

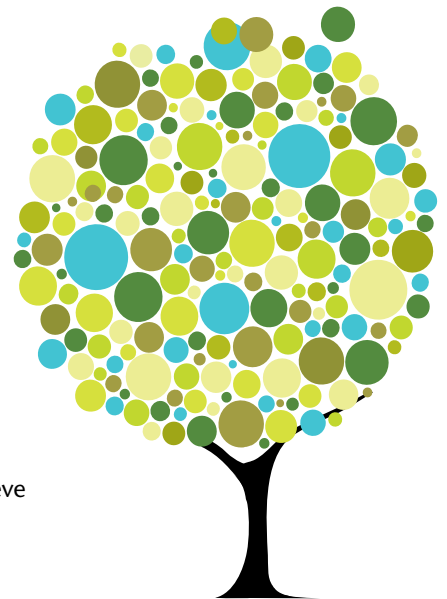
Climate Justice, Green Jobs and Sustainable Production in BC

Summary

TO FIGHT AGAINST CATASTROPHIC CLIMATE CHANGE, BC needs to reduce greenhouse gas (GHG) emissions to near zero by mid-century at the latest. This amounts to a new, green industrial revolution that will have transformative impacts on work in the province. In addition, the need to adapt to inevitable climate change impacts will also have employment implications.

With this report, we hope to contribute to a growing conversation about industrial and employment strategies the BC government can use to transition to a sustainable economy and create a new generation of well-paying green jobs.

Past industrial revolutions have caused great upheaval and hardship, with some sectors of society bearing a terrible burden. If this green industrial revolution is to occur in a just manner, we need to help workers make the transition to new employment, and provide economically marginalized people with new opportunities to secure decent work and economic security. Creating green jobs allows us not only to confront climate change, but also to achieve *climate justice*.



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CCPA
CANADIAN CENTRE
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BC Office



GREEN JOBS: THE BC CONTEXT

Reducing emissions to near zero by mid-century amounts to a new, green industrial revolution for BC.

At the broadest level, green jobs are the work done in a sustainable economy. That is, at the end of a successful green industrial revolution, all jobs would be inherently green. For our purposes here, green jobs are well-paid, decent jobs that contribute to a reduction in greenhouse gas emissions, produce no or low environmental impact, and/or help the economy or society adapt to the impacts of climate change.

Currently, four-fifths of BC's commercial and industrial GHG emissions (that is, non-household emissions) come from a handful of sectors: mining, oil and gas, transportation and manufacturing. A few hot spots stand out for having high levels of GHG emissions *per worker*: mining, oil and gas extraction, electricity generation, transportation and agriculture. The biggest culprit is the oil and gas industry, which provides very little direct employment in return for its substantial emissions. The oil and gas industry also includes the top two individual sources of CO₂ emissions in the province, and five of the top 12 emitters (all of these owned by one company, Spectra Energy).

BC's emissions profile is rooted in its history as a "staples economy" driven by the extraction and export of unprocessed or semi-processed raw materials. The BC government's industrial policies support the resource sector by providing transportation infrastructure (roads, bridges and ports), tax breaks and low-cost electricity. These industrial policies have been extremely successful in economic terms, but are often in conflict with climate policies.

A key challenge is that many of the jobs that have high levels of GHG emissions per worker are highly paid unionized jobs. While many decent jobs are not green, service sector jobs often show the opposite pattern: they have a small carbon footprint, but are low paying and provide little job satisfaction. For a green industrial revolution to truly fulfill its potential, green jobs must be synonymous with decent work.

Leadership from the BC government is needed to implement more coherent and integrated climate, industrial and labour market policies—including "just transition" plans that support workers as they change careers—if a green industrial revolution that decarbonizes BC's economy is to occur without major social friction. A smooth transition also necessitates the creation of a wide range of new job opportunities actively engaged in greening the economy.

INVESTING IN GREEN JOBS

Green job creation is a natural outcome of rebuilding BC's physical infrastructure—buildings, communities, transportation systems and energy sources—to be more sustainable. Many public service jobs (civil service, health care work or early childhood education, for example) could also be considered a major source of inherently green jobs. These green investments create many more jobs than investments in fossil fuel industries.

