

CARBON GOVERNANCE PROJECT

BRITISH COLUMBIA: INNOVATION, CAPITAL AND CARBON

VANCOUVER WORKSHOP FINDINGS REPORT



British Columbia (BC) has some of the most aggressive greenhouse gas (GHG) reduction targets in the world. The 2007 Greenhouse Gas Reduction Targets Act (GGRTA) establishes a commitment to reduce provincial emissions 33% below 2007 levels. The Carbon Governance Project workshop: Innovation, Capital and Carbon, took place in Vancouver, BC on June 1st, 2011. The workshop brought together 48 leading industry experts, scholars and government representatives to focus on understanding factors that enable and constrain the transformation to a low carbon economy in British Columbia (BC).

This document summarizes the results of the workshop, focusing on the low carbon landscape in BC, and describes the key strategies identified by the participants for advancing the low carbon economy. The summary is based on materials generated during the day and results from voting by the participants to identify priorities.

THE LOW CARBON LANDSCAPE IN BC

BC is an economy in transition with a landscape that both supports and detracts from a low carbon transformation. Although specific issues, such as capital availability, the role of grid connectivity and the reduction of transport emissions, were identified as key specific areas of concern, participants largely focused on the overall innovation and economic development system in the Province. The 'systems thinking' approach translates into recommendations for action by the private and public partners on a provincial scale.

BIG PICTURE ISSUES

Participants were asked to vote on two key issues regarding BC's low carbon economy:

How confident are you that existing policy in BC will attract capital to support business in creating a low-carbon future?

A mixed response: Capital attraction to BC is uncertain. Participants were not certain that existing policy in BC will attract the capital required to support business in creating a low-carbon future. Principal reasons were that there is too much focus on the carbon tax and not enough focus on alternate mechanisms that facilitate public-private partnerships and business-to-business engagement; capital was not of the correct type (project capital vs. early stage capital); and BC is seen as higher risk that does not have large local capital pools. BC also needs to attract a few large sized capital investors through local "champions" in a few technology areas. This would help to build momentum to generate larger capital flows, including increasing the level of locally based capital funds

Should BC seek to innovate & lead in the absence of a globally binding agreement?

Yes, BC should seek to innovate and lead in the absence of a globally binding climate agreement. Most participants voted in favor of BC taking a lead on innovating in the absence of a globally binding climate agreement. As a regional innovator BC can take the lead acting as a driver for regional regulation and specific niche innovation, rather than playing catch up to larger jurisdictions and states when a global deal is reached. BC could be seen as the 'go-to' jurisdiction for testing of new/early stage technologies with targeted policies to make low carbon investment attractive, thereby improving BC's competitiveness on regional and global stage.

BC'S LANDSCAPE FOR LOW CARBON TRANSFORMATION: KEY ISSUES

BC has specific characteristics that make it both an opportunity and a constraint for low carbon transformation:

- BC's geographic position is both an opportunity and a weakness
- BC's small economy is an opportunity for effective leadership, but is also vulnerable to external forces
- A lack of availability of capital and a lack of the correct type of capital
- Increasing grid connectivity, parity and province-wide community inclusion
- Continual reliance on BC's traditional, resource-based economy

There are also some more systemic issues that participants saw as important:

- The need for a low carbon vision and continued leadership supported by wide public support
- The multi-sector 'ownership' of climate change solutions (i.e. business and government entities)
- Dealing with transport: increasing electrification and integration of transport options, and new technology development
- The role of price and non-price policy signals in incentivizing change, including both a high price on carbon and command and control mechanisms
- The need to create a new knowledge-based economy in BC
- Stimulating behavioral change
- Building on BC's current economy by harnessing 'what we do best'

Drawing on these insights we identify four thematic areas highlighted during the discussions on BC's low carbon economic landscape.

BC's Geographic, Political and Economic Position

BC has an geographic advantage relative to Asian, North American and global markets, in addition to emerging climate policy systems.

The shifting, slow moving and patchwork landscape of carbon regulation globally, is actually a BC advantage. The fact that it is not a low carbon economic (or cleantech) powerhouse at the moment, means that BC's position as a market leader is fragile, but given the small scale of BC's economy, it is "a small ship that is easy to turn", and could move quickly to a position of leadership. BC has an opportunity to lead and be a driver, rather than playing 'catch up'. Precisely because BC is small, has relative autonomy from the federal system, is linked into fast growing international economies, and can take advantage of low levels of global agreement, it has an opportunity to lead a low carbon transformation.

