to be mounting pressures to divert more materials from the landfill and redirect waste streams to inputs. All along the supply chain and end-use, consumers and businesses will be forced to reduce, reuse, and recycle their material inputs and outputs. Companies are already beginning to introduce product take-back programs and reduce the amount of packaging and materials used. Reusing materials is becoming a trendy way to divert waste from landfills and offers a cost-effective way to secure materials that would otherwise be considered waste. Jobs are local and have a direct impact on the environment.

The economic barrier to this type of green job development is the fluctuating cost of inputs, particularly of fossil fuels, which affect the profitability of business ventures who may be reliant on the costs of substitutes or compliments. To make materials management a profitable and sustainable business, the right players in the supply chain of goods must be bearing the appropriate costs. So long as market inefficiencies exist and the costs of externalities are not born by the correct participant, making a business case for materials management will remain difficult.

## AREAS OF GROWTH FOR VANCOUVER INNER-CITY

The following decision criteria were used to identify the initiatives that should be focused on to bring about green jobs and economic development in the inner-city and Vancouver:

- Local job creation
- Environmental impact (emissions reductions)
- Barriers to development (cost, regulatory, other)
- Local sustainable development

	Alternative Energy Supply	Beautification	Composting	Transportation	Sustainable Agriculture	Energy Efficient Building retrofits	Materials Management
Local Job Creation	2	5	2	3.5	5	4	5
Environmental Impact	5	2	3	3	4	5	3
Barriers to Development	2	4	5	5	2	5	5
Local Sustainable Development	2	1	2	3	5	4	5
Total	11	12	12	14.5	16	18	18

The results indicate that waste/materials management and energy retrofits for buildings will be the strongest initiatives to address job creation and environmental degradation, while providing local economic development to the Vancouver region. Sustainable urban agriculture is also a very strong contender for job creation, environmental impact, and food security; a criteria that was not considered but is important for a sustainable community.

Waste and materials management is a strong concern for both Vancouver residents and Metro Vancouver, who have adopted a regional zero waste policy. Waste diversion through deconstruction projects provides jobs, promotes re-use of materials, and prevents usable materials from entering the landfill. Waste management of computers and other electronic materials, collectively known as e-waste, also prevents harmful materials from entering the landfill, promotes re-use, and provides jobs.

Energy retrofits to buildings provide local jobs, stimulates demand for green products related to energy efficiency, and reduces our energy consumption, thus reducing GHG emissions. Initiatives focused on building retrofits must be cleverly designed and take into account real disincentives and barriers that need to be overcome.

## DRIVERS OF GREEN BUSINESS GROWTH

- Government involvement and action (policies)
- Investment
- Innovation and research

Government involvement and action is the single biggest driver of green economic growth and job creation. Voluntary action has not been significant enough to facilitate the types and magnitude of change necessary to prevent continued climate change and environmental degradation. Business and entrepreneurial opportunities are inherently focused on shorter terms objectives, while the government is uniquely placed to tackle longer-term objectives for the public good. Governments have at their disposal a long list of financial and non-financial measures that can instantly create new business opportunities, create employment, and stimulate growth in areas of green development. 'Key measures are public investment, subsidy shifts, new R&D priorities, and ecological tax reforms [such as the carbon tax]. Among non-financial measures, extended producer responsibility laws, eco-labeling, and promotion of green alternatives play an important role'<sup>13</sup>.

Investment in green technology and resources is another key driver in the development of the green economy. Both private and public funds are required in much larger quantities to stimulate the size of growth that is required for measurable improvements in environmental degradation. Investments are closely linked to policy decisions; both publicly and privately. Governments, through the use of regulations and legislation, can create new market opportunities and areas of growth overnight. California, for example, has legislated that all power-producer portfolios contain 33% renewable energy investments by 2020, creating an instant boom in renewable energy investments across North America<sup>14</sup>. Pacific Gas & Energy (PG&E) recently spent \$14 million on a study to determine the feasibility of creating a transmission line directly between the California energy grid and BC's renewable energy sources, which will further stimulate investment and resources in this area.