Green jobs should also be actively linked to gains for traditionally disadvantaged populations, including women, visible minorities, immigrants and Aboriginal people, as well as low-income households in general. Commitments to support households in the transition will also be required to guard against adverse equity impacts on low-income households, as well as stoking the demand for investments in energy efficiency and low-emissions transportation.

New Building Construction and Retrofits

The concept of net zero energy buildings is considered an ideal for green residential, commercial and institutional buildings in the future. A major gap, however, is a need for funding of coordinated education and training programs to develop BC's knowledge capital in this area and ensure a supply of skilled workers. There are also opportunities to develop local green jobs in the production of equipment like hyper-efficient windows, heat pumps and other parts currently imported from Europe and Asia.

While net zero is an ideal for new buildings and housing development, the reality is that housing stock takes a very long time to turn over. A key green jobs strategy, therefore, is to start with retrofits of existing buildings. Because so many buildings need energy efficiency upgrades, and this is local, labour-intensive work, building retrofits are the low-hanging fruit of green job development. Specific policy actions to stimulate the demand for retrofits and increase the supply of skilled workers include: home and business financing reform, rising marketplace standards, coordination with post-secondary institutions and apprenticeship and training programs, and deterrents to natural gas conversion.

A bold apprenticeship program could provide an excellent opportunity to train economically disadvantaged groups (such as women, Aboriginal people and recent immigrants) in the skills that will be in high demand when the province undertakes a large-scale green capital plan.

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Zero-Emission Transportation

A massive expansion of public transit should form a major part of a green jobs plan. Expansion of transit capacity is directly linked to new green jobs: the creation of new transit lines and transit vehicles will produce employment gains in construction and green manufacturing.

Over the long run, a zero-emission transportation system must be rooted in more complete communities, where high-density housing is located close to public and private services and amenities. Without the need for long commutes, walking and biking could eventually encompass half of all trips, supplemented by transit, taxis and car-sharing, all of which would be powered by clean electricity.

For freight movement, reducing GHG emissions requires shifting from high-GHG transportation modes like airplanes and trucks to low-emission modes like trains and ships. Technological developments such as electric engines (and perhaps biofuel or hydrogen fuel cell) for trucks will eventually enable switching away from fossil fuels. Perhaps more importantly, freight emissions would be reduced by decreased consumption and less resource extraction for export.

Green Manufacturing

BC needs a strategic framework to make existing manufacturing operations more environmentally friendly, develop new local manufacturing capacity to reduce our dependency on imported goods, and work toward “closed-loop” production processes that exploit BC’s abundant clean hydropower, and recycle and re-use wastes. Opportunities to green existing manufacturing operations can be realized through carbon pricing and other incentive mechanisms, but also by encouraging ideas for changes in workflow and production processes from the shop floor.

Closing the loop will provide new opportunities for green jobs if BC recycles waste products locally instead of exporting them to other jurisdictions. Processing recycled materials requires dramatically less energy than processing raw materials, and thus produces fewer emissions. Extended Producer Responsibility programs (which require manufacturers to assume responsibility for recycling their products) are a good model to build on, and should be harmonized with municipal blue box programs and local processing of waste materials.

