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CAREERS FOR A SUSTAINABLE FUTURE

A REFERENCE GUIDE TO
GREEN JOBS IN BRITISH COLUMBIA



GLOBE
FOUNDATION



The GLOBE Foundation of Canada is a Vancouver-based, not-for-profit organization dedicated to finding practical business-oriented solutions to the world's environmental problems. Formed in 1993, we've helped companies and individuals realize the value of economically viable environmental business opportunities through our conferences and events, research and consulting, project management, communications and awards program.

We're a leader in championing green initiatives and leveraging sustainable ventures into mutually rewarding opportunities for enterprise and the environment. From urban sustainability to climate change, we're helping change the world by degrees.

For more information on the GLOBE Foundation, please visit our website at:

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**BRITISH
COLUMBIA**
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// Purpose of this Guide

The environment and the economy have too often been considered as separate entities, but the tide is turning and more and more people realize that for economic development to be successful, it must be done in an environmentally responsible and sustainable way.

Research shows that the jurisdictions able to nurture a culture of sustainability and create a vision for sustainable economic development are not only defining themselves as the leaders of tomorrow, but are better able to attract the skilled workforce needed to tackle the challenges of today because they create a positive image of a place to live and conduct business.

British Columbia is one such place where sustainability thinking is helping to integrate social and environmental considerations alongside economic development and is leading to a sustainability inspired, greener economy.

This guide has been designed as a resource for students, job seekers, career counsellors, and people interested in learning more about existing and emerging, well-paid work opportunities in British Columbia's rapidly expanding green economy.

The guide is based on the GLOBE Foundation's September 2010 report entitled **British Columbia's Green Economy: Securing the Workforce of Tomorrow**, with funding generously provided by the Canada-British Columbia Labour Market Agreement, an agreement between the Province of BC and the Government of Canada.

For additional information and resources on BC's green economy and labour market, please visit:

www.globe.ca

THIS GUIDE HAS BEEN
DESIGNED AS A RESOURCE
FOR STUDENTS, JOB
SEEKERS, CAREER
COUNSELLORS, AND PEOPLE
INTERESTED IN LEARNING
MORE ABOUT EXISTING
AND EMERGING, WELL-
PAID WORK OPPORTUNITIES
IN BRITISH COLUMBIA'S
RAPIDLY EXPANDING GREEN
ECONOMY.





// Contents

Purpose of this Guide	// 1
Greening the Economy	// 5
Key Sectors	// 7
Defining Green Jobs	// 9
BC's Green Workforce	// 11
BC's Green Jobs by Sector	// 15
Summary	// 29
Green Job Resources	// 30



1 // Greening the Economy

The green economy is defined as a fast-growing economic development model that focuses on the creation of green jobs, the promotion of real, sustainable economic growth, and the prevention of environmental pollution, global warming, resource depletion, and ecological degradation.

Many factors are driving the global shift toward a greener economy, most notably the need to deal with the impacts of climate change, to reduce greenhouse gas (GHG) emissions, to better manage resource shortages, to weather fluctuations in commodity prices, and to create new employment opportunities.

The green components of the global economy had an estimated market value of nearly US \$5.2 trillion in 2008 and in 2009, investment in clean energy alone was nearly US \$140 billion—particularly in the areas of solar energy, wind power, and biofuels. This investment is helping to drive down green and clean energy technology prices and to bring them into the mainstream economy.

Greening British Columbia's economy involves transitioning to one that is powered by green technologies and practices in every dimension of society and one that generates green jobs, creates more sustainable businesses, and stimulates low-carbon investments province-wide. It is important to realize that the green economy in BC is not separate from the economy as a whole, but rather is a growing trend that is apparent across all industries and all sectors.

Research suggests that BC's economic future under a low-carbon regime is particularly promising. Based on a wide range of sources, the green elements of BC's economy are growing faster than the province's economy as a whole and are expected to continue to do so over the next decade. In addition, based on a recent survey of BC-based green companies conducted by the GLOBE Foundation, 95 percent feel that there are likely to be "moderate to significant opportunities for their industry sector over the next decade".

With many of the province's traditional resource-based industries having suffered from severe fluctuations in commodity prices and climate-related conditions in recent years—for example, British Columbia's forestry sector is still reeling from the devastating effects of the mountain pine beetle epidemic—the province's public and private sectors have been seizing opportunities and mitigating risks by increasing investments in renewable energy, clean technology, and green infrastructure, generating jobs for thousands of BC residents in the process.

THE GREEN ELEMENTS OF BC'S ECONOMY ARE GROWING FASTER THAN THE PROVINCE'S ECONOMY AS A WHOLE AND ARE EXPECTED TO CONTINUE TO DO SO OVER THE NEXT DECADE.

With this investment comes an increased demand for a labour force with the technical skills and knowledge needed to retool key industries in order to adapt to a more carbon and resource constrained world. According to a recent report published by ECO Canada, environmental skills are quickly becoming more important across the workforce and within every industry. The demand for expertise in renewable energy, energy and resource efficiency, green building design and construction, environmental protection, and carbon management is expected to increase significantly over the next decade¹.

The key message here is that the transition to a lower-carbon future is not something we can either choose to do or not to do. As a society there is no other option. The good news is that while environmental and energy issues present some of the world's most pressing challenges, they also present some of the greatest economic and employment opportunities. And British Columbia has all that is needed to make the transition without causing undue hardship and dislocation to its communities and residents.

1. ECO Canada (2010). Profile of Canadian Environmental Employment – Labour Market Research Study.



SEVEN MILE DAM NEAR TRAIL, BC.

2//Key Sectors

Six key sectors are responsible for supplying the bulk of the green products and services in BC to other areas of the economy in order to help lower GHG emissions and to reduce human-related impacts on the environment.

In 2008, these sectors combined generated \$18.4 billion in revenues for BC companies and contributed roughly \$15.3 billion to provincial gross domestic product (GDP)—\$11.1 billion direct and \$4.2 billion indirect—which is equal to 10.2 percent of the province's total GDP for that year.

Most of the activity in the green sectors of BC's economy is concentrated in the south-western regions of the province—the areas with the highest populations and easier access to physical and social infrastructure. However, other regions throughout BC are directly responsible for the generation of a large percentage of the wealth from the exploitation of the province's natural resources, including its renewable energy, abundant supplies of lower-carbon natural gas, and its green forestry-related products.

In addition, by developing innovative practices, adopting new technologies, and consulting the services offered by firms that are part of the six key sectors, traditional primary resource-based industries—including forestry, agriculture/aquaculture, mining, and oil and gas—are progressively “greening” their operations across the province. The same holds true for secondary and service-based sectors, such as in the manufacturing, wholesale, retail, transportation, warehousing, tourism, hospitality, and food services industries.

It is also important to recognize that internal, “grass roots” efforts are being made within many organizations in other areas of BC's economy that fall outside of the six key green sectors. Green teams and committees, sustainability managers, and engaged employees are working to improve the environmental performance of their companies and to promote energy and resource efficiency.

For these reasons, the numbers of green jobs presented in this guide are considered to be conservative estimates.

THE SIX KEY GREEN SECTORS ARE:

- 1. Clean & Alternative Energy** (including renewable energy, bioenergy, and fuel cells);
- 2. Energy Management & Efficiency** (including energy storage, transmission infrastructure and “smart grid”, energy efficient lighting and heating, ventilating, and air conditioning (HVAC), and public transportation);
- 3. Green Building** (including green construction, infrastructure development, community design, and real estate);
- 4. Environmental Protection** (including elements of agriculture and silviculture, remediation, pollution control, and environmental consulting/engineering);
- 5. Carbon Finance & Investment** (including carbon management, offset markets, and venture capital); and
- 6. Green Knowledge & Support** (including research and development (R&D), advanced education and training, law, information and communications technology (ICT), non-governmental organizations (NGOs), and the public sector).



