Recommendations for a Low-Carbon Economy

Prepared for BC's Climate Action Secretariat and
Climate Solutions and Clean Growth Advisory Council

February 2018

GREEN jobsbc

Introduction

Green Jobs BC is a coalition of labour and environmental groups focused on building the green economy of tomorrow.

We share a vision of an inclusive, sustainable economy that provides good green jobs that are socially equitable, ecologically responsible, and result in the reduction of greenhouse gas emissions. These principles underpin the following policy recommendations.

The principle focus of any climate plan must be the reduction of greenhouse gas emissions. We think it's also important to highlight policy areas that will also grow the number of family-supporting, career-track jobs while also achieving climate goals.

These policies resulted from a series of stakeholder forums, and a two-day conference, hosted by Green Jobs BC. The policy recommendations are a result of the discussions and on-line participation of more than 200 people from environmental organizations, labour unions, business, academia, and First Nations.

Our recommendations are in the following three policy areas: buildings, renewable energy generation and expanded public transportation.

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Part One: Buildings

Buildings, Energy Efficiency Retrofits and Green Jobs in BC

"By 2030, the Pembina Institute estimates carbon pollution from the building sector must be slashed by half in order to meet B.C.'s legislated climate target for 2050."

Karen Tam Wu, acting B.C. director at the Pembina Institute | January 30, 2018 | Tyee.ca

- Energy efficiency and green buildings is the sector with the highest potential for green job growth in B.C.
- BC estimates show that construction and retrofitting create between 10 to 18 direct and indirect jobs for every $1 million in increased output.

  Basic upgrades on 400,000 homes could produce about 8,200-13,200 person years of employment.

  More intensive upgrades at 100,000 home per year would see 14,000 to 30,000 people directly employed.

Policy Pathway 1: Scale up and/or develop energy efficiency retrofit financing and incentive programs for all types of BC residential and commercial buildings.

Goals

- Maximize potential energy efficiency gains and GHG emissions reductions from existing residential and commercial buildings.
- Reduce financial barriers and provide support to encourage energy customers to undertake retrofits and other efficiency measures.

Policy Actions

- Help create demand by legislating mandatory energy performance audits and labeling for all buildings at time of resale.
- Require landlords to supply energy performance audits to new tenants.
- Phase in minimum energy performance requirements for existing buildings, with support and assistance programs to help owners meet requirements.
- Develop stable, long-term financing programs for residential and commercial energy efficiency retrofits that include:
    - low interest loans
    - targeted grants programs for owners and renters
    - solutions that support residential energy customers on low and fixed incomes
    - measures to address financial and other barriers faced by small businesses
- Accelerate the roll out of proposed on-utility bill financing programs (PAYS-BC) across the province, and expand PAYS-BC to include owner occupied multi-unit residential buildings (MURBs), rental and commercial properties.
- Investigate enabling municipalities to provide property tax repayment financing programs for on-site renewable energy measures not covered in on-utility bill financing programs.
- Reallocate a portion of carbon tax revenue to fund energy efficiency grants and low cost financing, especially for renters and lower income British Columbians.
- Use tax credits and other incentives to support high energy efficiency construction and retrofits that exceed mandatory provincial standards.
- Collaborate with community groups, industry, utilities, public sector agencies, NGOs, local governments and others to deliver effective education, marketing and outreach strategies to stimulate demand for energy efficiency retrofits.

Policy Pathway 2: Invest more in greening public sector buildings, including schools, hospitals, office building and community centres.

Goals

- Maximize energy savings and GHG emission reductions from public sector buildings.
- Show public sector leadership in energy efficiency and green buildings.
- Stimulate energy efficiency and green buildings sector through public procurement.

Policy Actions

- Launch a stable, well-funded program to maximize the energy efficiency potential of existing public sector buildings, including schools, offices and recreational facilities.

- Require carbon neutrality and maximum feasible energy efficiency in all new public sector buildings.
- Explore opportunities to include energy efficiency retrofits whenever there are major construction efforts in public buildings, for example at the time of earthquake upgrades at schools.

Policy Pathway 3: Update the BC Building Code to require higher energy efficiency standards for new construction and renovations of existing buildings.

Goals

- Develop requirements of 'net zero' GHG emissions for all new buildings.
- Make BC a leader in energy efficient, green building construction.

