# Low Carbon B.C.'s Advantage

A PILLAR OF

Stronger Tomorrow, Starting Today.

AUGUST 11, 2020

## MAXIMIZING B.C.'S LOW CARBON ADVANTAGE

We are pleased to present this ***Low Carbon Advantage*** plan as part of the British Columbia business community's overarching ***Stronger Tomorrow: Starting Today, An Economic Plan for B.C. Families and Businesses.***

It is based on almost two years of unprecedented effort between industry—led by a team of senior policy and business leaders—and specialists in the Province of British Columbia to build on B.C.'s reputation as a reliable and responsible provider of low carbon commodities and energy. This plan recognizes the industrial sector as the backbone of B.C.'s export economy; and that this sector has a unique opportunity to grow local investment and jobs, as well as contribute to global climate change solutions while there is a rising demand for commodities, domestically and globally.

B.C.'s highest value-added sector, by far, is natural resource production. The mining, oil and gas production sectors generates *five times* as much value-added (real GDP at basic prices) per unit of labour input as the business sector overall. The sector's openness to international competition and trade engenders its intensive use of capital, skills, advanced technologies and economies of scale.

To better understand the opportunity as well as barriers to this low carbon advantage, dozens of subject matter experts from industry and the Provincial Government, worked intensely to assess the critical components of a strategy, verifying the data and expert findings.

This ***Low Carbon Advantage*** plan reports out on those verified results which demonstrate that, on average, our energy and commodity exports have half the climate change-causing greenhouse gas (GHG) intensity of our competition. But we also verified that our industries face a significant competitive disadvantage compared to global competitors.

Just before the pandemic hit, work on solutions had stalled and then necessary attention was directed to public health and new economic stresses. However, it is our firm belief that this work is more important than ever as governments seek to "build back better" by reinvigorating investment and putting more people back to work, while also deploying climate solutions.

Indeed, that is why the ***Stronger Tomorrow: Starting Today*** economic recovery plan from the Business Council of B.C. placed an emphasis on competitiveness *and* a cleaner world. The Climate Solution Council stated to the Government of B.C. in May 2020 that the work on a low carbon industrial strategy "needs to proceed with urgency to improve the competitiveness of B.C.'s industries". We respectfully state that B.C.'s low carbon advantage is that plan.

While B.C. has received international accolades for its leadership in carbon pricing and climate change planning—efforts that our industries have supported over the years—B.C. is the only jurisdiction in the world that has a price on carbon without comprehensive protections for its trade-exposed industries: the European Union, California and other Canadian provinces all have this protection. A key element of what we need to optimize our low carbon advantage is for the B.C. Government to announce the next stage of actions for Emissions-Intensive Trade-Exposed (EITEs) producers.

At the risk of carbon leakage and missing the opportunity B.C. has with the transition to a lower carbon global economy, we cannot continue to be the global outlier on EITE policies. B.C. businesses and resource communities need the Provincial Government to move forward and take action.

As Premier John Horgan said, "B.C. is uniquely positioned as a destination and supplier of choice for industry looking to drive low-carbon economic growth and opportunities. Working together we can meet increasing global demand for products, services and solutions that reduce air pollution and protect our environment."

We propose bold recommended actions in these key areas to realize our low carbon advantage:

1. **Transform the regulatory system** to create efficient and effective regulatory processes that provide global leadership in sustainability performance, cutting complexity not corners

2. **Develop a clear business investment strategy** that demonstrates B.C. is open for investment and markets the low carbon advantage we have from the commodities we produce

3. **Embrace carbon offsets and market mechanisms** as compliance tools in the B.C. climate framework with investment in nature-based solutions

4. **Endorse protection for emissions-intensive trade-exposed** production from the full carbon tax consistent with federal policy in order to prevent carbon leakage

5. Refocus current infrastructure/capital plans to **support Canada's export economy and trade patterns and further the build out of clean infrastructure**

6. **Support the further adoption and diffusion of technology and innovation** across industries

This is a significant opportunity to advance B.C.'s economy and corresponding high wage jobs in rural and urban B.C. while furthering objectives on global climate change and Indigenous reconciliation.

Time is of the essence and our lack of competitiveness is resulting in carbon and capital leakage in B.C. today—leakage that we believe, if not addressed, will have larger impacts on jobs, investment and Provincial Government revenues in the years to come.

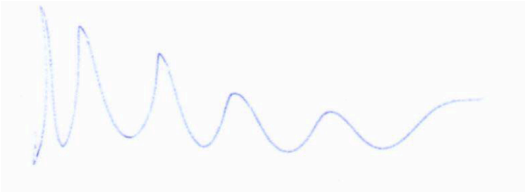
Regards,

Industry's Leadership Advisory Group to the Low Carbon Advantage Plan

Greg D'Avignon, Business Council of B.C.

Susannah Pierce, LNG Canada

Susan Yurkovich, Council of Forest Industries



Tom Syer, Teck Resources

Brad Herald, Canadian Association of Petroleum Producers

August 11, 2020

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## THE OPPORTUNITY

We are collectively living through the worst economic shock of our lifetimes—indeed, the worst in 100 years in B.C.—triggered by the worst health crisis in multiple generations, the COVID-19 pandemic. Society will come out of this looking different—the questions are: what damage will be done; and how do we rebound and shape this future to enable faster and sustainable recovery and seize opportunity?

*Figure 1 — Competitiveness Findings*

**ECONOMIC CONTRIBUTION OF THE LOW CARBON SECTOR TO B.C. ***

| | 2019 | 2017 – 2019 Average<br>As % of all industries |
|---|---|---|
| **GDP - $Millions** | 253,048 | 9.6% |
| **Merchandise Exports - $Millions **** | 43,494 | 44.43% |
| **Total Employment - 000s** | 2506.5 | 2.9% |

*Defined as inclusive of mining, oil and gas extraction, wood product and paper manufacturing, non-metallic mineral and primary metal manufacturing.