3//Defining Green Jobs

Green jobs are essentially occupations that directly work with policies, information, materials, and/or technologies that contribute to minimizing environmental impact, and require specialized knowledge, skills, training, or experience in these areas.²

The United Nations Environment Programme (UNEP) has defined green jobs as those positions in agriculture, manufacturing, research and development, administration, and the service sector that contribute substantially to preserving or restoring environmental quality.³ This includes jobs that directly or indirectly help to protect ecosystems and biodiversity; reduce the use of energy, materials, and water consumption; “de-carbonize” the economy; and minimize or avoid waste and pollution.

When an occupation produces an output or lowers the price of a product that offers positive environmental externalities, this may be considered in whole or in part as a green job. Two examples would be the net environmental impacts when an engineer remediates an old mining site, or when a solar panel manufacturer increases the supply of photovoltaic (PV) panels, thereby reducing their cost to consumers in the market, which in turn contributes to lessening GHG emissions.

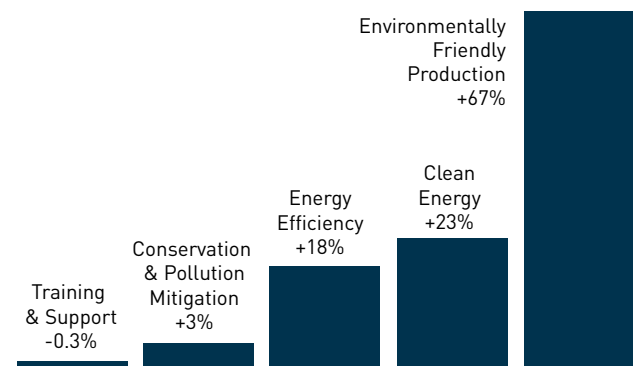
Most green jobs are not new jobs but rather are based on existing occupations that become, in a sense, “greener” as they build environmental skills and tasks into their everyday duties. As such, in the transition to a lower-carbon, greener economy, the lines between environmental jobs and occupations in more traditional sectors are becoming increasingly blurred. While job descriptions for strictly environmental careers will continue to exist, traditional occupations, such as engineers, architects, property managers, electricians, construction workers, financial advisors, and information and communication technology (ICT) specialists, to name but a few, will increasingly incorporate aspects of sustainability and “greener” practices.

It is also important to recognize that a full definition of green jobs must recognize that every job has both “green” and “brown” effects, just as every green project has some impact on the environment. For example, while a wind park releases near-zero GHG emissions, its development will have an impact on the surrounding eco-system—an impact which is important to minimize.

2. California Community Colleges Centers of Excellence, Economy and Workforce Development (2009), Green Industries & Jobs in California.

3. UNEP, ILO, IOE and ITUC (2008), Green Jobs: Toward Decent Work in a Sustainable, Low Carbon World.

ENVIRONMENTAL SKILLS
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Growth of jobs in the US “clean energy” economy, 1998 to 2007.
Source: The Pew Charitable Trusts (2009) the Clean Energy economy

Employment growth in green jobs can be directly linked to increased investment in efforts to improve the environment, reduce pollution, and lower GHG emissions through clean technologies and improved energy efficiency—areas that have been receiving particular attention over the last decade and are resulting in a growing number of green jobs here in BC.



4//BC's Green Workforce

In 2008, the green elements in BC's economy were responsible for nearly 166,000 full-time equivalent (FTE) jobs—117,000 direct and 49,000 indirect—equal to 7.2 percent of total provincial employment. While the Clean and Alternative Energy sector is the largest in terms of green GDP generation, other sectors of BC's green economy are more labour intensive and are therefore responsible for more jobs. As illustrated in Figure 1, the Environmental Protection sector was responsible for approximately 32,700 direct FTE jobs in 2008, equivalent to more than one-quarter (28 percent) of all green jobs in the province. The Energy Management and Efficiency sector was the second largest in terms of employment in the province's green economy, responsible for approximately 24,800 direct FTE jobs in 2008—due in part to elements related to sustainable transportation.

All occupational sectors contribute to greening the province's economy, although to varying degrees (see Figure 2). Trades, transport, equipment operators, and related occupations were responsible for more than one-quarter (27 percent) of the green occupations in BC in 2008—equal to more than 31,200 direct FTE jobs. Occupations in business, finance, and administration, as well as in natural and applied sciences, also ranked high in importance, making up approximately 17 percent and 15 percent of all direct green jobs, respectively.

As illustrated in Figure 3, green jobs in agriculture (which include farmers and farm managers, aquaculture operators, nursery and greenhouse operators, and landscaping and ground maintenance supervisors) ranked highest in number for BC's green economy—equal to 13,000 direct FTE jobs in 2008 and making up 11 percent of all direct green jobs in the province. Professional occupations in natural and applied sciences (which include scientists and researchers, engineers, forestry professionals, and architects) were second at 9,600 direct FTE jobs, equivalent to 8 percent of all direct green jobs in BC. Other important occupational categories include transportation equipment operators, technical occupations related to natural and applied sciences, construction trades, mechanics, and professional occupations in business and finance.

It is important to note that not all jobs in these occupational categories are counted; only the estimated proportion of those dedicated to green initiatives. For example, only farmers involved in organic and sustainable practices and architects involved in green building practices are counted.

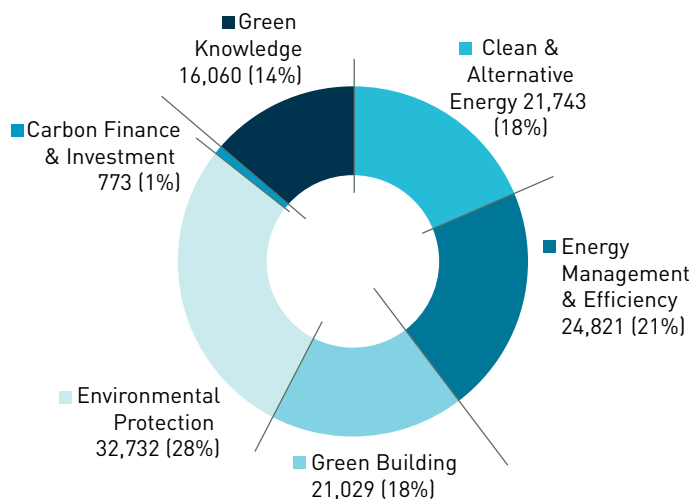


Figure1: Direct full-time equivalent jobs in BC's green economy by sector in 2008.