BC has good R&D capabilities, but BC's best and brightest often leave the province because there is a perceived lack of support for education and research within the commercial market. The province needs leadership to create transition trajectories for the future based on supporting low carbon education and research that will support the creation of value added low carbon economy in BC.

External factors both hinder and help BC's position: the link to Asian markets (especially China) makes immediate climate leadership risky. Asia is seen as both a problem and opportunity given trade links and BC's position as a transportation gateway between Canada (and North America) and Asian markets.

BC has a strong opportunity to position itself as a low carbon leader providing goods and services to these external markets. Currently, however, BC has low export market for clean technology. Participants noted that BC businesses have to take ownership over the goal of developing clear business cases and finding their export markets. BC's location relative to such growing markets and regional agreements can assist with this goal. As one participant noted, "We have world trade without a global agreement, so we can also have world clean trade without a climate agreement too".

Adding Value to BC's Traditional and New Economies

The new BC economy must be 'value added', for both natural resources (beyond electricity export) and a new knowledge economy (cleantech/low carbon products and services). BC has tended to rely on an old economy, but BC's size means it must focus on adding value to its exports to compete effectively in a new economy. BC needs to articulate its position through a new paradigm that adapts and links the "traditional" with the innovation intensive economies.

There was a mixed response on whether keeping the old natural resource-based economy would be ultimately beneficial to BC given the tension between emissions and BC's traditional economic growth. Linking successful traditional industries with new low carbon innovations is seen as a possible solution. Participants also stressed that BC should be developing a low carbon economy in general, not just in the clean technology sector. Synergies between the old and new economies are feasible. One difficulty in developing the new low carbon economy is the inherent inertia of BC's current economy, tied to the wealth generated by resource-based industries based mostly on exports.

In addition, the low cost of electricity in BC is seen as both an opportunity to scale up electricity use as a low carbon energy source through better grid integration and infrastructure including electric transport. It is also a weakness since there are minimal economic incentives to implement energy efficiency technologies.

Risk and Availability of Capital for Innovation

Capital scarcity and risk in BC are still high. The participants suggested that BC currently does not attract sufficient capital for low carbon transformation. This is not a policy problem per se--the policy in BC is good--but it is the development of networks and companies that attract capital that will be the key driver. BC is seen as risky for investors in the clean energy space, largely because the construction approval process is lengthy and expensive.

BC has strong inertia in terms of energy generation and provision, and in the economy more generally. The market in BC is still insufficiently dynamic: many companies are focusing too much on research part of R&D and not pushing aggressively enough toward business development and market entry to increase sales profile and help build the correct valuation for the company (which would in turn attract further investment).

BC's overall financial position (with wealth created through traditional industries) should enable decision makers to take a lead. Leadership means risks, but this is important at this stage in the game given BC's geographic position, its scale, and global movements in this space. It was also suggested that the concern about climate policy is that it is politically risky to take action because of uncertain popular support.

Carbon Pricing and Broader Business Engagement

High carbon price is important, but represents only one element of BC's low carbon economy. The government needs to provide a combination of a high carbon price and command and control mechanisms to create transition. Both forms of policy are seen as being a foundation of BC's future economy. Regulation and the creation of market-based financial mechanisms are seen as good. However, business-to-business (B2B) engagement in terms of collaboration and market development in the province is needed to help create a web of low carbon activities that are mutually supportive, and use the carbon price to their advantage.

A related point is that BC lacks broader 'business movement' that takes ownership of the carbon issue and creates opportunities for joint collaboration. Ownership in this context is less about generating ideas (although still important), and more about who is going to act on them. Central to this more networked approach is the role of government as a leader and facilitator that can foster the right kinds of public private partnerships to enable business to collaborate and scale up low carbon businesses.

STRATEGIC RESPONSES FOR BRITISH COLUMBIA

This section provides an outline of the strategic responses given by participants. These are summarized in Table 1, and detailed below.