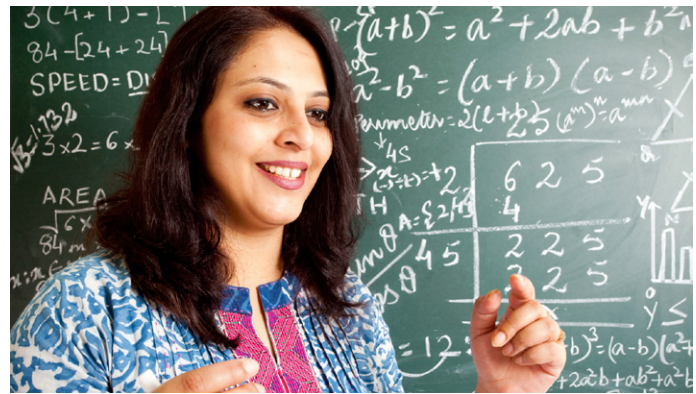
Research into New Technologies

Long-term economic and employment strategies must also consider the development of new technologies. These may be necessary for the final percentage points of GHG reductions that take BC to zero emissions. The future path of any technology is impossible to predict, of course, but the decades to come offer the potential for major breakthroughs in areas like biotechnology, nanotechnology and quantum computing, all of which have massive potential for implementation in a green industrial production system. For example, advances in nanotechnology could support the development of hydrogen-powered vehicles and more efficient solar power generation. BC should be positioned to adopt and adapt green applications of these technologies.

Adaptation Planning

Beyond mitigation of GHG emissions, there will be new work related to adapting to a warmer province. We can develop strategies that improve our resilience to climate change in a way that creates green jobs, builds physical infrastructure and reinvigorates social networks. Adaptation-related jobs could include reinforcing dykes in low-lying areas, planting trees in areas decimated by the mountain pine beetle and upgrading storm sewers and water treatment facilities.

Climate impacts on regions and communities will be diverse and variable, and require planning processes that identify major risks—e.g., fires, floods, droughts and landslides. The development of more localized, sustainable food systems is a key aspect of resilience planning, as climate change may affect global food supply chains, and conventional agriculture is highly dependent on fossil fuels. Beyond food, a planning framework that focuses on ensuring basic needs should also address water, housing and electricity at regional and community levels.



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A Green Social Contract

Fear of job loss could have a paralyzing impact on progress towards GHG emissions mitigation. With the development of new green jobs in BC, there are likely to be job losses within certain industries like oil and gas. But on balance, there will be a net increase in jobs—if public and private investments can be leveraged to develop green jobs. In the vast majority of cases, skills will be readily transitioned to other needed work that will be created in green industries.

The term “social contract” is generally used to describe the agreement, written or assumed, between a government and the citizens it governs. A “green social contract” would guide a government to prioritize both the environment and the well-being of its citizens in any decision-making process, and would include strategies for helping workers transition to green jobs and protect against widespread unemployment. “Just transition” packages should include education and training, income support and mobility allowances for workers who need assistance in changing careers. A coordinated strategy should bring in secondary, post-secondary and training/apprenticeship programs to ensure appropriate skills development.

Carbon Transfer

The principle that prices should tell the truth about costs of production (e.g. that environmental costs should be factored in) is fundamental to the shift to a sustainable economy, but doing so poses a huge transitional problem for low- to middle-income families who spend a higher percentage of their incomes on energy and necessities. Ensuring that carbon pricing or higher energy prices do not have net detrimental impacts on low-income households is important to ensuring sufficient demand for green goods, services and investments. We propose a “carbon transfer” system that would be designed similarly to the income transfers for Old Age Security and the Canada Child Tax Benefit. These transfers have a maximum amount for the lowest income families, and phase out slowly over the income distribution, so that a very high proportion of families get something.

RECOMMENDATIONS

In the near term, we recommend the following steps be taken by the provincial government:

Fear of job loss could have a paralyzing impact on progress towards GHG emissions mitigation. But on balance, there will be a net increase in jobs—if public and private investments can be leveraged to develop green jobs.

1. **COMMIT TO ZERO FOSSIL FUELS** by 2040 at the latest, with all energy requirements met by clean electric sources, plus some biofuels and hydrogen fuel cells where alternatives are required. All remaining non-fossil-fuel GHG emissions should be eliminated by 2050.
2. **ENACT A MORATORIUM ON NEW FOSSIL FUEL EXTRACTION** unless 100% of emissions can be captured and stored underground permanently.
3. **ESTABLISH A TEN-YEAR RAPID ACTION PLAN** on climate change, funded by a mix of carbon tax, increased natural gas royalties, and eliminated subsidies for fossil fuel industries, as well as from reallocating existing expenditures on unsustainable activities (e.g. highway expansion).
4. **DEVELOP A COMPREHENSIVE PROVINCIAL GREEN INDUSTRIAL STRATEGY**, including green jobs and capital plans, with priority focus on the following areas: green building construction and retrofitting; transportation; green manufacturing and waste management; and adaptation planning. The strategy must be coordinated across business, trade unions, secondary and post-secondary institutions and all levels of government, and should actively engage traditionally disadvantaged populations.
5. **PUSH THE CONSTRUCTION INDUSTRY TO “NET ZERO” NEW BUILDINGS** as quickly as possible. A major expansion of the LiveSmart program for building retrofits is also in order, with special attention paid to low- to middle-income households, older housing stock and coverage of multi-unit buildings.
6. **IMPLEMENT A NEW TRANSPORTATION PLANNING FRAMEWORK** that focuses on building complete communities and shifting to more sustainable modes of transportation (such as walking, biking and transit, rather than just on electric vehicles).
7. **TAKE ACTION ON WASTE** by expanding Extended Producer Responsibility programs and developing processing capacity to recycle materials in the province.