** Share of total merchandise exports

Data from Business Council of B.C.

The industrial sector, which produces the goods we and the global marketplace need, is the backbone of B.C.'s export economy and is essential to recovery, hiring and creating new jobs. To restore and maintain our standard of living, and to enable these high paying jobs and rising incomes, the province must sustain a strong and vibrant export sector, anchored by globally-competitive firms operating in industries where B.C. enjoys competitive advantages. Responsible resource development is at the heart of the Canadian economy and we are exceptional at how we do this sustainably using some of the best technology and practices anywhere. B.C. is a small, open trading economy. So much of the provincial economy and jobs are integrated with global economies through trade in products and services—this is central to our collective provincial prosperity and the quality of life for British Columbians.

***Stronger Tomorrow, Starting Today*** set out ideas for the collective government policy and business actions necessary to extract ourselves from the deep hole in the provincial economy due to the COVID-19 pandemic. The plan focuses on recouping lost jobs and creating new ones; replenishing eroded government finances; and enabling a better more inclusive future that provides for the wellbeing of future generations and the many households and businesses that comprise B.C. It specifically identifies the vital role our natural resource and energy sectors must play in driving our recovery efforts and fostering collective prosperity in order to get people back to work, from Vancouver to Vanderhoof—growing high-paying jobs and economic opportunity.

This plan highlights the unique opportunity, starting now, for B.C. and Canada to pivot over the medium and long term to build out the economy in innovative and impactful ways with solutions that support a low carbon future.

This ***Low Carbon Advantage*** plan lays out the potential of our low carbon advantage—one that the rest of the world aspires to achieve yet we have in our grasp, provided we get the right pieces in place together now. Pieces that we need industry—but also the Government of B.C.— to help put in place right away.

## LEVELING THE PLAYING FIELD FOR B.C. TO CREATE JOBS AND PROVIDE SOLUTIONS TO THE CHALLENGE OF GLOBAL CLIMATE CHANGE

A key element of what we need to optimize our low carbon advantage is for the B.C. Government to announce protections for Emissions-Intensive Trade-Exposed producers (EITEs). Climate leaders like Norway, California and all other provinces in Canada provide these protections. As a result, B.C. is at a disadvantage for investment and risk of job loss as the only jurisdiction in the world that doesn't protect these producers and their export products.

We cannot continue to be the global outlier. B.C. export jobs and producers need the Provincial Government to stand beside it and ensure fairness and enable our competitiveness.

Prior to the COVID-19 pandemic, the business news in Canada was dominated by discussions about how Canada could show leadership on the balance of natural resource development and climate in the wake of investment being pulled from several major resource development projects. And there continues to be a trend globally on sustainable investing and looking at environmental criteria as a way for investors to evaluate companies. British Columbians expect that respect for climate will be part of future-oriented economy recovery efforts. For two years now, the Business Council of B.C. has been building a solid, technical foundation for a plan to enable the export of B.C.'s low carbon content commodities. It is now more urgent than ever. We've shown before in B.C. that we can have both economic growth and respect for climate imperatives. This ***Low Carbon Advantage*** plan proposes further evolving this position as global GHGs rise—to think beyond our borders.

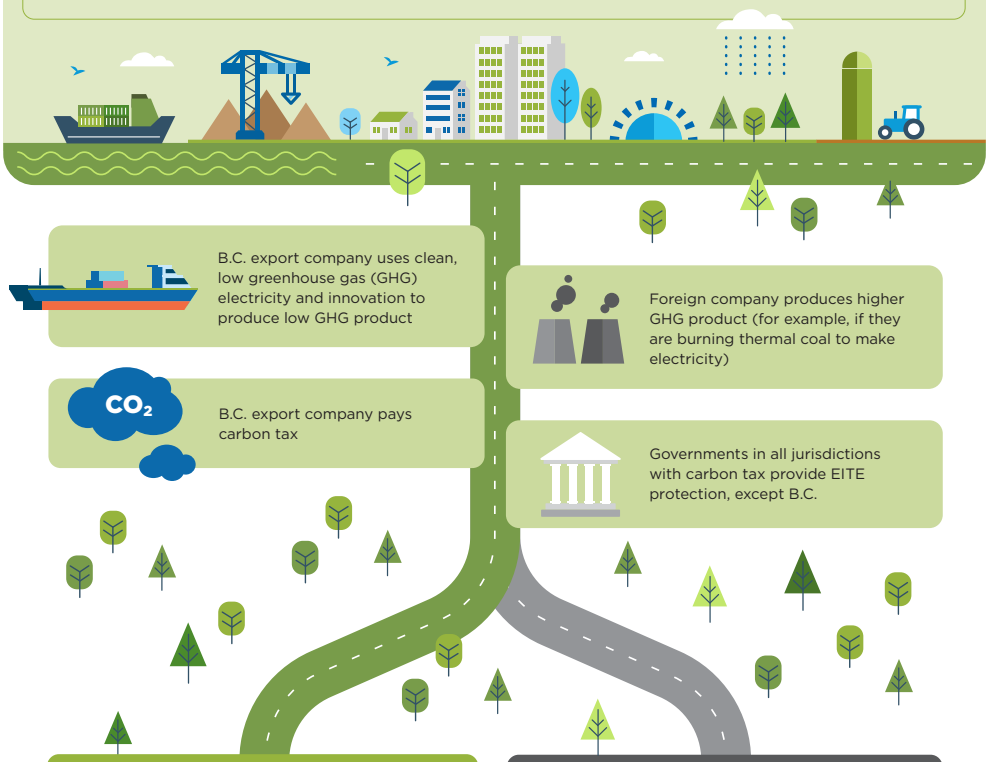
The opportunity is for B.C. to become **a verified, competitive low carbon supplier of the energy, commodities and innovations the world will consume in the years ahead. And if B.C.'s low carbon exporters can become more competitive, this benefit can only grow.** Through selling the goods the world needs, B.C.'s exporters can be a real solution to the climate challenge by reducing global emissions while growing B.C. jobs, B.C. companies, and revenues that the B.C. Government uses pay for the services we all rely on.