Source: GLOBE Foundation

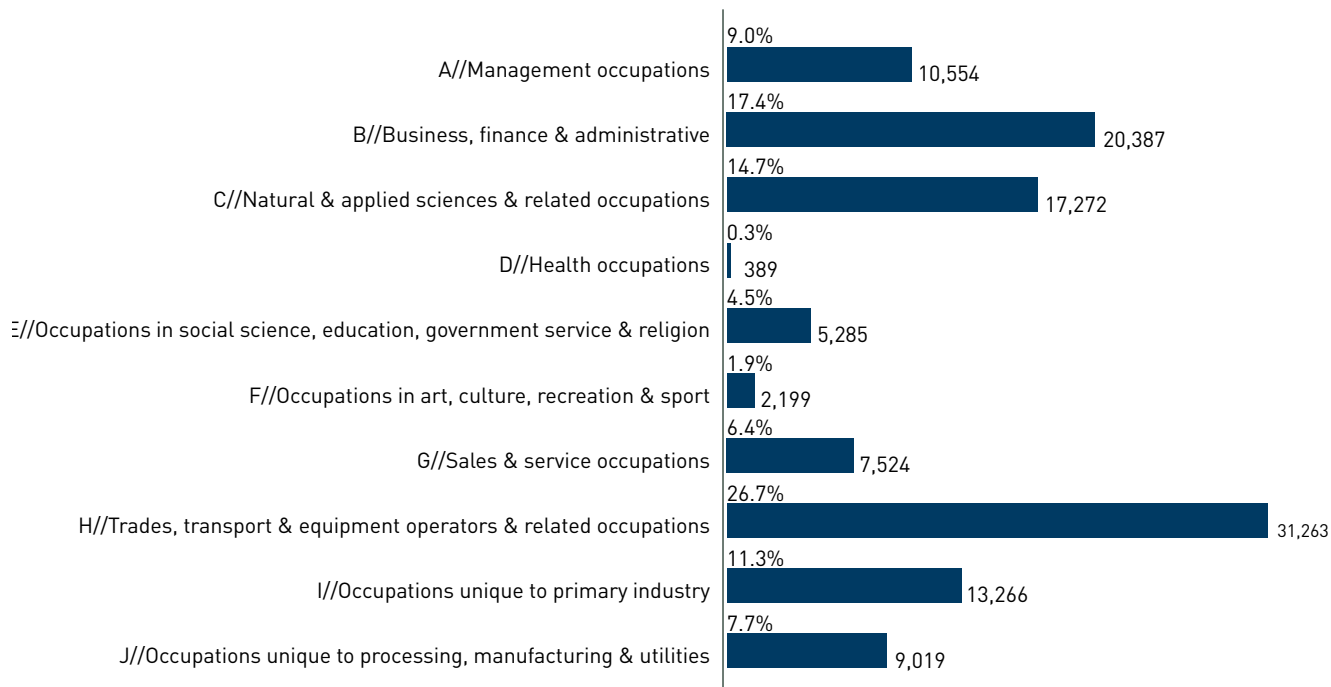


Figure 2: Green labour force by occupation and number of direct FTE jobs in 2008
Source: GLOBE Foundation
(based on Statistics Canada 2006 Census).

Figure 3: Direct FTE green jobs in BC's green economy by 2-digit occupational code in 2008
Source: GLOBE Foundation
(based on Statistics Canada 2006 Census)

OCCUPATION (2 DIGIT NOC-S)	TOTAL DIRECT FTE GREEN JOBS	% OF TOTAL
I0 Occupations unique to agriculture, excluding labourers	13,046	11.1%
C0 Professional occupations in natural & applied sciences	9,620	8.2%
B5 Clerical occupations	8,591	7.3%
H7 Transportation equipment operators & related workers, excluding labourers	7,006	6.0%
C1 Technical occupations related to natural & applied sciences	6,754	5.8%
H1 Construction trades	5,417	4.6%
H4 Mechanics	4,702	4.0%
B0 Professional occupations in business & finance	4,465	3.8%
A3 Other managers, n.e.c.	4,274	3.6%
H8 Trades helpers, construction, and transportation labourers & related occupations	4,165	3.6%
I2 Primary production labourers	3,585	3.1%
A1 Specialist managers	3,449	2.9%
H2 Stationary engineers, power station operators & electrical trades & telecommunications occupations	3,442	2.9%
E0 Lawyers & policy and program officers	3,095	2.6%
J2 Assemblers in manufacturing	3,000	2.6%
B3 Administrative & regulatory occupations	2,926	2.5%
G9 Sales and service occupations, n.e.c.	2,863	2.4%
J1 Machine operators in manufacturing	2,717	2.3%
J3 Labourers in processing, manufacturing & utilities	2,223	1.9%
H6 Heavy equipment & crane operators, including drillers	1,875	1.6%
Other Direct FTE Green Jobs in BC	19,941	17.0%
Total Direct FTE Green Jobs in BC	117,158	100.0%

British Columbia's green labour force is generally older than the province's labour force as a whole, with 44 percent being between the ages of 45 and 64 at the time of the last Census in 2006 (See Figure 4). By comparison, only 35 percent of BC's total labour force was between the ages of 45 and 64.

British Columbia's green labour force is fairly well educated, with 62 percent having some level of post-secondary education or trades training (see Figure 5). Of the percentage with post-secondary education, 40 percent have obtained a level of Bachelor's degree or higher. In terms of the post-secondary field of study, approximately one-third (34 percent) of BC's green work force have an educational background in architecture, engineering, or related technology. Business, management, and public administration are also important with 16 percent of BC's green labour market having educational backgrounds in these areas.

An area of growing opportunity for green jobs in BC is tied to First Nations communities, especially in the areas of environmental protection, land management, conservation, sustainable forestry, carbon management, renewable energy, bioenergy, district energy, and green building. Green initiatives are generally well supported by First Nations in BC because they are in-line with their cultural values. However, in order to realize the full potential, it will be essential to build strategies that address education, training, recruitment, and labour market issues for aboriginal populations in BC related to the green economy. Funding that supports Aboriginal training and education in their communities is extremely important, as many members have difficulties leaving to attend educational facilities that are often long distances from home.

It should also be noted that many green trades people and environmental professionals in BC are finding work abroad. While some of these positions are permanent, many others are only temporary, such as through international aid missions and conservation efforts. Following massive earthquakes in China in May 2008, for example, green workers from BC with wood-frame construction expertise helped rebuild damaged communities for thousands of families. More recently, in May 2010, BC professionals trained in spill control and pollution management traveled to the Gulf of Mexico to assist with the clean-up efforts from the BP offshore oil platform disaster.

A variety of new employment opportunities in BC are already emerging as the economy transitions toward a greener future. These include tidal power electrical engineers, solar thermal technicians, wood pellet machine operators, energy managers, green real estate brokers, waste reduction consultants, GHG emissions verifiers, carbon trading market analysts, and hydrogen fuel cell researchers, to name a few. A more detailed description of some of the specific jobs from each of the key sectors is provided in the section that follows.

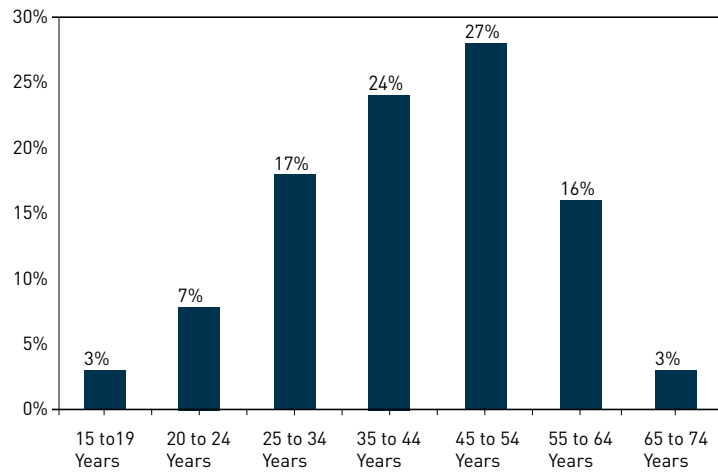


Figure 4: BC's green labour force by age group.

Source: GLOBE Foundation
(based on Statistics Canada 2006 Census)

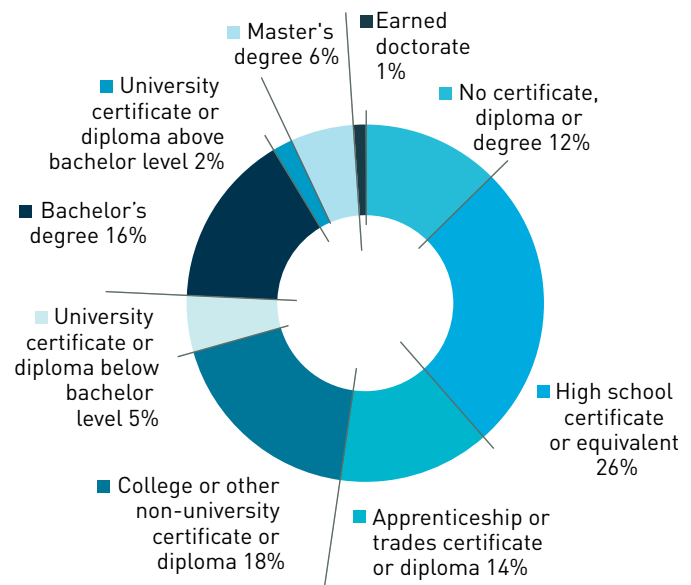


Figure 5: BC's green labour force by highest education level achieved.

Source: GLOBE Foundation
(based on Statistics Canada 2006 Census)



One third (33 %) of the green companies surveyed by the GLOBE Foundation in March 2010 had job vacancies. This is what some of them had to say:

“Engineering, sales, and marketing experts within the green space will be highly sought after.”