Innovation and research and development are the third pillar driving green economic development. Innovation is happening all over the world as communities and individuals are forced to adapt and make-do. These creative sources of innovation can provide new answers to old problems; allowing us to re-think existing ways of doing business. Small-scale innovation and incremental steps on current technology often have the most tangible successes and adoption, and should be a focus for any business or organization that is seeking to learn from others<sup>15</sup>. Research and development on a larger scale is also required to provide the much-needed breakthroughs in technology that will help to bridge the gap between the current processes and our future sustainable community.

The other related component to green economic growth is an understanding of market imperfections as they relate to environmental degradation. The existing market imperfections create a wealth of business opportunities that, if capitalized, will drive entrepreneurial businesses in environmental sectors. A separate section outlining these opportunities is included later in the report.

13 Green Jobs: Towards Sustainable work in a low-carbon world (UNEP preliminary report) Michael Renner, Sean Sweeney, Jill Kubit. World Watch Institute, Dec 21, 2007.

14 <http://www.energy.ca.gov/renewables/index.html>

15 The Competitive Advantage of Nations: Porter, Michael.

## Green Business Development

The green economy and green businesses are poised for growth. With the right support, incentives, and consumer demand, green businesses in Vancouver and beyond can begin to capitalize on this emerging sector. A number of factors will directly affect the success or failure of green businesses as they develop and grow in the region<sup>16</sup>

1. Provincial and municipal policies to improve urban environmental quality
2. Government actions to reduce GHG emissions
3. Support for green economic development (see above)
4. Consumer spending patterns
5. Private investment in the green economy

These factors indicate that green businesses are reliant at least in part on the decisions and actions of the various levels of government, and government should not be shy or passive in making policy decisions that will impact demand for green products and services. The City of Berkeley released their Sustainable Business Action Plan which includes aspects that address many of these factors. The plan includes strategies for reduction in waste and water usage, new green building code policies, programs to increase demand for green products and services, and creating necessary conditions for start-up environmental businesses<sup>17</sup>.

Green businesses are often small organizations of less than 25 employees who have a mix of green and non-green jobs. These businesses serve a mixture of public, commercial, and residential clients, although the current economic trends indicate that businesses whose primary customers are public or large commercial organizations will fare better as smaller, private businesses are hardest hit during economic uncertainty. Like any other type of business, green businesses need affordable space, a good location, and access to transportation options for their clients, employees, and movement of goods. When considering location, green businesses often need a mix of office and industrial space (95 percent), so are most likely to be located in light industrial areas of the city. A lesser number of businesses, 41 percent need some retail space, and this is correlated along product or service lines<sup>18</sup>. Lastly, the process of creating small start-up businesses needs to be easy and streamlined with an emphasis on removing any potential barriers or confusion. Small businesses are a critical component of economic development and should be supported adequately since they create jobs and provide community benefit.

<sup>16</sup> Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality jobs for men and women with barriers to employment. Raquel Pinderhughes, Department of Urban Studies San Francisco State University.

<sup>17</sup> *ibid*

<sup>18</sup> *ibid*

## Green Entrepreneurial Opportunities

Capitalizing on the emerging green economy involves more than simply being in the right place at the right time. Businesses and entrepreneurs can apply a strategy to allow them to see business opportunities inherent in the new sustainable business sector. At its core, the strategy involves identifying market failures or imperfections that have led to environmental degradation and then seeking to correct these market failures, resulting in profits and an improved natural environment. The principle is based on the equilibrium forces of a free-market and the possible market imperfections that can prevent market equalization.

There are four types of market failures that can impact environmental quality: inadequate management of public goods, externalities, monopoly power, and asymmetric information<sup>19</sup>.