# We Need to Even the Playing Field to Be Competitive

Low Carbon B.C.'s Advantage

**What is an EITE industry?**

Emissions-Intensive Trade-Exposed producers are those that grow, mine or manufacture goods that are for export and are commodities that can be bought from any place in the world. Examples are: mining, forestry, natural gas, and others—all industries that are foundational to B.C.'s economy.




PATHWAY 1

**Government of B.C. announces EITE protections creating fair, level playing field**

- B.C. company makes investments in expanding goods production export
- B.C. company invests in B.C. market because they have a lower cost advantage
- B.C.-based company has an incentive to remain and grow with innovations and clean tech once protections are in place
- More jobs created as export company sales increase
- Government of B.C. revenue increases as B.C. company sales and salaries increase
- Global GHGs decrease

PATHWAY 2

**Government of B.C. does not provide EITE protection—no level playing field**

- B.C.-based company pay full carbon tax, while companies in other jurisdictions are protected
- B.C.-based company is invited to invest in other jurisdiction with lower costs
- Foreign market purchase products that are cheaper but higher GHG
- B.C. company sees sales decrease and capital investment shifts elsewhere—this is an example of carbon leakage
- B.C. company limits investment in expansion, marketing to foreign markets, fewer jobs are created
- Global GHGs increase

## B.C.'s Low Carbon Advantage Plan

Through collaborative work with the B.C. Government, it has been proven and verified by external experts that commodities produced in B.C. have an 18 million tonnes of GHGs (Mt CO2e) advantage over products produced by competing jurisdictions. That's equivalent to a third of B.C.'s annual GHGs emissions each and every year. For a full list of experts, see Appendix 1.

Why not promote this advantage by enabling the success of B.C. exporters and communities to have an outsized impact on GHGs while at the same time growing B.C. jobs? The challenge is to adopt solutions that ensure B.C. businesses are competitive in a world marketplace so that the global marketplace buys what we export.

The Canadian energy, transportation and commodity export sectors were already in a cost reduction and efficiency mode pre-pandemic. As certain sectors mobilized to cut costs quickly as they faced uncertain demand and lower commodity prices, B.C. was the first place to reduce shifts because of its high cost of operations. To be a low carbon solution provider, we need to prioritize the competitiveness of B.C. industries in the post-COVID-19 race to rebuild our economy. At risk is not just the opportunity to grow our global GHG advantage, but the viability of these businesses that support direct and indirect jobs and communities around the province. We also bear the risk that more carbon-intensive jurisdictions expand, thereby leading to a concept called "carbon leakage". If B.C. products aren't competitive in the marketplace, the products will come from elsewhere, at a proven higher carbon content.

> *British Columbia's official target to slash emissions by 40% by 2030 (from 2007 levels) is equal to cutting 4 million tonnes (Mt) per year for 10 years, inclusive of growth. If the estimated 8% drop in world GHG emissions in 2020 was replicated in B.C., it would see emissions drop by 5.4 Mt this year. Even in a year when the economy was largely shuttered for three months, with a high of 400,000 British Columbians out of work, the province will record approximately half of the annualized decline in GHG emissions needed to align with the Provincial Government's legislated target.*
>
> ***Jock Finlayson & Denise Mullen***
>
> ***Opinion: Is the Low Carbon Future Upon Us Now?***
>
> ***Business Council of British Columbia, 2020***

# Two Years of Research Confirms We Can Leverage Our Low Carbon Advantage...With Support

Low Carbon B.C.'s Advantage

**The Business Council of B.C. has been working with the B.C. Government toward B.C.'s Low Carbon Advantage since 2019. Here is a brief glimpse at the journey to-date.**

**JULY 2018**
Business Council of B.C. forms Industry Working Group to work on B.C.'s Low Carbon Advantage with B.C. Government, including identifying barriers to competitiveness

**NOVEMBER 2018**
Low Carbon Industrial Strategy MOU announced by B.C. Premier John Horgan with the Business Council of B.C.

**DECEMBER 2018**
Joint Governance Groups established

## 2019 Actions

**JANUARY–NOVEMBER 2019**
Technical team from industry and B.C. Government develops and verifies:
1. Low GHG-level of B.C.'s exports compared to other markets
2. Competitiveness gaps and barriers

Work done jointly by industry and B.C. Government on policy actions needed to maximize the low carbon advantage

**JANUARY 1, 2019**
Federal carbon pricing comes into effect, including EITE protections

**NOVEMBER 2019**
Premier John Horgan Speaks at Business Council Business Summit:

*"B.C. is uniquely positioned as a destination and supplier of choice for industry looking to drive low-carbon economic growth and opportunities. Working together, we can meet the increasing global demand for products, services and solutions that reduce air pollution and protect our climate."*
Premier John Horgan, Province of B.C.