Policy Actions

- Accelerate the development and implementation of energy efficiency, smart grid compatibility, renewable energy readiness and other 'green' standards into the BC building code.
- Schedule regular updates to energy efficiency standards in the provincial building code, in synchronization with evolving international standards.
- Provide municipal governments with the resources to ensure that new standards are met.
- Make energy performance ratings mandatory for all new homes and buildings.
- Increase capacity to enforce energy efficiency requirements in building code standards, particularly in smaller communities and rural areas.
- Empower municipalities to implement 'green' standards that go beyond provincial building code requirements.
- Work with industry, energy efficiency experts and building trades to harmonize construction quality standards with best practices in energy efficiency.
- Explore opportunities to include energy efficiency retrofits whenever there are major renovations in residential and commercial buildings, for example during rain screen remediation.
- Legislate a mandatory energy efficiency labeling system applicable to all new buildings constructed in BC.
- Engage and educate construction industry around the benefits and importance of energy efficiency in buildings.

Policy Pathway 4: Invest in quality training, apprenticeships and education for the green buildings sector that meets CSA Standards and can be integrated with Red Seal trades certification.

Goals

- Develop the training capacity and skilled workforce necessary to meet the demands of energy efficiency retrofitting and design, construction and materials manufacturing in the 'green buildings' sector.

Policy Actions

- Launch a taskforce on the development of green building design and construction training, with representation from provincial ministries, industry, the BC building trades, professional associations, K-12 educators and post-secondary education institutions.
- Identify gaps in the green jobs sector in BC and meet those gaps with new training, research and education programs.
- Commit to providing targeted 'green jobs' training and employment for First Nations, youth, women and others marginalized in the current economy.
- Consider a special role for the non-profit sector and trades in delivery of training and employment programs.
- Work with all relevant levels of government, trades, professional associations, ENGOs and industry to incorporate 'green standards' into existing training and certification.
- Ensure capacity to deliver energy audits and post-retrofit inspections by providing training for sufficient numbers of certified auditors and inspectors.
- Provide additional funding to BC's public training institutions (BCIT, Community Colleges, Universities) to expand apprenticeship and training programs and to fund more extensive 'high level' green construction training programs for qualified journeypersons, including the development of master's trades qualifications.
- Develop curricula and provide necessary classroom resources to incorporate energy efficiency-related knowledge and skills training into K-12 trades and science education.
- Introduce an industry wide training levy to provide funding to expand apprenticeships and related training for construction workers, with the long term objective of providing all building workers with a minimum, certified, standard of training as well as raising the overall level of training in the construction labour force.
- Take measures to reduce the size and impact of BC's extensive underground construction whose existence undermines efforts both to improve green building standards and the capacity of workers in the industry to develop the skills needed meet green building objectives.

Policy Pathway 5: Support research, product development and 'Made in BC' manufacturing of energy efficiency equipment, technology and materials.

Goals

- Foster the growth of leading edge green building materials, technologies and equipment manufacturing in BC.

Policy Actions

- Provide targeted support for research and development of energy efficient and low emissions building materials and technologies in BC, especially involving value-added BC forestry products.
- Use tax credits and other incentives for manufacturing of energy efficient heating equipment, residential renewable energy systems and related products within BC.
- Leverage public procurement as a tool to stimulate production of 'made in BC' green building materials and technologies.
- Work with municipal governments to include BC materials, technologies and manufactured goods in their contract tender documents for new public construction projects.

Policy Pathway 6: Accelerate the transition from demolition to deconstruction in the construction industry.

Goal

- Divert the majority of BC demolition and construction material from landfills.

Policy Actions

- Develop and phase in legislated requirements and standards for building deconstruction and recycling to the greatest extent feasible with existing technologies.
- Provide regulatory and financial support for the development of technological, physical and market infrastructure needed for greater recycling and reuse of materials from deconstruction.
- Provide additional training and education for workers and companies involved in the deconstruction of buildings.
- Take measures to ensure that there is a 'level playing field' for deconstruction to address market pressures that currently encourage industry participants to adopt the cheapest approach to deconstruction.
- Develop updated health and safety standards and practices that address deconstruction and materials recovery.

Part Two: Energy

Energy, Conservation and Green Jobs in BC

"Canada's ability to meet its Paris commitments will be based on the construction of new infrastructure for the generation of electricity using renewable sources."

Jobs for Tomorrow – Canada's Building Trades and Net Zero Emissions
2017 Columbia Institute study commissioned by Canada's Building Trades

- Economic activity associated with energy efficiency and low-carbon technologies creates significantly more jobs per $1 million in increased output than activity in the fossil fuel sector.

Policy Pathway 1: Invest in conservation and efficiency as the lead strategy for meeting BC's energy needs.

Goals

- Work with BC Hydro to develop aggressive medium and long –term targets for meeting new electricity demand through conservation and efficiency.
- Maximize the job creation potential of energy conservation and demand management.

Policy Actions

- Enact the most aggressive energy conservation and efficiency measures feasible in BC, including options outlined in BC Hydro's 2010 Resource Options Report.
- Commit to a wide ranging incentive- and regulation-based policy agenda supporting energy efficiency upgrades in BC buildings and higher energy efficiency standards in new
- construction (as outlined in the Green Jobs BC "Buildings and Retrofits" policy document).