“There will be big opportunities in the manufacturing of wind turbine components in BC—technical position related to turbine installation, farm maintenance, and research and development of wind turbine related technologies.”

“Those individuals who have the ability to access private capital and guide that towards cleantech companies in BC will do very well.”

“Experienced, culturally-sensitive First Nations relations personnel are essential for our business.”

“Those skilled in a variety of areas, ranging from human and public relations to energy assessment and/or renewable energy technology installations are needed.”

“We are always looking to find skilled technicians with strong people skills to help us develop our business and client contacts.”

“There is a demand for more experts in Building Information Modelling (BIM) and energy modeling software.”

“There is a dire shortage of accredited HVACR installation professionals in North America.”

5//BC's Green Jobs by Sector



CLEAN & ALTERNATIVE ENERGY

Number of Direct Jobs in BC (2008): 21,700

The Clean and Alternative Energy sector includes jobs that relate to the renewable energy, bioenergy, and hydrogen fuel cell sub-sectors.

Renewable energy includes power produced from naturally replenished sources, including hydro, wave and tidal forces, wind, solar, and geothermal—all of which are found in abundance in BC. While BC has a well-established clean energy background from hydro dam projects built in the 1950s through 1970s, exciting new employment opportunities are emerging in many communities related to wind energy, ocean energy, solar thermal, and bioenergy projects.

BC Hydro's 2008 Clean Power Call resulted in an additional 27 new projects being awarded to companies who will be looking to hire skilled workers over the next few years. These projects, mostly related to small hydro and wind energy, are estimated to require investments of \$3.89 billion and to create 3,800 years of employment.

Many forest-based communities in BC are turning to bioenergy to heat their homes and buildings and power some of their industrial operations. Research for second and new third generation cellulose-based biofuels is also helping to give BC a reputation as the "Silicon Valley" of the bioenergy world and creating employment opportunities.

In addition, fuel cells are expected to be the fastest growing clean energy sector globally over the next decade with a cumulative employment forecast to exceed that of any other clean technology sector, including wind and solar. British Columbia's fuel cell cluster occupies a leadership position with 16 percent of the total global market share, and is comprised of 40 companies that employ approximately 2,000 people at present. As of late 2009, BC Transit has been operating 20 hydrogen fuel cell buses in Whistler—the world's largest fuel cell demonstration fleet.

Featured Jobs in the Clean & Alternative Energy Sector

Bioenergy Plant Engineer

A Bioenergy Plant Engineer designs, constructs, and maintains bioenergy generation facilities. British Columbia's vast forests-based assets have for years been a staple to communities throughout the province. As communities throughout BC look to diversify their economic opportunities, bioenergy production plants that specialize in gasification, co-generation, landfill gas (methane) capture, or cellulosic ethanol, biodiesel, and wood pellet production require experienced engineers who can ensure that these plants are designed to function effectively and are efficiently maintained.

Minimum Educational Requirement:

Bachelor of Engineering

Annual Salary Range: \$80,000 - \$140,000

Hydroelectric Plant Efficiency Operator

The Hydroelectric Plant Efficiency Operator is responsible for maintaining and monitoring plant equipment for efficient and safe operations. There are currently seven large hydro dams in BC and many smaller ones that generate nearly 50 percent of the province's total electricity supply. In addition, with more than 35 small- and micro-hydro projects either in operation or under development in BC, Plant Efficiency Operators are responsible for ensuring that water flows through turbines are optimized for power generation throughout the year.

Minimum Educational Requirement:

Diploma of Engineering Technology, Bachelor of Engineering

Annual Salary Range: \$60,000 - \$90,000

Hydrogen Fuel Cell Technician

British Columbia is a hub for fuel cell research and development and a Hydrogen Fuel Cell Technician's job is to manufacture, test, and install hydrogen fuel cells. The Canadian Hydrogen and Fuel Cell Association, along with a number of private firms, is working hard to grow BC's world-class fuel cell cluster in the Lower Mainland, with technologies designed for powering vehicles, forklifts, laptops, and even communities through stationary power applications.

Minimum Educational Requirement:

Diploma of Engineering Technology

Annual Salary Range: \$50,000 - \$90,000

CLEAN & ALTERNATIVE ENERGY SECTOR JOB TITLES

// Hydrologist
// Structural Engineer
// Wind Turbine Mechanical Engineer
// Wind Turbine Technician
// Wind Tower Sheet Metal Worker
// Landfill Gas Collection System Operator
// Solar PV Component Manufacturing Manager
// Solar Hot Water Manufacturing Technician
// Geothermal Electrical Engineer
// Wood Pellet Machine Operator

TOP OCCUPATIONS IN THE CLEAN & ALTERNATIVE ENERGY SECTOR (BY 2-DIGIT NOC-S CODE)

// Professional occupations in natural and applied sciences

(approx. 12% of jobs in this sector)

These generally high-paying occupations include chemists, geologists, biologists, forestry professionals, and engineers from all disciplines who form the back bone of jobs in this sector.

// Stationary engineers, power station operators and electrical trades

(approx. 9.5% of jobs in this sector)

Industrial and power system electricians and operators involved in the design and maintenance of renewable energy power stations play a critical role in the delivery of reliable, low-emission electricity throughout the province.

// Technical occupations related to natural and applied sciences

(approx. 9.5% of jobs in this sector)

Technicians of all types (chemical, mineral, geological, biological, forestry, engineering) that are responsible for ensuring proper testing, installation, and maintenance of energy systems and related technologies.

// Machine operators in manufacturing

(approx. 6% of jobs in this sector)

Machine operators play an important role for chemical processing and mill operations, particularly in the bioenergy subsector.

// Other managers

(approx. 5% of jobs in this sector)

Managers in this category are responsible for overseeing clean energy-related equipment manufacturing and the maintenance of power utilities.

// Labourers in processing, manufacturing and utilities

(approx. 5% of jobs in this sector)

Mineral, chemical, metal, wood, pulp, and processing labourers are important for the construction and continued operation of clean energy systems and manufacturing of related technologies.



ENERGY MANAGEMENT & EFFICIENCY

Number of Direct Jobs in BC (2008): 24,800

The Energy Management and Efficiency sector includes jobs that relate to energy management; energy infrastructure (including emerging smart grid technologies); energy storage and batteries; energy saving lighting and heating, ventilating, and air conditioning (HVAC); power electronics; engines and power saving automotive equipment; and transportation (including elements of public transportation). The sector includes some of the largest and fastest-growing job opportunities surrounding the development and application of green technologies and practices that can help organizations become more energy efficient and lower their GHG emissions—especially in the areas of transportation, large industry, and the built environment.

Jobs developing energy storage systems are becoming increasingly important as the world changes to electricity options surrounding intermittent renewable energy sources. While the manufacturing of the battery technologies designed in BC happens mostly overseas, considerable work in prototype development and testing continues here in the province in the realm of battery chemistry and materials, chargers and converters, as well as in system controls. In addition, jobs in energy distribution will be key as BC Hydro plans to modernize and upgrade its electricity grid and metering system, creating work in the field of power management—including jobs replacing all of the public utility's 1.8 million customer meters with "smarter" digital ones.

In terms of energy-saving heating, two areas of growing interest in BC are geothermal exchange and district energy. Large potential for employment exists as companies involved in contracting for heating and cooling become involved in operations that include geothermal applications. District heating systems, common in Europe, will require individuals with expertise in installing these systems in order to reduce energy consumption, often using organic waste to heat and power homes and buildings.

In addition, BC is home to a number of world-class companies whose innovative clean technologies have placed natural gas vehicles at the forefront in terms of horsepower, efficiency, fuel cost savings, GHG reductions, and air quality improvements. Public transit is also an important element in a greener economy and the job of transit vehicle operators is critical to lowering the GHG emissions from private vehicle use.