**JANUARY 1, 2020**
Alberta's regulation, Technology Innovation and Emissions Reduction (TIER) takes effect to protect EITEs

**FEBRUARY 2020**
Province of B.C. Throne Speech addresses GHGs and competitiveness:

*"This government will work with business to promote B.C. industries as competitive suppliers of low-carbon products. By positioning B.C. as a supplier of choice, this government will grow markets for B.C. products while reducing global emissions.*
*In export markets where global players have not adopted carbon pricing, B.C.'s energy-intensive industries need to stay competitive.*
*Government and business are partnering to support these industries, so that we can grow B.C. jobs while meeting our emission targets across all sectors."*
Provincial Throne Speech

**FEBRUARY 2020**
Province of B.C. releases Budget 2020
- Despite the benefits of it laid out in the joint work to date, the B.C. Government does not include the Business Council of B.C.'s request for protections for Emissions-Intensive Trade-Exposed industries (EITEs) in Budget 2020
- Joint work with B.C. Government and industry on developing a low carbon advantage program ends
- Business Council of B.C. and industry begin developing detailed Low Carbon Advantage plan

**MARCH 2020**
COVID-19 pandemic results in state of emergency

**MARCH–JULY 2020**
Industry's Working Groups on Low Carbon Advantage re-affirm actions to promote this strong opportunity for "build back better" in ways that reduce climate change globally and here at home while attracting job generating investment and that supports commercially viable homegrown innovation

**JULY 2020**
Sharp decline in economy resulting from pandemic spurs industry to release **Stronger Tomorrow, Starting Today** economic rebuilding plan and Low Carbon Advantage plan Business Council of B.C. presents plan to B.C. Government, restates request for EITE protections and action on plan components to ensure B.C. industry competitiveness and most importantly economic and climate recovery for British Columbians, communities and Indigenous Peoples

Climate change is real, and for years B.C. industries have supported domestic reduction targets by being at the forefront of innovation for emissions reductions. If the rest of the world made some of the important innovations and policy shifts when B.C. did, the world would be further ahead. B.C. has the real chance to help beyond our own borders, a point made by the First Nations Climate Initiative, which supports the design of a low carbon economy in B.C. Indeed, the ***Low Carbon Advantage*** plan is aligned with First Nations' efforts on nature-based solutions as part of developing economic opportunities on the land-base and new partnerships where B.C. has a comparative advantage.

As advocates position themselves for the discussion on Canada's economic future, it needs to be made clear that Canada's, and B.C.'s, highest value-added sector is natural resource production. It pays the bills and generates the highest paying jobs for Canadians.

> *"The quickest, surest path for Canada's post-pandemic recovery is to fire up its big economic engines. The double-word-score is that B.C.'s natural resource exports can also make an outsized impact on climate goals for the world. The pace of our ambition is tied to smart policy that enables economic strength."*
>
> ***David Williams***
>
> ***Which Industries Pay Canada's Bills?***
>
> ***Business Council of British Columbia, 2020***

## B.C.'S OUTSIZED IMPACT

The international marketplace is increasingly competitive and may be more so as the world's economies try to emerge from the crisis caused by the pandemic. It will be a steep climb back. While the US was on a roll prior to the pandemic, the same was not true for Canada. A Bank of Canada poll of Canadian businesses in early 2020 showed conditions were deteriorating even before the pandemic hit. its business outlook survey dipped into negative territory showing that business sentiment had softened before the concerns around the pandemic intensified in Canada.

Along with a return to social normalcy, job creation and growth, there are also discussions about how to "build back better" through a green recovery. At the same time, the world's need and demand for natural resources will continue to increase. So where can B.C.'s export sector stand out?

We need not see these as competing camps in a narrative of B.C.'s global position as a low carbon producer of high-quality natural resource products. A low carbon industrial advantage will support both job growth and climate change objectives.

Within the international community, B.C. has long been recognized as a North American leader on climate policy and results. Given this, it is not surprising that industries that do business in B.C. are leaders on climate, and export this expertise as they invest in opportunities outside our borders. Fueled by interests of their investors and employees; the need to reduce costs and improve efficiency; and pride in the natural environment in which they operate, B.C. companies are leading some of the most innovative work in the world on emissions reductions, and have global recognition for sustainability and progressive low carbon commitments and actions. For some time, the industrial

sector has seen the opportunity for B.C. to affect a reduction in the world's GHGs by promoting B.C. exporters as low carbon suppliers of the natural resources and innovations the world will consume in the years ahead.

This global advantage presents a significant opportunity for B.C., and Canada. As we emerge from the pandemic with a ravaged economy, we can show long-term leadership on how to balance natural resource development with climate goals, in particular if Canada determines that the investments it wants to make in the economic future of the country will be greener.

But this will require intensive effort to ensure our industries are nimble in the new environment, competitive and have regulatory certainty at home. We have an opportunity to do more, we must:

- Recognize the rising demand for natural resources inputs domestically and globally
- Build on Canada's global reputation as a reliable and responsible provider of low carbon commodities
- Value B.C. as the choice for global and domestic capital in search of low carbon, competitively priced energy and commodities which drives innovation and impact

The risk is that more carbon-intensive jurisdictions gain additional market share at the expense of a lower carbon-intensive exporter like B.C., leading to a loss of B.C. jobs in the export sector just as economies around the world rebound.

### *B.C.'s GHG Targets*

*The Climate Change Accountability Act includes legislated targets for reducing GHGs, a climate change accountability framework and requirements for the provincial public sector. B.C.'s GHG emissions are to be reduced by at least 40% below 2007 levels by 2030, 60% by 2040 and 80% by 2050. In 2019, the Provincial Government introduced requirements to set sectoral emissions targets and an interim emissions target on the path to our 2030 goal.*

*By its own forecasts the Province is at least 20% off its 2030 target and there is no clear plan to achieve new sectoral targets that recognize the high marginal costs of abatement in B.C.*

Globally, carbon leakage is a serious concern. Indeed, since beginning this work to prove the low carbon content of B.C.'s commodities, the world has largely failed to act on commitments from the Paris Accord (signed in 2015 at COP21, the United Nations Framework Convention on Climate Change)—the U.S. has withdrawn and China's emissions grew last year by four times B.C.'s total emissions.