Policy Pathway 2: Invest in an environmentally and economically sustainable energy system.

Goals

- Increase the percentage of BC electricity generated through renewable energy sources.

Policy Actions

- Prioritise renewable sources for any new electricity generation capacity, and ensure that the share of BC electricity generated through renewable energy sources is maintained or increased.
- Incorporate provincial GHG reduction targets and climate objectives as a core component of BC Hydro's planning process.
- Require a provincial review of industrial electricity policy and BC Hydro's industrial tariff to determine alignment with economic development priorities.

Policy Pathway 3: Accelerate the transition from fossil fuels to renewable and lower emissions energy sources.

Goals

- Set strong targets for reductions in fossil fuel GHG emissions.
- Develop a provincial plan to replace fossil fuel use with renewable energy to the greatest extent practical.
- Look for opportunities to expand electricity to alternate end-uses, such as transportation and industrial processing.
- Eliminate subsidies for fossil fuel production.
- Expand the carbon tax to cover process emissions from the production of fossil fuels.

Policy Actions

- Develop regulations and incentives to reduce carbon emissions associated with residential and commercial space and hot water heating, through electrification, improved efficiency, and lower emission fuels and technologies.
- Build infrastructure and create incentives for reduced carbon emissions from public transportation, private automobiles and freight transport, including:

- Incentives to adopt electric and other low carbon emission vehicles
- Spending on alternate fuel infrastructure, such as charging stations
- Standards to incorporate higher biofuel mixes to existing transport fuels
- Encourage low-carbon fuel standards and support the development of environmentally responsible bioenergy sector in BC.

Policy Pathway 4: Support growth and job creation in BC's low-carbon clean technology and green manufacturing sectors through tax incentives, research and development support, regulatory incentives, supportive financing options and public procurement.

Goals:

- Expand employment and the share of provincial GDP in renewable energy, low-carbon clean tech and 'green manufacturing.'
- Expand BC's share of global clean tech market

Policy Actions:

- Increase support for research, development and marketing of made in BC low-carbon clean technologies ('clean tech'), including energy efficiency products, energy storage technologies, energy infrastructure technologies, renewable energy equipment, emissions control equipment, etc.
- Support the development of financing mechanisms that encourage growth and start-ups in the sector.
- Stimulate domestic demand for the development and production of BC clean technology through provincial environmental and GHG regulations.
- Provide tax credits and other incentives for cleantech start-ups and cleantech companies that create long term jobs in BC.
- Use public procurement as a tool for supporting the growth of BC-based manufacturing of clean tech products.

Part Three: Transportation

Transportation Policy and Green Jobs in BC

"Working people are the backbone or our economy and care deeply about building a sustainable economic future. Expanding public transit capacity and infrastructure would reduce GHG emissions significantly, create thousands of jobs, and make it easier and faster for workers to get to and from work. It's a win- win-win."

David Black | President, MoveUp

- Personal and commercial transportation accounts for 39% of GHG emissions in BC.
- The Metro Vancouver region is expected to grow by another million residents and 600,000 jobs by 2041. This population and employment growth will result in a 17% increase in greenhouse gas emissions in a business as usual scenario.
- Research has shown that investments in public transit and railways in North America create between 9 and 22 jobs per $1 million.
- Investments in needed public transit and railway upgrades in BC could create 230,000 to 270,000 person-years of employment.

Policy Pathway 1: Expand public transit capacity and infrastructure for all BC communities.

Goals

- Increase transit usage significantly, with a special focus on increasing the percentage of workers using public transit to get to work.
- Make transit more attractive by increasing service levels and introducing transit priority measures to reduce the time of the average public transit commute.
- Develop public transportation models that increase ridership in smaller cities and rural communities.

Policy Actions

- Reallocate a percentage of the provincial capital budget towards investments in public transit, railway infrastructure, electric vehicle infrastructure and other support for low GHG transportation infrastructure.
- Target a portion of carbon tax revenue to fund transit infrastructure investment.
- Increase investment and research in effective rural and small community public
  - transportation solutions, including:
  - resource sharing between school districts and local transit systems,
  - deployment of cost-efficient transit vehicles for smaller routes
  - partnering transit services with local employers and public institutions

Policy Pathway 2: Support the revitalization and expansion BC's highway bus and passenger rail systems, and ensure fares are affordable and equitable.

Goals

- Make all BC communities accessible via affordable, efficient and lower carbon passenger transportation options, such as rail and highway buses.
- Launch new domestic and cross border passenger rail services on feasible routes.

Policy Actions

- Support investments to improve existing passenger rail line capacity and speed.
- Work with operators to restore or expand passenger rail service on viable domestic and cross-border routes.
- Work with the public and private sectors to create a revitalized and expanded highway passenger bus system that meets the needs of all BC communities, including small towns, rural areas and the north.