Public goods are those resources (natural or otherwise) that are inherently accessible to the general population. A forest or park, water resources, and the air we breathe are all examples of a public good. Entrepreneurial opportunities of public goods refer to the management of the public good, using restrictions on use or access to prevent excess use or degradation and simultaneously produce profits. For example, if a natural park is being overrun and destroyed by visitors or tourists, managing the daily visitors and park usage while charging a fee for entry will ensure the long-term sustainability of the ecosystem while producing a revenue stream to support its management.

Externalities, both positive and negative, are the 'external' costs or benefits accrued to a particular function or product, but those costs or benefits are not included in the actual price. A good example of positive externalities is the benefits received by a community through various early childhood education programs. The immediate costs and benefits of such a program are clear; costs for the salary of workers, and benefits of having a child cared for and educated. However there are further positive benefits to the community as the child ages; through a reduced burden on public health resources and better long-term outcomes for the child as a functioning member of society (lower crime, better employment, education, etc). This long-term community benefit is a positive externality, and like most other externalities, is hard to quantify. It is this difficulty with quantification that leads to the market imperfection that currently exists in childcare. A well-known negative environmental externality is the carbon emissions emitted into the atmosphere through burning of fossil fuels. The immediate cost of burning fossil fuels is simply the cost of getting the fuel from the ground to the tank in your car; however the long-term negative cost is climate change, species extinction, and a wide array of environmental issues that someone is going to have to 'pay' to fix. Hence the BC Government has tried to address this externality by associating some of the negative external costs of burning fossil fuels to the tank of gas you purchase. Again this is another attempt to address the existing market imperfection where not all true costs are factored in to the purchase price.

Asymmetric information refers to the discrepancy of knowledge between producer and consumer, or the lack of information that one side may have about the other. The most commonly cited example is that of a used car sale, in which the current car owners knows much more information about the car than the prospective car owner does, and this can lead to the wrong purchase decision or price (i.e. the new owner pays too much for a car that is in fact a lemon). If however the prospective car owner could know more about the car she is about to buy, she could save herself some money and offer a lower price.

<sup>19</sup> Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. Dean, T., McMullen, J. Journal of business Venturing, 2007.

Entrepreneurial opportunities can therefore involve ways to 'enhance customer knowledge of product or service attributes', thereby allowing the customer to make informed purchase decisions (Dean, 2007). Home energy consumption habits can change drastically through the use of smart meters if the consumer is able to see the cause and effect of energy use in their home. Energy and the environmental impact are reduced, the consumer saves money through reduced energy costs, and there is a realized business opportunity through the production and maintenance of smart meters. Opportunities can also result from providing information to producers that they might otherwise not have access to or that might give them a competitive advantage.

Monopoly power is identified in a market sector by the absence of multiple firms vying for consumers' business, resulting in one or two large firms who control the entire market, free from competitive forces. The monopoly firm is therefore able to set its own price and feels little or no pressure to innovate and become more efficient. The cost of this lack of competition is born by both the consumer, through increased pricing, and by the natural environment, whose resources may be used ineffectively because of a lack of pressure to change. Business opportunities in this area involve providing an alternative to the existing monopoly firm, while at the same time using resources more wisely and offering a more competitive price range for products and services.

The key to the creation of new green business opportunities is to first identify the environmentally relevant market failures that are at work, and then consider what barriers exist and how they might be overcome. The process of overcoming the barriers and correcting market failures can lead to new business ventures.

## Stakeholder Consultations

Community discussion meetings were conducted over a weeklong period in April during which some basic information on green jobs was presented. Participants discussed their thoughts and ideas around green economic development, job creation, barriers and challenges unique to the inner city for both residents and businesses. In attendance were representatives from various social agencies (Union Gospel Mission, St. James Community Society, ATIRA (Enterprising Women Making Art), Downtown Eastside Neighbourhood House, and newCHAPTER2), existing businesses (Eclipse Awards, Pacific Demolition, United We Can, Recycling Alternative, and ItSaulGood Gift Co), and educational institutions (UBC Learning Exchange and Langara College).