B.C. is committed to climate targets and Canada's support for the Paris Accord. B.C. faces a high incremental cost relative to the marginal reductions in GHGs gained, which means that reducing emissions will come at a far greater cost in B.C. because our almost entirely carbon-free electricity system is from renewable sources—95% of our energy is already clean, but this makes it harder to achieve larger gains.

B.C. is also the only jurisdiction with carbon pricing without a comprehensive approach to protection for its trade-exposed industries. This is a disadvantage for a small, open economy where integration with global economies through trade is central to B.C.'s prosperity. In the past, B.C. has managed to drive a strong climate agenda balanced with economic growth. Post-pandemic, if the rest of the world does not demonstrate the leadership that B.C. has, in time, B.C.'s economic prosperity will suffer.

## Pride in B.C. Innovation—Carbon Engineering

Unlike capturing emissions from industrial flue stacks, Squamish, B.C.-based Carbon Engineering's technology captures carbon dioxide ($CO_2$)—the primary GHG responsible for climate change—directly out of the air around us. This can help counteract today's $CO_2$ emissions, and remove the large quantities of already-emitted $CO_2$ that remains trapped in our atmosphere.

They have fully demonstrated this with their Direct Air Capture technology and are now commercializing and receiving world-wide attention. The team and partners are working to build industrial-scale Direct Air Capture facilities that will each capture one million tons of $CO_2$ per year—which is equivalent to the work of 40 million trees.

The results could be devastating for our society. If B.C.'s products cannot be priced competitively in the global market, growth and economic prosperity cannot come to either businesses or government. Without prosperity, government revenues will drop, making it hard to pay for the social programs British Columbians rely on. This is not a place we can afford to be post-pandemic.

As the jurisdiction leading in North America on climate issues, B.C. has continued to push for a strong domestic emissions reduction agenda; the Province's carbon tax is among the broadest (and therefore highest) in the world and is still scheduled to rise. But, because we represent just a tiny fraction of the world's population, reducing emissions here at home has only a limited impact and comes at a far greater cost compared to others that have yet to move to clean electricity or taken steps to innovate to reduce industrial emissions. For perspective, B.C.'s total annual GHG emissions are roughly equal to two days' emissions in China. Hence the opportunity to demonstrate real leadership and impact by exporting more of our clean products, solutions and technologies for global impact while at the same time promoting jobs and capital investment in B.C.

To do that, we must be competitive. Displacing competitors that have higher emissions to meet growing energy and commodity input demands is a tall order. And right now, the cost of doing business is making that a challenge. The U.S., one of our strongest competitors, is withdrawing from the Paris Accord. Australia, another key competing jurisdiction, repealed its carbon tax in 2014 and continues with industrial policies that provide strong incentives and direct funding for switching to renewable energy (solar and wind) that have increasingly lower costs. And the latest report pre-pandemic from the United Nations shows emissions from China continuing to rise.

At some point, if the rest of the world does not catch up with B.C. in terms of commitment to lower GHGs, we will have to ask when the balance tips from lack of competitiveness to an actual economic atrophy, or worse. What is the impact of us continuing to pursue targets that the world's largest emitters don't take seriously while our businesses suffer because we can't be competitive due to this commitment? As The New York Times observed in 2016:

> *"While the introduction of the carbon tax set B.C. apart as a leader on the cutting edge, it is also part of the problem. For the policy to work best, it needs the rest of the world to catch up."*
>
> ***Eduardo Porter***
>
> ***Does a Carbon Tax Work? Ask British Columbia***
>
> ***New York Times, 2016***

The rest of the world has not caught up.

The opportunity presented by B.C.'s low carbon advantage is to leverage B.C.'s commitment and leadership to amplify our brand by:

- Promoting B.C. as a world-leader on emissions reductions
- Building a strong global reputation for B.C.'s industrial sector as a supplier of choice of low carbon commodities
- Growing our competitive edge as other jurisdictions (many without a price on carbon) move forward aggressively with more direct, subsidy-based approaches to achieve climate objectives

## B.C.'S EXPORT INDUSTRY—THE ENGINE OF THE ECONOMY AND JOBS

B.C.'s small, open economy is integrated with the Canadian and global economy through trade in products and services, capital flows, the transmission of data and the movement of people. And this doesn't just benefit rural B.C. In a study for Resource Works, Philip Cross found that if the resource sector were to grow by 10%, more than half (55%) of the jobs created would be located in the Lower Mainland. This is largely because of the business flowing to non-resource industries such as finance, insurance, professional services (such as law and accounting), real estate and trade.[1]

This integration is central to B.C.'s prosperity, presenting challenges as well as opportunities. It underscores the need to pay careful attention to B.C.'s comparative position as a location for producing *traded goods and services* to ensure that the province remains attractive to business and investment.[2]

B.C. sells roughly half of its international merchandise exports to the U.S.; China and Japan are our next largest customers. In the past this diversity has provided some lift to B.C.'s export sector and supported economic growth broadly which translates into jobs in both urban and rural communities.

Exporting products is linked to higher productivity and higher wages. Having to compete in the international marketplace encourages local firms to invest in productivity-enhancing equipment and processes, spurring growth. To compete globally, companies must provide quality products and services at competitive prices.

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1 The 7 Myths of the B.C.'s Resource Economy, Philip Cross, December 2016.

2 These are goods and services produced in B.C. that are mainly sold outside of the province.

Like other advanced economies, B.C. has become more dependent on international trade to sustain its economy and bolster living standards. If we include trade with the rest of Canada as well as with other countries, exports of goods and services in total are now equivalent to about 45% of B.C.'s gross domestic product (GDP), while the value of imports is equivalent to more than half our GDP.

Most of B.C.'s exporting firms are price takers—they sell their products at prices largely or wholly set by external markets. If taxes, regulations or other factors beyond their control increase their production costs, exporters must absorb the difference, decreasing their profits. This erodes their ability to invest, expand operations and generate new opportunities.