Policy Pathway 3: Create incentives and improved infrastructure to move goods by rail and other efficient, low-carbon modes of transportation

Goals

- Set goals and timelines for shifting a significant percentage of freight from trucking to rail.
- Set goals and timelines for significant reductions in trucking and heavy duty vehicle emissions.

- Increase rail capacity through new and reactivated lines, improving existing lines, and advanced safety and control technology
- Investigate other low-carbon freight transportation modes such as short sea and river corridor shipping.

Policy Actions

- Work with the railway sector to find solutions to increase freight rail capacity and improve railway infrastructure.
- Investigate the feasibility of reactivating unused railway lines in various regions across BC.
- Support the development of new rail lines, either directly through public investment or through the use of incentives to the private sector.
- Investigate the potential environmental and economic benefits of moving more goods via short sea and river corridor shipping in BC and along the Pacific coast.

Policy Pathway 4: Invest in infrastructure and provide incentives for increased electrification and use of lower emissions fuels and technologies for freight and passenger vehicles and heavy equipment.

Goals

- Increase the market share of private electric vehicles
- Make electric charging stations widely available across BC
- Reduce GHG emissions intensity per KM travelled significantly
- Make electric vehicles account for the majority of public transit travel in BC
- Reduce Carbon intensity per service hour in public transit significantly
- Reduce passenger automobile and light truck emissions
- Reduce GHG emissions from freight trucking

Policy Actions

- Use tax incentives to encourage purchases of both new and used hybrid and electric vehicles, particularly for heavily used work vehicles such as taxis, delivery vans, and other commercial vehicles.
- Expand the use of electric trolley buses and other forms of electric transit across the
- Lower Mainland and look for opportunities to transition to electric transit vehicles in other communities across the province.
- Support investments in electric vehicle charging infrastructure across BC.
- Require electric vehicle charging capacity in all new residential construction.
- Provide low cost or grants financing to encourage installations of electric vehicle charging infrastructure in existing buildings.
- Accelerate transition of provincial and school district fleets to electric, hybrid and other low emissions vehicles.
- Develop programs and incentives to support a large scale transition to lower emissions technologies in the trucking sector, with special attention to fairness for owner operators and avoiding downloading of costs to workers in the sector.

Policy Pathway 5: Balance BC's role as an international import/export gateway with an increased emphasis on regional economic development and transportation links.

Goals

- Develop and enhance transportation infrastructure and routes that support regional economic development and integration, including manufacturing and value added activity in forest products and agricultural goods.

Policy Actions

- Reallocate a percentage of the capital budget currently directed towards resource export infrastructure towards targeted development of regional freight transportation capacity and support for BC based value added manufacturing and processing industries.

Policy Pathway 6: Make public transportation more viable and efficient across the province by helping communities develop better planned, more compact neighborhoods and implement other smart growth principles.

Goals

- Reduce light duty car and truck km travelled per capita.
- Reduce average distance commuted to work.
- Increase proportion of workers telecommuting for part or all of their job.

Policy Actions

- Increase provincial government assistance and financial resources available to local governments for planning and new infrastructure that supports smart growth objectives.
- Accelerate the implementation of regulations and incentives that encourage smart growth.
- Ensure all communities have high-speed internet and other telecommunications linkages.

Policy Pathway 7: Improve pedestrian and cycling infrastructure across the province, and introduce cycling education in public schools.

Goals

- Make cycling and walking safer and more viable means of daily transportation for the majority of British Columbians.
- Increase the percentage of British Columbians walking and cycling to work, school and for other daily trips.

Policy Actions:

- Work with municipalities and the federal government to make significant investments in new and expanded trails, paths, lanes and other infrastructure for cyclists and pedestrians.

- Promote walking and cycling through the K-12 public education system and develop strategies to encourage more walking and cycling by adults.
- Make safe commuter cycling courses affordable and broadly available.
- Ensure vehicle driver training and exams include specific and expanded awareness of road-sharing with bicycles and other human-powered vehicles.

Conclusion

The Province of British Columbia, with guidance from the Climate Solutions and Clean Growth Advisory Council, has an opportunity to restore leadership on climate policy.

Government also has an opportunity to address another pressing issue of our time – the need to grow and diversify a sustainable economy for the benefit of citizens.

We believe this is the time to ramp up our collective efforts and gather broad support for a green economy that puts people to work in good jobs that contribute to reducing carbon emissions.

This requires the government to engage workers and communities in shaping the government's climate plan and policies, and ensure the transition to a low carbon economy puts their needs at the centre.

We appreciate this opportunity to share our ideas and sincerely hope the Province will give meaningful consideration to implementing these recommendations.