Featured Jobs in the Energy Management & Efficiency Sector

Smart Grid Engineer

The Smart Grid Engineer addresses complex problems in the electric power delivery infrastructure related to grid modernization. The engineer helps define, plan, and install firmware, and execute test procedures and test criteria in system integration testing along with characterizing and improving network performance. Other responsibilities include analyzing the impact of meter applications on a utility's infrastructure, including integration of applications with other smart grid technologies.

Minimum Educational Requirement: Bachelor's Degree in Electrical/Power Systems Engineering

Annual Salary Range: \$70,000 - \$100,000+

Hybrid/Electric Vehicle Technician

As hybrid and electric vehicles enter the mainstream, the role of this specialized mechanic will increase in importance. Responsibilities include the repair of hybrid and electric vehicles, power-trains and controls, as well as diagnosing complex electrical circuitry and performance problems. At present, most hybrid/electric vehicle technicians are trained by the automobile manufacturer and work on a specific vehicle make due to issues surrounding warranty.

Minimum Educational Requirement: Certificate of Apprenticeship as Automotive Service Technician or equivalent

Annual Salary Range: \$40,000 - \$60,000

Commercial Energy Manager

The Commercial Energy Manager, often in cooperation with one of BC's public utilities, provides advice to businesses on how to reduce energy consumption and increase efficiencies, and helps the organization implement an energy management program. The energy manager's job is not just about implementing energy efficient technologies—it's also about people. An energy manager's goal is to create a culture within an organization in which being energy efficient becomes a regular business practice.

Minimum Educational Requirement: Certified Energy Manager, Professional Engineer, or Master's in Business Administration

Annual Salary Range: \$60,000 - \$90,000

ENERGY MANAGEMENT & EFFICIENCY SECTOR JOB TITLES

- // Bus System Operator
- // Lighting Mechanic
- // Natural Gas Engine Mechanic
- // Power Electronics Assembler/Tester
- // Smart Meter Manufacturer
- // HVAC Engineer
- // Control Systems Software Engineer
- // Battery Testing Technician
- // Transmission Field Technician
- // Energy Storage Research Technician

TOP OCCUPATIONS IN THE ENERGY MANAGEMENT & EFFICIENCY SECTOR (BY 2-DIGIT NOC-S CODE):

// Transportation equipment operators and related workers

(approx. 23% of jobs in this sector)

Bus drivers and train/rail system operators provide an essential service transporting passengers and/or freight using more efficient, lower-emission modes of transportation.

// Mechanics

(approx. 13% of jobs in this sector)

Refrigeration and air conditioning mechanics, electrical mechanics, vehicle mechanics, and other small engine and equipment mechanics are responsible for the proper operation and maintenance of efficient electrical machinery, equipment, and vehicles.

// Assemblers in manufacturing

(approx. 6% of jobs in this sector)

Assemblers, inspectors, and testers of electronics, electrical appliances, electrical motors, and transformers produce the electrical technologies that serve as low-emission alternatives to fossil fuel-powered equipment.

// Professional occupations in natural and applied sciences

(approx. 6% of jobs in this sector)

Mechanical, electrical, and industrial engineers, information systems analysts, and software engineers/designers are essential for developing the technologies which are improving energy management, efficiency, and storage capabilities.

// Technical occupations related to natural and applied sciences

(approx. 4% of jobs in this sector)

Engineering technologists and technicians, electronic service and control technicians, industrial designers, computer network technicians, and systems testing technicians are involved in developing, testing, installing, and servicing power-related technologies.

// Specialist managers

(approx. 3.5% of jobs in this sector)

Includes engineering managers, computer and information system managers, and energy managers who ensure that energy is used efficiently in corporate, commercial, and industrial settings.



GREEN BUILDING & COMMUNITY DESIGN

Number of Direct Jobs in BC (2008): 21,000

Jobs in the Green Building sector come from a variety of industries and include everything from architecture and engineering, to community design and urban planning, to green infrastructure development, to construction and green building material supply, to property management and real estate.

New low-energy and resource efficient design practices, more stringent building standards, and advanced construction materials, often employing pine-beetle killed wood—such as cross-laminated timber, concrete products, wooden window frames, and wood-based fibre for insulation—are shaping BC's built environment and creating new jobs.

Green building requires a total systems approach supportive of the built environment in order to improve energy efficiency, reduce GHGs and other emissions, and to provide safe living and working environments. In recent years, an Integrated Design Process (IDP) has developed where architects, engineers, community planners, contractors, and other stakeholders work together during the planning phase to create synergies and to identify creative solutions. This revolutionary approach has had very positive results in energy and cost savings. In addition, rating systems such as LEED, Built Green, and BOMA BEST are raising the standards within the Green Building sector.

While the construction industry in BC was hit hard by the economic slowdown in 2009, the green construction industry continues to see growth in the number of contractors and industry professionals making the shift to educate themselves and their staff on new sustainable building practices. Moreover, BC's evolving green building code is providing an opportunity for the province's construction sub-sector to develop a foundation of knowledge in emerging green building trends and techniques.

The demand for sustainable property developers and managers, as well as green real estate specialists, is also expected to grow substantially in coming years as BC builds and markets new eco-conscious developments. New design features and technologies will require property managers to have experience in maintaining high-performance buildings. From a real estate perspective, a few companies are already offering green credentials for their realtors who specialize in energy and resource-efficient homes.

Featured Jobs in the Green Building & Community Design Sector

Green Building Architect

Architects specializing in green buildings design, plan, and supervise the construction of energy and resource efficient buildings and homes. They are responsible for the safety, usefulness, and aesthetics of their buildings and must design structures that satisfy their clients' needs while conforming to building codes/by-laws and regulations of the areas in which the structures will be built. Architects work with engineers, urban planners, contractors, and landscape architects and may work for large architectural firms, or may be self-employed.

Minimum Educational Requirement: Master of Architecture

Annual Salary Range: \$60,000 - \$120,000+

Green Home Renovator

The Green Home Renovator is involved in transforming existing houses and residential units into more efficient places to live and work by increasing natural light, installing renewable energy technologies and systems (including geo-exchange and solar thermal, for example) and increasing heat and energy efficiency by adding insulation and improving the building envelope. Renovators are often self-employed but work in concert with energy auditors, trades professionals, and other construction labourers to complete green building projects for clients.

Minimum Educational Requirement: Certificate of Apprenticeship in Residential Building Construction (or equivalent)

Annual Salary Range: \$40,000 - \$80,000+

Sustainable Community Planner

An urban planner specializing in sustainable community design is responsible for optimizing the effectiveness of land use and infrastructure, typically analyzing land use compatibility as well as economic, environmental and social trends. In developing their plan for a community (whether commercial, residential, agricultural, natural, or recreational), an urban planner must also consider a wide array of issues such as surrounding vegetation, water use, air pollution, waste management, transportation patterns, legislation, and zoning codes. Urban planners are usually hired by developers, private property owners, private planning firms, and/or local/regional governments to assist in the large-scale planning of communal and commercial developments.

Minimum Educational Requirement: Bachelor of Planning, Engineering, or equivalent

Annual Salary Range: \$55,000 - \$80,000+

GREEN BUILDING & COMMUNITY DESIGN SECTOR JOB TITLES

// Pipefitter (geo-exchange and district energy)

// Carpenter

// Insulation Installer

// High-Performance Building Manager

// Green Real Estate Broker

// Indoor/Outdoor Landscape Architect

// Civil/Green Infrastructure Engineer

// Green Roof Technician

// Air Sealing Technician

// Health and Safety Inspector

TOP OCCUPATIONS IN THE GREEN BUILDING SECTOR (BY 2-DIGIT NOC-S CODE):

// Construction trades

(approx. 21% of jobs in this sector)

Includes trained trades professionals involved in plumbing, steam/pipe/gas fitting, carpentry, roofing, and insulating to improve the energy efficiency of homes and industrial/commercial buildings and install renewable energy and/or green technologies.

// Trades helpers, construction labourers and related occupations

(approx. 8% of jobs in this sector)

Construction trades helpers and labourers play a critical role in support of other trades professionals and require specialized training to help meet green building standards on the construction site.