When this happens, profit-seeking firms may choose to scale back future investments in their B.C. operations and facilities and invest elsewhere, taking jobs and capital with them, and increasing carbon leakage. In the end, this does not serve us well in B.C.

## COMPETITIVENESS—WHY IT MATTERS

Competitive circumstances vary widely across industries and over time. However, in the long term, if companies producing traded goods and services cannot make a reasonable profit in B.C., they will shift capital and attention to other places. As demonstrated in ***Stronger Tomorrow, Starting Today*** export-capable sectors have the potential to grow more rapidly because of access to larger markets and many of B.C.'s fastest growing industries are export-oriented. Growth equals prosperity and jobs.

Canada continues to trail the U.S. and other leading economies in several key areas that affect competitiveness, including burden of taxation, state of innovation, regulatory environment for business, speed at which new technologies are adopted across the economy and aggregate market size (relative to the U.S.).

We also lag in business investment, which boosts the economy in two ways: first, when businesses undertake the investment; and second, as companies and their employees become more productive with more and better equipment, machinery, advanced technologies, factories and buildings, engineering infrastructure and intellectual property.

B.C. imposes the highest tax costs on new capital investment projects in Canada, and the overall business tax regime is making it increasingly unattractive to deploy much needed new capital across a wide array of sectors. B.C.'s average marginal effective tax rate (METR) on new capital projects is 24.3%, compared to 10.8% for Quebec, 12% for Alberta, 14% for Ontario and 14.9% for Canada (on average).

Looking at the data for Canada and other industrial countries, the C.D. Howe Institute estimates that Canada has lost ground compared to most other advanced economies since 2015.[3] For example, for every dollar U.S. companies allocate to expand and improve the private sector's stock of productive capital, Canadian businesses spend just 57 cents.

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3 Tooling Up: Canada Needs More Robust Capital Investment William B.P. Robson, Jeremy Kronick and Jacob Kim September 2018, Commentary NO. 520

> "Sagging business investment does not just dampen activity now, it limits future improvements in wages and living standards. Canada should reduce and restructure taxes that raise costs and squeeze returns on investment, avoid policies that raise the prices of key inputs, ensure that competition and opportunities abroad keep Canadian businesses sharp, reduce disincentives to business growth, and improve measures to ensure competitive, well-functioning markets for different types of financing."
>
> ***William B.P. Robson, Jeremy Kronick and Jacob Kim***
>
> ***Tooling Up: Canada Needs More Robust Capital Investment***
>
> ***C.D. Howe Institute, 2015***

In 2019, the Business Council, together with subject matter experts from industry and the Province of B.C., set out to assess the competitiveness of the largest segments of the commodity export sectors in B.C.: pulp and paper, lumber manufacturing, mining, natural gas and aluminum.

Meyers Norris Penny (MNP), a leading chartered accountancy and business consulting firm in Canada, was engaged to facilitate and validate the results. The competitiveness assessment and GHG benchmarking aimed to address the following questions:

- To what extent do B.C.'s EITE producers face a competitiveness gap in relation to its key competing jurisdictions?
- If competitiveness issues resulted in lost investment or lower production levels in B.C., would the competing jurisdictions produce commodities with higher or lower emissions than the B.C.-based commodities they displaced?
- What policy levers could be implemented that would make B.C.'s EITE sectors more competitive?

The reason for the investment of time and effort was that industry deemed it essential for credibility and veracity in validating B.C.'s low carbon advantage.

On competitiveness, the profit margins of representative facilities or operations in B.C. were compared to those in key competing jurisdictions. A base case was developed for 2017 that showed B.C. generally had competitiveness challenges as a result of a number of factors that varied by sector but included: resource quality/availability, transportation distances, markets access constraints and tax policy. The base case was then used to create a current (pre-COVID-19 pandemic) scenario. This base case did not include U.S. tax changes of 2018 which would further that competitiveness gap.

## B.C.'s Low Carbon Advantage Plan

The results were dramatic and clear. The profit margins of our industrial sector are significantly lower, -11% to -87% when compared to our competitors. And this work was done in 2019—these were the disadvantages our industry faced before the economic shock of the COVID-19 pandemic.

There has been validation of this in reports that the current provincial government has asked for, or had commissioned, in the last three years. The 2018 Provincial Mining Jobs Task Force, supported by an independent review, found several key gaps on competitiveness that need to be addressed.

> *"Overall, B.C. has been at risk for several years to eroding market share and competitiveness challenges from both regulatory and cost perspectives. While these challenges are not unique in a global context, there is evidence that B.C. is falling behind. Over the past decade B.C.'s share of investment in the mining sector, both nationally and globally, has declined."*
>
> ***Provincial Mining Jobs Task Force, 2018***

***Figure 2 — Competitiveness Findings***

PROFIT MARGIN RELATIVE TO COMPETING JURISDICTION

| | | |
|---|---|---|
| Coal | B.C. vs Australia | -11% |
| Copper | B.C. vs Chile | -35% |
| | B.C. vs Arizona | +4% |
| Natural Gas | B.C. vs Texas | -34% |
| Lumber | B.C. Interior vs Prairies (Alberta) | -37% |
| | B.C. Interior vs Southern US (Georgia) | -87% |
| | B.C. Coast vs US West Coast (Oregon) | -85% |
| Pulp | B.C. Interior vs Sweden | -24% |
| | B.C. Interior vs Finland | -36% |
| | B.C. Interior vs Chile | -62% |

MNP BC Low Carbon Industrial Strategy: Phase One Findings, August 2019.

## Pride in B.C. Innovation—Natural Gas

The natural gas industry has created its own research and development "ecosystem" to seek out emerging technologies through the Natural Gas Innovation Fund. The Fund was created by the Canadian Gas Association to support the funding of cleantech innovation. Funded by industry, it seeks cleantech projects led by start-ups and organizations with the right innovation for market uptake and commercial viability.