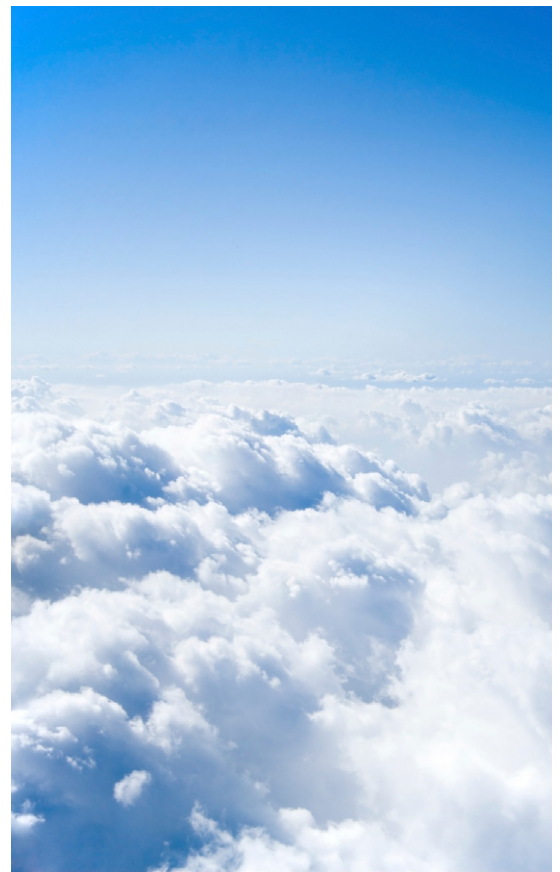
To pull off an industrial revolution in the span of decades will require careful planning and clarity of the ultimate objective of eliminating fossil fuels in the economy.

8. **SUPPORT RESEARCH AND DEVELOPMENT OF NEW TECHNOLOGIES** with green economy applications through direct government funding, direct or indirect support for commercialization and production, and support for learning and diffusion of knowledge and technology.
9. **PLACE LIMITS ON OFFSET PROJECTS** in order to focus on real emission reductions. Offsets should not be granted for projects outside of BC, and should be limited in time and scope.
10. **DEVELOP ADAPTATION PLANS** focused on the security of basic needs in areas such as food, water, electricity and housing.
11. **LAUNCH A BROAD-BASED PARTICIPATORY EXERCISE** aimed at defining the parameters of a new “green social contract” that ensures no one is left behind in the transition to a sustainable economy.
12. **DEVELOP A FRAMEWORK FOR A NEW “CLIMATE TRANSFER” GRANT TO HOUSEHOLDS** that would, minimally, be equivalent to existing energy expenditures (and ideally more) to insulate low- to middle-income households from increases in energy and carbon prices, funded from revenues from those sources.

THE CLIMATE JUSTICE PROJECT

The Climate Justice Project is a multi-year initiative led by CCPA and the University of British Columbia in collaboration with a large team of academics and community groups from across BC. The project connects the two great “inconvenient truths” of our time: climate change and rising inequality. Its overarching aim is to develop a concrete policy strategy that would see BC meet its targets for reducing greenhouse gas emissions, while simultaneously ensuring that inequality is reduced, and that societal and industrial transitions are just and equitable.

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