// Sales and service occupations

(approx. 7% of jobs in this sector)

Caretakers and building superintendents are increasingly involved in the maintenance and management of higher-performance buildings, which are only efficient if managed properly—even with the latest technologies installed.

// Other managers

(approx. 5.5% of jobs in this sector)

Construction managers, residential home builders and renovators, and real estate managers are the occupations included in this category and are increasingly involved in projects and developments requiring specialized green knowledge.

// Professional occupations in natural and applied sciences

(approx. 5% of jobs in this sector)

Architects and landscape architects, civil/mechanical/electrical engineers, and urban and land-use planners that specialize in green building and sustainable community design are included in this occupational category.

// Technical occupations related to natural and applied sciences

(approx. 4.5% of jobs in this sector)

Includes architectural and engineering technologists and technicians, industrial designers, drafting technicians, landscape/horticulture specialists, and inspectors involved in the design and development of green building projects.



ENVIRONMENTAL PROTECTION

Number of Direct Jobs in BC (2008): 32,700

British Columbia has a robust and diverse Environmental Protection sector with experienced and trained professionals involved in providing a wide range of goods and services to measure, prevent, limit, minimize, or correct environmental damage to water, air, and soil, as well as problems with waste.

This export-oriented sector consists of two distinct but interdependent areas: a predominantly high-technology component comprised mainly of small firms producing environmental goods in growing and evolving industry niche markets; and an environmental consulting, engineering, and related services component. In addition, some of the most important occupations considered part of this sector are those related to sustainable agriculture, horticulture, silviculture, and farm management—jobs which are essential to ensuring long-term food security, to reducing GHG emissions through carbon sequestration, and to the overall health of BC residents.

Research by the GLOBE Foundation suggests that there is a very high demand for experienced and skilled environmental consultants at the present time and that demand is expected to increase over the next decade with the transition to a greener economy. Much of the work by consulting and environmental engineering companies in the province is geared toward the province's resource-based industries, including the forestry, mining, and oil and gas sectors, but increasingly includes emerging areas such as renewable energy project development, GHG emission verification, and offset project development.

Waste management—including individuals who specialize in reducing, reusing, and recycling waste from the residential, industrial, commercial, institutional, and construction sectors—is a critical component to this sector. British Columbia has the third highest number of wastewater firms in Canada—many tied to industry—with wastewater management systems accounting for 15 percent of the province's green product exports in 2009 and generating jobs for hundreds of BC residents.

In addition, with close to 9,000 contaminated sites identified in BC, trained environmental professionals are important for the remediation of these properties. As new eco-density strategies are developed across the province, the clean-up and re-development of "brownfield" sites will be essential.

Featured Jobs in the Environmental Protection Sector

Organic Horticulturalist

An organic horticulturalist specializes in the science of plant cultivation and physiology, with expertise in production and breeding that minimizes the synthetic materials used in production. However, organic horticulture is not just about producing food without chemicals—it is a whole philosophy involving sustainable growing practices and dedicated care of the environment. Horticulturalists can find work in industry, government, or educational institutions, as well as in private collections and may work to upgrade crop yield, quality, nutritional value, and/or a plant's resistance to diseases, insects, and environmental stresses.

Minimum Educational Requirement: Bachelor of Science in Biology, Botany, Genetics, or Physiology
Annual Salary Range: \$30,000 - \$50,000+

Waste Reduction Consultant

The Waste Reduction Consultant specializes in strategy development to help reduce, reuse, and recycle waste and streamline operations. The importance of this green career specialization is growing as businesses look to cut costs and minimize the waste associated with all areas of product development and service delivery, as well as throughout their entire supply chains. Other jobs include collecting and analyzing information on waste streams, developing recommendations, and implementing waste reduction plans.

Minimum Educational Requirement: Bachelor of Engineering, Environmental Science, or Resource Management
Annual Salary Range: \$45,000 - \$70,000

Water Supply Engineer

A Water Supply Engineer designs industrial and municipal water supply infrastructure systems and ensures their effective installation and maintenance. Responsibilities may also include managing water reservoirs or treatment plants as well as applying conservation techniques to help ensure adequate supplies of water are available year round to area residents, businesses, industry/agriculture, and municipalities/regional districts.

Minimum Educational Requirement: Bachelor of Civil Engineering
Annual Salary Range: \$70,000 - \$100,000+

ENVIRONMENTAL PROTECTION SECTOR JOB TITLES

- // Ecological Restoration Planner
- // Land-based Aquaculture Manager
- // Forestry Conservation Consultant
- // Environmental Consultant/Engineer
- // Sustainable Seafood Harvester
- // Carbon Capture & Storage Geologist
- // Air Quality Control Engineer
- // Spill Response Specialist
- // Remediation Technologist
- // GHG Emissions Verifier

TOP OCCUPATIONS IN THE ENVIRONMENTAL PROTECTION SECTOR (BY 2-DIGIT NOC-S CODE):

// Occupations unique to agriculture, excluding labourers

(approx. 39% of jobs in this sector)

Includes farmers and farm managers involved in sustainable and organic farming practices in BC, as well as nursery and greenhouse operators, landscaping and grounds maintenance contractors, and sustainable aquaculture operators.

// Professional occupations in business and finance

(approx. 7% of jobs in this sector)

This occupational category includes BC-based professional environmental consultants who offer business services to all other sectors and industries throughout the province and abroad.

// Professional occupations in natural and applied sciences

(approx. 6% of jobs in this sector)

Includes geologists and geochemists, biologists and related scientists, forestry professionals, agricultural specialists, and engineers of all types involved in the protection of air, land, and water resources in BC.

// Primary production labourer

(approx. 5% of jobs in this sector)

Sustainable agriculture and aquaculture harvesters and labourers, as well as silviculture workers involved in the ecological restoration of forestry lands.

// Technical occupations related to natural and applied sciences

(approx. 4% of jobs in this sector)

Includes geological, biological, forestry, and engineering technologists and technicians, industrial instrument technicians, land survey and mapping technicians, and environmental health and occupational health and safety inspectors.



CARBON FINANCE & INVESTMENT

Number of Direct Jobs in BC (2008): 750

The Carbon Finance and Investment sector still represents a relatively small number of green jobs in BC. This is due in part to lingering uncertainties about the evolving carbon market and the eventual nature of national or regional cap-and-trade regimes, both in Canada and the United States.

However, BC has the financial institutions in place to put into effect a vibrant carbon trading regime and with the province's carbon tax, its mandated "carbon neutral" public sector, and more than 175 of its municipalities striving to become carbon neutral by 2012, the career opportunities in this sector are expected to grow rapidly over the next decade. Jobs in carbon management—which refers to an organization's or municipality's effort to measure and track its carbon dioxide (CO₂) emissions, to reduce its carbon footprint by changing its operations or implementing energy efficiency measures and/or clean technologies, and to offset the balance of its emissions—are increasing, as are the opportunities for carbon offset project developers and aggregators.

In addition, investment firms in BC are becoming increasingly involved in funding clean technology companies as well as green infrastructure and renewable energy projects (for example, waste hydrogen recovery systems, geexchange heating systems, biomass gasification plants, and water treatment plants), creating work for venture capitalists, investors, and portfolio managers alike.

It should be noted that many of the business professionals in this sector have a background in energy and/or experience in engineering or a related technology since an understanding of energy and its related processes is often important for success in this area.

Featured Jobs in the Carbon Finance & Investment Sector

Clean Technology Venture Capital Investment Analyst

A Venture Capital Investment Analyst specializing in clean technology identifies and evaluates investment opportunities and provides guidance regarding investment decisions with respect to early stage and emerging environmental and renewable energy technologies. At present in BC, there are approximately half a dozen venture capital firms that specialize in clean technology investments and funding.