### Social Agencies

The thoughts and needs of the social agencies were quite similar and reflected a comprehensive understanding of the residents and the unique barriers they faced. Two main themes emerged from the discussions. The first theme, which emerged was that residents of the DTES, given their current economic and social make-up, quite often have created very innovative and unique solutions for dealing with daily concerns from which others could learn. Women who are producing various works of art are using recycled materials not necessarily because it is considered 'green', but because the cost of the materials is lower and are more easily accessible. Similarly, residents are very diligent recyclers and re-users of their goods because the cost of consumption dictate their behaviour; residents are consuming less and re-using more than many other demographics simply because they need to. Residents have innovative solutions to everyday problems that can be tapped.

The second theme carries significant weight in any discussion or development of future initiatives. Any changes, improvements, or initiatives must be conducted for, in consultation with, and by the residents. Attempts from 'outsiders' to suggest and implement solutions without first asking the residents what they want and ensuring relevancy will be unlikely to succeed. Projects must therefore be tangible, address residents' needs, and be easily integrated into community life. On a related note, it was stressed that the type of messaging and delivery of an idea is very important if one hopes for buy-in from residents and businesses in the DTES. It is hence critical to explain the relevancy of 'green', ensuring that residents and businesses are not alienated through the use of language and jargon, while keeping in mind that learning from existing best practices in community engagement and program implementation are important aspects of message delivery.

Training programs for employees must be longer than traditional employment programs because issues of possible disruptions in training or difficultly learning tasks has to be considered into the equation. Research also indicates that training must be job-specific and not abstract. Programs should consider peer-to-peer training as a valuable way to impart skills and knowledge while removing some of the barriers between trainer and trainee.

Both businesses and social agencies raised the issue of space, or the lack of. Residents have to congregate outside on sidewalks and in parks to partake in social interaction, or use available space within agencies and businesses to gather. Some businesses were able to provide space for organized meetings or social programs, but everyone stressed the need for more space, both indoor and outdoor designated for social gathering.

## Businesses

The existing green businesses that attended the discussions have a wider array of needs and ideas, due in large part to the type of business that is being conducted. Businesses who are customer facing or have time-sensitive products or services have a difficult time hiring casual labour or employees with barriers since there is a need for consistency and reliability in these types of operations. Conversely businesses whose processes are largely customer-free or whose workload is not time-sensitive can hire people with barriers since there is more flexibility inherent in the business. These businesses are better able to handle employee absenteeism or other social issues as they arise. To some degree the size of the business is also a factor, since smaller organizations have less people overall so their ability to deal with variability in human resources is limited. In all cases the businesses expressed a desire to implement social hiring, but are limited by their organizational needs. For those organizations that are able to practice social hiring policies, all stressed the importance of flexible working hours, shifts, and casual labour as critical factors for success.

The various businesses fall under either the 'green business' category (business processes are green or tending towards sustainable), or the 'green green business' category (product or service offerings are green or sustainable)<sup>20</sup>. Some businesses self-identify as green or sustainable, while for others being 'green' happened almost by accident. The business opportunity they undertook was a sustainable one but it did not necessarily represent the reason for entering into business. In hindsight, the sustainable or green slant can be used as a value-add or marketing feature for these businesses.

A distinct theme of the discussion with businesses was the need for collaboration and knowledge sharing. Strathcona BIA is undertaking some efforts in this area (waste materials exchange, energy audits), and BOB's recently launched Green Cluster will attempt to address the need for more coordinated efforts and provide businesses and organizations with tools and knowledge to help them implement more sustainable practices.

To summarize, the inner city, its residents, and its businesses are a community unlike any other and require creative, open-minded approaches to collectively addressing the needs and issues within that community. Progressive approaches to decision-making, co-operation, and program delivery are required elements for success. The various assets of the community should be identified and leveraged in future initiatives to ensure that efforts and results are grounded in the community.

20 Green Entrepreneurship: A Method for Managing Natural Resources? Allen, J., Malin, S. Society of Natural Resources, 2007.