STRATEGIES OVERVIEW

Participants were asked to each write down one strategy they thought would be most promising for BC in creating a transformation to a low carbon future. These strategies were then clustered into ten themes. Participants then chose which clustered strategy they had most interest in and worked in groups to define strengths, weaknesses, opportunities and threats; and then outline strategic actions to achieve change. Note that ‘Carbon Pricing’ was a key theme when individuals wrote their responses, but when it came to working the topic, participants chose to concentrate on other issues. Following presentations on the topics, all participants voted on which strategies they thought were most promising (i.e. what we should do in BC).

Table 1: The seven proposed strategies, actions and vote identified as the most promising to encourage a low carbon economy in BC.

STRATEGY	KEY ACTIONS	VOTE RESULT
Creating Vision for a future	<ul style="list-style-type: none"> -Assessing international & local examples and identifying priorities -Build ‘picture and story’: a vision of life in a low carbon economy and how we get there -Educate the public through stories 	Most in support
BC as a Living Lab	<ul style="list-style-type: none"> -Develop living lab vision and establish partnerships to build on existing projects and what is happening in the province -Build on existing models and create a blueprint for communication purposes -Survey potential buyers of projects, understand where focus should be, and then scale up across the Province -Link carbon neutral mandate with living lab projects for public institutions 	Most in support, a few unsure, one not in support
Joined up government policy	<ul style="list-style-type: none"> -Create interagency structure able to tackle development of low carbon economy -Channel carbon tax revenues into innovation tax credits 	50/50 in support/unsure
R&D tech push	<ul style="list-style-type: none"> -Directed R&D strategies: not picking winners, but have a business approach to how to look for best opportunities and support them -Development of standards -Increase SRED for clean tech -Encourage creation of risk pool capitals 	Slightly more unsure than in support, 1 not in support

<p>Behavior change</p>	<ul style="list-style-type: none"> -Define Interaction between: Policy/ Market Place / Consumer / Culture -Uncover market needs, uncover opportunities, and move on those opportunities -Get the right insights and tap into motivations of the public/business 	<p>Mix in support/unsure with couple of not in support</p>
<p>Public awareness and advocacy</p>	<ul style="list-style-type: none"> -Gather facts and analyze views and BC public opinions -Create broad social change program including core curriculum in education -Use existing institutions (ferry, transit and private sector) to help educate 	<p>Mostly unsure, but some in support; one not in support</p>
<p>Economic development</p>	<ul style="list-style-type: none"> -Introduce and support companies in this space -Create consortium of specific existing industries and build off their innovations and expertise (e.g. forestry) 	<p>Most unsure</p>

GROWING CONNECTIVITY AS KEY TO BC'S LOW CARBON ECONOMY

Interconnectivity between private sector industries, government and the private sector, and engaging the public, underlies BC's low carbon innovation possibilities. There should be a managed and targeted, multi-actor approach to design, scale-up, and provision of social & economic fabric by connecting people & the economy through low carbon economic activities.

An overall conclusion of the workshop is that the interconnectivity of the different components of BC's low carbon economy is more important than any one specific policy or market action. Targeted and managed interconnectivity between different organizations, and between markets, policy and the wider public, creates mutually reinforcing support for the transition to a low carbon economy. Based on analysis of the workshop strategies we have aggregated and summarized two key strategies for assisting BC's low carbon transformation: 1) creating a low carbon consortium; and 2) building BC's low carbon vision using 'Living Laboratories'¹. Two priority areas are identified below.

Creating a BC Low Carbon Consortium

The landscape and strategies analyses at the CGP workshop pointed to a number of key actions that led to the idea of a consortium to foster the low carbon economy (i.e. not just cleantech) in British Columbia. BC has all the right ingredients for a successful domestic, and export oriented, low carbon economy. However, there is a need to change the structure of industry – “to evolve the system outside of competition”, as one participant noted. What is missing is the mapping and description of the connections between these elements of the economy. The private sector has a specific role in bringing the low carbon economy to the people, and in taking a leadership role in co-evolving policy with government. There is a need for a wider dialogue with effective communication between business, government, researchers and BC's communities. As a result, a consortium made up of wide range organizations is crucial to coordinate activities between all market players, research optimal approaches and advocate on behalf of its members.