Minimum Educational Requirement: Bachelor of Commerce, Business Administration, or Finance
Annual Salary Range: \$70,000 - \$100,000+

Carbon Emissions Trading Specialist

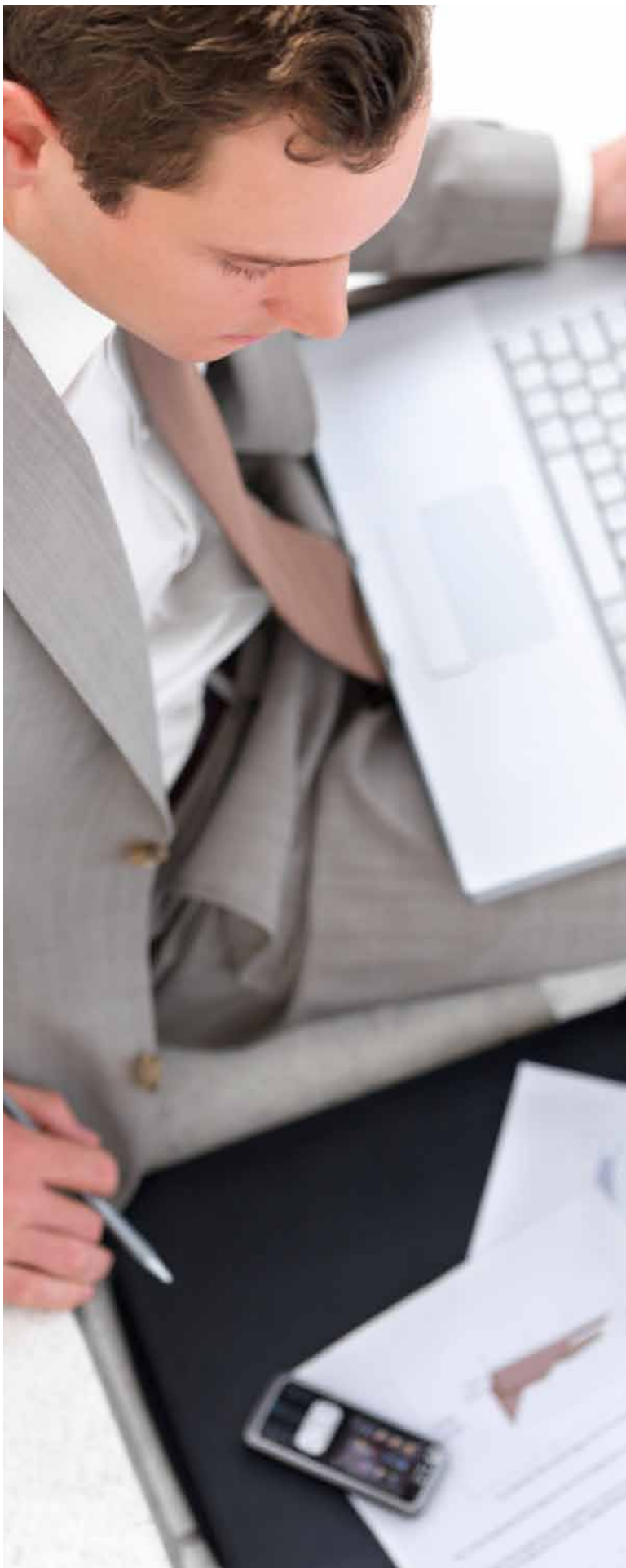
A Carbon Emissions Trading Specialist is an accountant who specializes in using a market-based approach to promote emission reductions within industries and the global marketplace. While cap-and-trade for GHG emissions is still at least a couple of years away in North America, offset/credit trading on voluntary markets such as the Chicago Climate Exchange exists, as does international trading of emissions credits in regulated markets such as the European Union–Emission Trading System (EU-ETS).

Minimum Educational Requirement: Bachelor of Commerce, Business Administration, or Finance
Annual Salary Range: \$70,000 - \$110,000+

Carbon Credit Portfolio Manager

The Carbon Credit Portfolio Manager is a financial advisor who buys and sells carbon credits for businesses or individuals on the open market in order to either retire them as an offset or to re-sell them at a higher price. In BC, the Pacific Carbon Trust is the Crown corporation established to buy carbon credits on behalf of the province's public sector. However, many small firms are involved in managing carbon credits for larger organizations and individuals and the portfolio manager's responsibility is to source high-quality, verified offsets and ensure that due diligence is performed on these transactions.

Minimum Educational Requirement: Bachelor of Commerce, Business Administration, or Finance
Annual Salary Range: \$90,000 - \$130,000+



TOP OCCUPATIONS IN THE CARBON FINANCE & INVESTMENT SECTOR (BY 2-DIGIT NOC-S CODE):

// Professional occupations in business and finance

(approx. 48% of jobs in this sector)

Financial auditors and accountants involved in tracking carbon and other GHG emissions, financial analysts, securities agents, and brokers involved in carbon offset markets and emissions trading, and venture capital and/or other finance professionals specializing in renewable energy and green/clean technology investments.

// Other managers

(approx. 7% of jobs in this sector)

Includes financial brokerage, banking, and investment managers and other business services managers related to carbon finance and investment.

// Specialist managers

(approx. 6% of jobs in this sector)

Financial managers who specialize in areas related to energy, carbon, or clean technology.

CARBON FINANCE & INVESTMENT SECTOR JOB TITLES

// Ecological Economist

// Carbon Trading Market Rate Analyst

// Emissions Reduction Project Manager

// Energy Trading Specialist

// Carbon Offset Project Aggregator

// Carbon Offset Project Developer

GREEN KNOWLEDGE & SUPPORT

Number of Direct Jobs in BC (2008): 16,000

The Green Knowledge and Support sector includes jobs in education and training, research and development (R&D), information and communication technology (ICT), law and accounting, public administration, and a variety of other jobs with supporting organizations, associations, and advocacy groups. Occupations in this sector are extremely diverse with experts and professionals coming from many backgrounds, including business management and finance, natural and applied sciences, political and social sciences, education, law, and accounting.

The development, coordination, and delivery of green education and training programs are largely handled by the professors, instructors, and trades training professionals at BC's post-secondary universities, colleges, technical institutes, and tertiary sector educators, as well as through relevant unions, sector councils, associations, and supporting organizations in the province. The province's well-established advanced research facilities, often integrated with various post-secondary institutions throughout BC, employ hundreds of researchers and experts involved in developing the latest in green technologies and helping to establish BC as Canada's largest clean technology cluster (compared with national GDP).

In the ICT sub-sector, skilled engineers and technicians are developing "smarter", software-based technologies that are enhancing energy efficiency, increasing reliability, redesigning systems of operation, and reducing costs across all other industries and sectors.

Lawyers are developing niche expertise in transactions related to the environment—including remediation and pollution control—as well as in providing the legal documentation surrounding the financing for green companies and projects, such as wind farms and other renewable energy developments. Accountants will become increasingly responsible for carbon management initiatives, including emission credit tracking and energy audits.

Finally, committed individuals within provincial and municipal governments in BC and a wide array of members in supporting non-profit organizations, committees, and associations are helping to accelerate the transition to a greener economy in BC through their progressive initiatives and efforts.

Featured Jobs in the Green Knowledge & Support Sector

Biofuel Researcher

With initiatives such as the BC Bioenergy Strategy and the Ethanol BC Program driving some of the work, the Biofuel Researcher's job is to improve the production of biofuel from plant and animal materials and waste, including wood, grasses, and other non-edible plants. The researcher works in a laboratory setting and is responsible for the proper use and maintenance of all lab equipment. The researcher may be self-employed or work at any number of public institutions or private facilities across BC.

Minimum Educational Requirement: Bachelor of Science in Forestry, Biochemistry, or Microbiology
Annual Salary Range: \$40,000 - \$70,000

Environmental Lawyer

The Environmental Lawyer specializes in protecting the natural environment through the use of treaties, conventions, statutes, and regulations. Environmental lawyers act as both advisors and legal advocates in the protection of the environment and its natural resources. As advisors, they counsel clients on their legal rights and obligations with regard to the environment. As legal advocates, they represent clients in environmental trials and defend client interests.