## Implementation Steps

A successful initiative to addressing both social and environmental issues in the Vancouver inner city involves a comprehensive and holistic plan that recognizes the interconnectivity of issues and solutions. The following items outlines the various components that must be taken into account when developing a strategy or implementation plan for green economic development in the inner city.

BOB's initial request for research on green jobs did not specifically preclude all six components, however as the research progressed it became apparent that a broader approach to green job development was required if the efforts were to be successful. As a result, not all components are directly under BOB's mandate, however they are all items that BOB can influence or facilitate and are key components of a green jobs initiative in the inner city.

- Community Engagement and Collaboration
- Culture and Attitudes
- Employee Support
- Business Support
- Government
- Partners

### Community Engagement and Collaboration

In order for the community to support any new direction or set of initiatives that will aid in the development of a 'green economy', there must first be a sense of ownership of the outcomes. If individuals or groups do not feel responsible for the outcomes and are not engaged in their development, initiatives will suffer from low adoption and penetration. To achieve this level of engagement and support, visioning exercises are a critical step for providing a common theme, vision, and rallying points for the community. Similar visioning exercises or forums have been successfully implemented around the world with enormous success. Often the process of creating a community vision can lead to and inspire lasting change.

Collaboration is key to a successful implementation of the green economy within the inner city and is needed to support the vision, as created by them. NGOs need to cross-utilize each others' resources, and be actively aware of what each other provides and how their services can benefit the community.

Specific tasks to accomplish this component include:

- Visioning exercises; ask the community what they envision their future community to look like; what does 'green' mean to them
- Make available resources and tools for service providers to connect and share knowledge of resources and expertise; host introductory workshops and 'get-to-know' your neighbour events
- Anchor ownership of projects in the community by selecting local champions for initiative tasks

## Community Culture

Research shows that social networks and communities are critical for shaping attitudes within a region, particularly one with social concerns. If the goal is to empower the residents and create interest in their shared sustainable future, the correct signals need to be sent to foster the right attitudes. Residents need to see and hear sustainable messages, witness change, and be motivated by their peers. The NGOs in the area need to collaborate to ensure consistent messaging is used and education is available to all workers.

Specific tasks to accomplish this component include:

- Select and promote role models to the community and residents; this must be done through forms of media that are accessible to everyone (i.e. not internet)
- Integrate green and sustainable messaging into existing training programs offered at service providers; recycling programs, composting programs, discussions of green ideas.
- Create green spaces, recycling programs, and use media to promote green jobs ideals
- Educate service providers on green jobs and appropriate messaging
- Employee Support

## Employee Support

Supply and demand side support for a green prosperous economy is required. Employees, particularly those with barriers to employment and other issues need access to housing, transportation and proximity to jobs, ongoing support networks and training, and access to information. The support must be holistic and address multiple barriers that often exist in low-socio economic status populations.

Specific items that are included in this component are:

- Affordable housing
- Access to public transit or proximity to jobs; bus passes for workers needing to commute to job location should be provided at no cost
- Ongoing support network provided to both employee and employer; provided by one of the service providers of workforce development in the area
- Access to health care and mental health care for employees
- Training programs should be conducted either on the job, or in facilities that provide job specific training skills

## Business Support

Support is needed to address some of the common road blocks for business creation and development. Financial tools for small business loans, B2B networking and knowledge transfer, and policies to support green businesses are all required to foster green development.

Specific items in the component include:

- Local procurement plans that incorporate both social and environmental aspects into the decision process
- Offer consolidated services for small businesses (office space, accounting services, admin assistant, etc)
- B2B facilitation and networking, resource guides for 'going green'
- Training seminars on eco-efficiencies for businesses; how to save money
- Incentives for eco-preneurs to start and maintain or grow business
- Financial tools for loans for green businesses
- Financing tools for retrofitting (loans)

## Government Involvement

Municipal and provincial governments play a crucial role in the development and support of any type of business cluster. Through the creation of certain policies they can drive demand for products and services, thereby incensing customers to make alternative purchase decisions. The government(s) can also provide loans and/or policies for building retrofits and other mechanisms designed to increase demand for certain local green products.