A Price Waterhouse Coopers report commissioned by the Council of Forest Industries in 2019 at the behest of the Provincial Government came to similar conclusions as MNP's work above.

The B.C. government is staring at a $12.5 billion deficit for 2020-21, in part due to lost tax and royalty revenues from the industrial sector. This is why ***Stronger Tomorrow, Starting Today*** emphasizes the need for stimulus measures and other policy reforms aimed at achieving business growth and hiring.

***Key Themes from Competitiveness Assessment from MNP***

*In the opinion of MNP from their review of the policy environment of competing jurisdictions, key themes arising from the competitiveness analysis include:*

***Higher capital costs, smaller scale and/or competing with new facilities.*** *Relative to competing jurisdictions, some sectors identified that B.C. has higher capital costs for new investment. Industry also noted that existing operations (e.g., copper and pulp) often competed against newer and/or larger facilities that provide a competitive advantage through economies of scale.*

***Competition for investment.*** *In comparison to B.C., some of B.C.'s key competing jurisdictions have become more aggressive in competing for investment. Examples include the US and Alberta which have recently reduced their corporate income tax rates to attract investment.*

***Differences in climate policy across jurisdictions.*** *Each jurisdiction was identified to have a varying degree of climate policy or carbon pricing in place. In most cases, B.C.'s competing jurisdictions either lacked carbon pricing or recently repealed the carbon tax (e.g., US and Australia). In other cases, carbon pricing was viewed as less stringent than B.C. with certain allowances or exemptions offered to industry (e.g., Alberta, Scandinavia).*

***Regulatory uncertainty.*** *Engagement with industry stakeholders identified that outside of a strict cost comparison, there is a growing level of uncertainty with respect to regulatory issues at both the provincial and federal level. This was a common concern of both existing operations and new investment with examples that varied by sector.*

***Transportation/infrastructure challenges.*** *The ability to get product to market was also determined to be a key consideration for competitiveness. Relative to competing jurisdictions, some B.C. sectors are disadvantaged by farther distances to port (e.g., metallurgical coal) or market access constraints (e.g., natural gas).*

***Resource quality/access.*** *Resource quality and resource access was identified as a key factor affecting competitiveness. Some sectors identified limitations with respect to having a lower quality resource (e.g., copper ore grades) or a lack of supply (e.g., fibre supply constraints) that affect B.C.'s ability to attract investment.*

## VALIDATING THE LOW CARBON ADVANTAGE

The other part of the equation—to prove the value proposition of investing in the competitiveness of B.C.'s industrial sector—definitively showed the low carbon advantage of B.C.'s commodities. Again, MNP provided facilitation and validation support to subject matter experts from industry and the Provincial Government. They were supported by le-ef.com Consulting[4]. A copy of the MNP report titled ***BC Low Carbon Industrial Strategy: Phase 1 Findings*** is available at lowcarbonadvantagebc.ca.

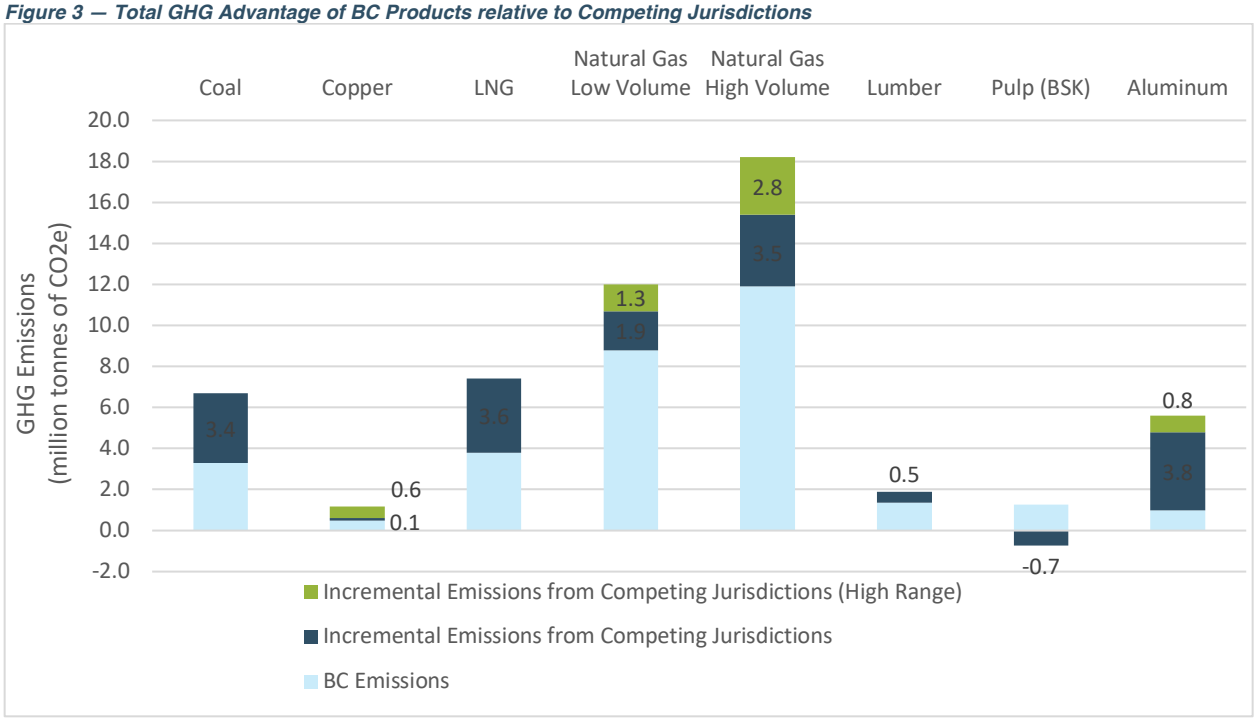
The GHG benchmarking analysis was based on a comparison of emissions intensities with competing jurisdictions at a given point in time. It's important to understand the difference of a "product-on-product" advantage over a "product displacement" advantage. Product-on-product is, for example, the metallurgical coal produced in B.C. compared to metallurgical coal produced in Australia. Product displacement refers to the advantage when a lower carbon content commodity (e.g., liquified natural gas produced by a company like LNG Canada—which will have the lowest carbon intensity of any large facility in operation today) displaces the purchase/use of a higher carbon content commodity (e.g., thermal coal). The savings from product displacement are significantly higher than a product-on-product advantage. When used to replace coal for power generation in Asia, the estimated savings from the LNG Canada project is 60 Mt (at the low end) which equates to 20% of Canada's 2030 GHG reduction targets. This is also equivalent to the removal of 50% of Canada's cars.