BC climate policy and market based mechanisms are worthy, but the interconnectivity between the rest of the low carbon economy players is more important. Participants noted: “policy doesn't equal capital or innovation”. The low carbon economy is constituted by multiple actors, from multiple sectors, who work in a networked landscape that is constantly shifting. By creating a consortium that focuses on specific approaches, creates ownership over actions and brings the low carbon economy to the public through multiple avenues (market, research and policy), the low carbon economy can be fostered simultaneously to public support and material changes.

Private sector roles: BC has history of 'lifestyle' companies (MEC, Lululemon, John Fluevog) that engage consumers through their lifestyles, rather than solely at the 'product' level. This kind of integration can be leveraged for the low carbon economy. BC needs to target an interaction between the public and private sector which unfolds through “collaborative solutions, and a bottom up market.” BC also has a young, and developing, infrastructure that allows change to occur, and has considerable experience in successful industries (e.g. forestry, engineering, energy) which should be leveraged to create integrated solutions.

Government sector roles: In conjunction with a lead role for the private sector, the government should be playing a facilitative role. The government could use interagency coordination to facilitate and manage the relationship between the green sector and the rest of industry. For example, the BC government Climate Action Secretariat (CAS) moved a climate agenda forward quickly because it is an interagency organization. No single agency could have controlled or enacted change as expeditiously. CAS could be further developed and a permanent interagency structure could be created to tackle problems around the low carbon economy more generally. This structure should aim to avoid competition between ministries, and to work with municipalities to move policy into action by nurturing action across multiple sectors.

¹Although seven strategies were articulated during the day, some ideas overlapped and created redundancy. Based on voting patterns on the day and abstracted analysis of the discussions, we showcase the four major principles and actions that the participants defined.

The interaction between the low carbon private sector, government and the public should be used to define the connections between the parts of the system that, as participants noted, can create possibilities for open innovation and create a culture of “Team BC” through “collaboration not competition”.

An analysis of the strategies defined by the group reveals four main areas to focus on:

- Creating a vision for the future and scaling up BC as a ‘Living Laboratory’ for low carbon solutions.
- Connecting infrastructure and communities
- Raising public awareness (through the government and private sector)

Creating Vision for the Future and BC as a Living Laboratory

Galvanizing support through broad-based action, demonstration, public mobilization to leverage BC attributes (e.g. clean energy) and provide flexibility for leadership and markets (for policy and private sector ownership of the issue).

BC needs to build a positive vision of a future low carbon economy and create supporting structures that galvanize action to achieve it. This is seen as creating wide support for a low carbon economy. A positive vision of BC’s low carbon future is essential to overcoming the inertia of the old economy and providing a more secure environment for climate leading policy and market action. A wider understanding of the benefits of the low carbon economy, especially understanding the link between wealth and the low carbon future economy, is essential in affecting this inertia, and changing the status quo. Creating the ‘added value’ in the low carbon economy means allowing people to understand the benefits.

In addition to galvanizing wide support, better research is needed on the markets for low carbon products and services, both internal and external to BC. A better landscape understanding of the low carbon areas that people will inherently support means that the low carbon economy is shown to be beneficial to the public, provides flexibility for policy leadership and opens up tangible markets for low carbon products and services from BC business. A ‘Living Laboratory’ (Living Lab) approach, one that includes communities, companies and local government, and that is scaled across the province through the creation of best practice example blueprints, can be used to create awareness, provide R&D examples and showcase markets for deployment. The cleantech sector is wide not deep at the moment. These demonstrations would allow the ‘deepening’ of wider support and provide opportunities for capital and technical development.

Key Action Points:

- Invest in research to assess international and local examples and identify areas where BC can lead globally
- Build on industries where BC has specific expertise and experience in, for example, energy (i.e. focus on our best abilities rather than sprinkle finance on too many things)
- These should be directed R&D strategies: not picking winners, but have a business approach to how to look for best opportunities and support them
- “Picture and story” – build vision of life in low carbon economy, how do we get there, and development mechanisms to get there; make it emotional so public bonds and understands
- Create a ‘system wide’ approach to telling BC’s low carbon economy story
- Build on existing living laboratory projects and other similar projects in the province – create a blueprint that can be rolled out to other communities
- Survey potential buyers of projects/blueprints/ideas, understand where focus should be, and then scale up across the Province
- Evidence-based, strong communication: collate and distill information from examples and use to educate public by both private sector and government
- Establish partnerships: Build on cleantech framework by creating alliance networks and linking with carbon neutral mandate for public institutions – this allows a support structure
- Increase awareness of social networks and the creation of a ‘global village’ within which BC can lead and be defined by the low carbon issue