Municipal governments can also streamline processes, expedite certain requests for proposals depending on their intended use, provide tax incentives, and re-zone certain areas for development.

- Create demand for green businesses through policy creation
- Mandate green roofs on all new construction
- Mandate energy efficiency requirements for heating and hot water systems
- Planning and zoning for area
- Provide financial loans tied to property tax payments for residents and businesses to conduct energy efficiency retrofits

## Partners

Collaboration will be required with multiple stakeholders and partners who will be affected or have an impact in the emerging green economy. New training programs will require support and involvement with local schools, businesses will need to collaborate and 'go green', and NGOs may provide some of the knowledge and best practices as the project moves forward.

- Develop relationships with education facilities in the region
- Develop relationships with other NGOs and service providers in the area
- Develop relationships with businesses; seek out and identify the right types of businesses (low customer interaction, not time-sensitive)

## TIMELINE

### Immediate Action

- Begin the development of relationships with other partners in the community (social agencies, community groups, businesses, government partners)
- Develop resources and tools for businesses and organizations as references and knowledge hubs (i.e. Going Green Guide)
- Hold visioning exercises and community discussions on green development and green jobs

### Medium-term Action

- Launch Community Awareness campaign; raise aspirations and knowledge; provide role models and feature positive changes already ongoing
- Identify and move forward on pilot projects (see Areas of Growth)
- Identify inner city assets and strengths that can be leveraged and used to support a green jobs initiative

### Long-term Action

- Advocate for policies to support green business development
- Coordinate training programs with regional schools and businesses

## SUCCESS STORIES

### Sustainable South Bronx

<http://www.ssbx.org>

Sustainable South Bronx is a very successful grassroots organization started by Bronx resident Majora Carter. A lack of green spaces, jobs, and the rampant environmental degradation in the community prompted Carter to act; securing funding, new green ways, and creating job training programs for residents in her community.

### Oakland Green Jobs Corps

<http://www.ellabakercenter.org/page.php?pageid=32>

'Oakland Green Jobs Corps is a job-training and employment pipeline providing "green pathways out of poverty" for low-income adults in Oakland. Based on the Pinderhughes Model, this groundbreaking program prepares trainees for careers in the Bay Area's most vibrant green industries, including energy efficiency, green construction and solar.'

### Green Worker Cooperatives

<http://greenworker.coop>

Green Worker Cooperatives is a South Bronx-based organization dedicated to incubating worker-owned and environmentally friendly cooperatives in the South Bronx. Their first success, Rebuilder Source (<http://www.rebuilderssource.coop/>), is a warehouse for excess or salvaged building materials supporting both zero waste and green job creation in the area.

### Green Municipal Loan Financing

<http://www.eponline.com/articles/69878/>

<http://www.greenbuildingadvisor.com/blogs/dept/green-building-news/sonoma-county-will-provide-loans-energy-retrofit-work>

<http://www.striveforgreen.com/2009/03/zero-interest-loans-for-home-energy-savings-improvements/>

[www.montgomerycountymd.gov/content/council/mem/berliner\\_r/pdfs/berliner\\_brown\\_white\\_paper.pdf](http://www.montgomerycountymd.gov/content/council/mem/berliner_r/pdfs/berliner_brown_white_paper.pdf)

Cities and states across the United States are seeing the benefit of loans for energy retrofits, repaid through property taxes. San Diego, San Francisco, Berkley, and Boulder, Colorado all have similar municipal finance programs for energy retrofits

### Conclusion

Green economic development and green job creation is a complex issue that requires a solution that addresses the many inter-related areas of economic development and community engagement. Business support in the form of knowledge and networking; employee support in the form of job-specific training, and community and partner engagement are important pieces of the puzzle.



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