Minimum Educational Requirement: Bachelor of Laws and the Law Society of BC's Admission Program (or equivalent)
Annual Salary Range: \$110,000 - \$150,000+

Climate Change Policy Analyst

The Climate Change Policy Analyst provides specialized technical advisory services for the development and advancement of public policy strategies aiming to mitigate the environmental impacts of air pollution and GHG emissions. Job duties may include research, preparing internal and external communications pieces, government lobbying, and other supporting roles. The policy analyst may work for the public, private, or NGO sectors.

Minimum Educational Requirement: Bachelor of Arts in Political Science or Economics (or equivalent)
Annual Salary Range: \$45,000 - \$80,000

GREEN KNOWLEDGE & SUPPORT SECTOR JOB TITLES

// Smart ICT Systems Engineer
// Wave Energy Research Lab Technician
// Conservation Policy Analyst
// Conservation Officer
// Air Quality Enforcement Officer
// Professor of Ecological Economics
// Professor of Sustainable Urban Planning
// Electrical Trades Instructor
// Wind Turbine Technician Training Specialist
// Environmental Consultant

TOP OCCUPATIONS IN THE GREEN KNOWLEDGE & SUPPORT SECTOR (BY 2-DIGIT NOC-S CODE):

// Professional occupations in natural and applied sciences

(approx. 16% of jobs in this sector)

Includes professionals from all natural and applied science disciplines who are involved in education, training, research, or other supportive positions that are helping to green the economy.

// Lawyers, policy and program officers

(approx. 11% of jobs in this sector)

Lawyers involved in both environmental law and transactions related to investment and financing for environment-related and clean energy projects. Economists, public policy researchers, analysts, and program officers unique to government and involved in environment-related work are also in this category.

// Technical occupations related to natural and applied sciences

(approx. 8% of jobs in this sector)

Includes all technical occupations related to natural and applied sciences who are involved in research and/or other supporting environment-related roles, including inspectors and conservation and fishery officers.

// Professional occupations in business and finance

(approx. 7% of jobs in this sector)

Includes professional environmental consultants who offer business services to all other sectors and industries throughout the province and abroad.

// Occupations in protective services

(approx. 6% of jobs in this sector)

By-law enforcement and other regulatory officers, specifically involved in environment-related work including land, water, and air, are included in this occupational category.

// Teachers and professors

(approx. 5% of jobs in this sector)

Includes instructors and professors at the post-secondary level specifically involved in green education and trades training for environment-related occupations, including green building, renewable energy, and other green/clean technology-based training.





6//Summary

British Columbia has a diverse history and an economy that has been traditionally based on the province's abundant natural resources. In recent years however, global economic crises, fluctuating commodity markets, and severe climate-related events have destabilized BC's economy and have sparked a transition to a new, greener economy—one that is being driven by clean and renewable energy technologies and more sustainable, environmentally-sensitive industry and business practices.

This transition is being powered by a new generation of knowledge-based workers who must be equipped with the skills and experience to develop the products and services demanded in a more carbon- and resource-constrained world. The growing demand within the public and private sectors for experienced engineers, skilled technicians, consultants, environment-related professionals, and other qualified green workers is far from being satisfied in the near-term.

New career opportunities in renewable energy systems design and installation, energy efficiency, green building, resource and carbon management, environmental consulting, and investment are expected to continue to grow over the next decade—jobs that are relatively high-paid and well-respected.

This guide is designed to serve as an introduction to some of the existing and emerging employment opportunities in BC and highlights green jobs within the six key sectors that supply the bulk of the green products and services to all industries and sectors throughout the province.

It should be noted that the range of opportunities to work in the green economy continues to expand and the ultimate size and scope of the green job market is still unknown. If current trends continue, the number of direct green jobs in BC by 2020 could grow to more than 200,000—a nearly 75 percent increase over the 2008 estimate.

With continued innovation, education, and training/retraining, BC's work force can build on its existing knowledge base to incorporate the emerging skills that will open up doors to exciting employment opportunities in all industries, both new and old.

TO FIND OUT MORE ON
BC'S GREEN ECONOMY AND
EMERGING WORK FORCE
OPPORTUNITIES, VISIT
WWW.GLOBE.CA

7//Green Job Resources

National Resources:

Canada's Job Bank - Service Canada
Human Resources and Skills Development Canada
Labour Market Information (Service Canada)
National Research Council
Working in Canada

Provincial Resources:

BC Work Futures
Career Planning and Labour Market Information
Industry Training and Apprenticeships in BC
Industry Training Authority
What's Key – Opportunities, Careers, Education
WorkBC

Green Job Websites:

CanadianEnvironmental.com
ECO.ca
GreenCareersGuide.com
GoodWorkCanada.ca
Jobs.CleanEdge.com
WorkCabin.ca

Industry Training Organizations:

Automotive Training Standards Organization
Construction Industry Training Organization
Horticulture Education BC
Propel – Tourism, Hospitality, Foodservices Training
Residential Construction Industry Training Organization
Resource Training Organization
Transportation Career Development Association

Sector Councils:

Aboriginal Human Resources Development Council of Canada
BioTalent Canada
Canadian Agricultural Human Resource Council
Canadian Apprenticeships Forum
Canadian Automotive Repair and Service Council
Canadian Council of Technicians and Technologists
Canadian Supply Chain Sector Council
Canadian Tourism Human Resource Council
Canadian Trucking Human Resources Council
Construction Sector Council
Council for Automotive Human Resources
Electricity Sector Council
Environmental Careers Organization (ECO) Canada
Forest Products Sector Council
Human Resource Council for the Voluntary/Non-Profit Sector
Information and Communications Technology Council
Installation, Maintenance and Repair Sector Council
Mining Industry Human Resource Council
Motor Carrier Passenger Council of Canada
National Seafood Sector Council
Wood Manufacturing Council

Associations & Supporting Organizations:

Association of BC Forest Professionals
Association of Canadian Community Colleges
Association of Professional Engineers and Geoscientists of BC
Association for Technology Professionals in BC
BC Biodiesel Association
BC Bioenergy Network
Business Council of BC
BC Chamber of Commerce
BC Community Forest Association
BC Construction Association

BC Environment Industry Association
 BC Ground Water Association
 BC Innovation Council
 BC Sustainable Energy Association
 BC Technology Industry Association
 BC Water and Waste Association
 Building Owners and Managers Association of BC
 Canada Green Building Council
 Canadian Bioenergy Association
 Canadian Energy Efficiency Alliance
 Canadian GeoExchange Coalition
 Canadian Geothermal Energy Association
 Canadian Home Builders Association of BC
 Canadian Hydrogen and Fuel Cell Association
 Canadian Hydropower Association
 Canadian Solar Industries Association
 Canadian Renewable Fuels Association
 Canadian Wind Energy Association
 Cascadia Region Green Building Council
 Clean Energy BC (formerly IPPBC)
 Community Energy Association
 Council of Forest Industries
 Economic Development Association of BC
 Engineers Canada
 Forest Products Association of Canada
 Forest Stewardship Council of Canada
 Fraser Basin Council
 Genome Canada
 GeoExchange BC
 Kootenay Association for Science and Technology
 Kootenay Rockies Innovation Council
 LifeSciences BC
 Light House Sustainable Building Centre
 Mining Association of BC

National Brownfield Association
 North Columbia Environmental Society
 Northern Bioenergy Partnership
 Ocean Renewable Energy Group
 Okanagan Environment Industry Alliance
 Okanagan Science and Technology Council
 Peace Energy Cooperative
 Recycling Council of BC
 SolarBC
 Thermal Environmental Comfort Association
 Union for British Columbia Municipalities
 Urban Development Institute – Pacific Region
 Vancouver Economic Development Commission
 Vancouver Renewable Energy Cooperative
 Victoria Advanced Technology Council (VIATec)
 Water Supply Association of BC
 Wood Pellet Association of Canada

Others:

Aboriginal EnviroCareers
 Asia-Pacific Gateway Skills Table
 Building Environmental Aboriginal Human Resources
 TradesTrainingBC

www.globe.ca

For more information,
please contact:

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World Trade Centre
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Email : info@globe.ca