Key Gaps & Issues to Address:

- Overcoming BC traditional (non value added) business and public inertia - status quo has tendency to win
- Private leaders are not really stepping up yet
- Capital is required
- Unintended regulatory consequences

Localization and Integration: Connecting Infrastructure and Communities

Building on BC's attributes, such as available hydro electricity, to catalyze existing trends in urbanization and localization into widening support and connecting communities into the low carbon economy.

There is an increasing tendency toward urbanization and localization of certain aspects of the environmental economy (for example local markets, community distributed heating etc.). This localization is combined with the need for better integration with wider infrastructures (e.g. energy), regions (e.g. export markets and regional climate policy) and consciousness of the low carbon economy. For example, the creation of the smart grid and smart buildings brings a shift to localization and urbanization into public consciousness, reinforcing public support for low carbon action. Likewise, integration of energy systems has wide social connections (e.g. connection of First Nations communities to main grid) and large implications for BC as a low carbon economy (e.g. through increased electric transportation).

Localization and regional innovation helps to create scale in mobilization and action. It links directly to the ideas surrounding the creation of a consortium and rolling out Living Lab approaches.

Raising Public Awareness Through Increased Connectivity

Broader public support creates security in leadership for low carbon action, illustrates that a combined value added knowledge-based and natural resource-based economy is possible, and supports emerging markets and products based on BC's low carbon vision.

A broader societal shift to see the benefits of low carbon in BC is required to support low carbon innovation. The government needs to see there is support for its low carbon ambitions. Leadership exists, and has existed, but it is fragile at the moment – there are structural barriers (and opportunities) for the development of the low carbon economy, and a shifting support base.

- Bring strong polemic views on a low carbon future to a common middle ground
- Certainty in public support creates policy leadership and flexibility by reducing political risk for ambitious carbon targets
- Conflicting carbon policy can be reduced by a wider public support case
- Creating a wide-scale understanding leads to aggregated demand for low carbon initiatives which helps industry in turn to scale up

Creating this systemic support requires a multifaceted approach that includes ownership of the issue greater interconnectivity in the economy on the low carbon theme . Networked approaches are also needed to create wider engagement on the issue, collaborative action items to support the development of a low carbon economy by government, the private sector and the public.

CONCLUSION

BC is a province in transition to a low carbon economy with the possibility to take a leadership role, particularly on the Pacific Rim, based on leveraging attributes where it is globally competitive. The cleantech and low carbon economy is wide but not deep, and it suffers from a lack of capital in the right forms. Key initiatives that can address this are to focus on strategic areas where BC can be globally competitive, and a focus on retaining talent and creating companies that will attract capital pools.

Moreover, the low carbon economy is constrained by a lack of connectivity between businesses, business and government, and business and the wider community in terms of fostering ideas and action on low carbon economic activities. As a participant noted: "BC is a hub, but its not acting like a hub". Low carbon transformation can be created by growing and managing connectivity in BC.

There needs to be systemic innovation in the approach of government and business to the way they communicate the benefits of low carbon to each other and to other market players (consumers, export markets). The private sector needs to take ownership of the issue and bring this to its consumers and markets, just as there needs to be continued policy development between government, business and civil society.

Carbon needs to be governed through wider networks: education and private sector engagement through targeted systems, connections and activities. It is a time of collaboration as a provincial economy, not a time of intra-provincial competition between sectors. Education and wider public support is essential, and achievable. It creates a virtuous circle: increased public buy in provides confidence to business and policy makers, which then increases capital attraction, this bolsters creation of new companies and deployment of others, and helps to create the new value added economy, which is in turn supported by the BC public. Increased interconnectivity and public support form the foundations on which to build BC's low carbon economy.

Vision and practical examples of how this can occur are the next steps required. A consortium of interested business, government and research entities would be well poised to take this challenge, address the interconnectivity issue and foster transformative steps to a new low carbon economy in British Columbia.

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