A product-on-product advantage was measured to best answer the following question: if competitiveness issues resulted in lost investment or lower production levels in B.C., would the competing jurisdictions produce commodities with higher or lower emissions than the B.C.-based commodities?

Based on a product-on-product GHG emissions comparison, B.C. industries showed an advantage of 12 to 18 million tonnes in GHG emissions relative to competing jurisdictions (Figure 3). This range is based on a sum of the incremental emissions that would arise from competing jurisdictions at B.C. production volumes (note that this range includes a "low volume" and "high volume" scenario for natural gas, with both scenarios presented in Figure 3.

4 Dr. Christine Schuh, President of le-ef.com Consulting Corp., is a leading expert on greenhouse gas verification. Prior to her current role, Christine led the Canadian climate change practice for PricewaterhouseCoopers (PwC) for a decade. Her expertise lies in the quantification of emissions reductions and verification of results. Christine has worked with several governments (including Alberta, Quebec and British Columbia) in establishing greenhouse gas quantification methodologies that are consistent with science and general accounting principles, while informing the design of policy elements.

*Figure 3 — Total GHG Advantage of BC Products relative to Competing Jurisdictions*




The resulting conclusions, drawn from almost a year of technical work and the involvement of dozens of experts, are that:

- There is a product-on-product GHG advantage in B.C. compared to competing jurisdictions
- B.C. companies operate at a significant cost and complexity disadvantage over competitors
- Other jurisdictions are more aggressive in attracting investment
- Other factors, importantly regulatory uncertainty, further erode B.C.'s competitiveness
- Carbon leakage is happening in B.C.

## Pride in B.C. Innovation—LNG

The GHG intensity of LNG produced by Shell's LNG Canada at its Kitimat facility will be about 35% better than the top performing global facilities currently operating and 60% better than the weighted average for the global LNG facilities benchmarked.

Exporting B.C.'s abundant natural gas to countries that need a cleaner alternative to produce power—in particular coal—positions B.C. play a much larger role in the global climate solution. A facility the size of LNG Canada can displace the equivalent of 60 to 90 million tonnes a year (mtpa) of carbon—which is a similar amount to what the entire province of B.C. produces in a year.

### CARBON LEAKAGE EXPLAINED—OUR LOSS INCREASES CLIMATE CHANGE IMPACTS

If costs related to climate policies get too high, businesses will move production to places with less stringent environmental rules and lower costs. That's known as carbon leakage and it has the potential to impact trade and jobs.

For example, if environmental policies in one country add a cost to the production of certain commodities, the result will be fewer commodities exported and eventually a shift in production of the commodity to a competing jurisdiction with lower costs. Essentially, our lower carbon intensive commodities are replaced in the marketplace by higher carbon intensive commodities produced by our competitor. This equals lost jobs and higher global GHG emissions. An excellent illustration of carbon leakage is domestic cement manufacturing in B.C. With the introduction of the carbon tax, imports to B.C. of foreign produced cement rose by as much as 40%. These competitors do not pay the carbon tax despite elevated emissions from longer supply chains.

The Conference Board of Canada released the first data-driven analysis of carbon leakage in Canada in November 2019, titled *Tipping the Scales: Assessing Carbon Competitiveness and Leakage Potential for Canada's EITEIs.* This report brings attention to carbon leakage as an unintended consequence of a carbon pricing policy. It describes the magnitude of potential leakages as large; indicates that Canada's industries face higher compliance costs than peers; and estimates

a loss of $10 billion in economic activity and 50,000 jobs. The report concludes that policy protection is important in mitigating the potential fallout from carbon pricing. As the report states: "***Carbon pricing needs to be implemented in a way that minimizes the impact on the competitiveness of industries and maximizes emissions reductions—both locally and globally***."

An unaddressed concern for industry from the inception of B.C.'s carbon pricing plan is the lack of targeted protection for emissions-intensive trade-exposed (EITE) production.

| **Jurisdictions with a price on carbon and *with* EITE industry protection:** | **Jurisdictions with a price on carbon and *without* EITE industry protection:** |
|---|---|
| • Canada<br>• Alberta<br>• Ontario<br>• Quebec<br>• Nova Scotia<br>• California<br>• Connecticut<br>• Delaware<br>• Maine<br>• Maryland<br>• Massachusetts<br>• New Hampshire<br>• New Jersey<br>• New York<br>• Rhode Island<br>• Vermont<br>• All 28 countries of the EU<br>• Switzerland<br>• South Korea<br>• China<br>• Mexico<br>• New Zealand<br>• Chile | • British Columbia |

**Without exception**, all of the jurisdictions with emissions trading systems have developed regulations to support "at-risk industries" and taken steps to provide free or low-cost allowances to these industries to keep them competitive. Canada's recently-implemented federal backstop carbon price, which will apply in provinces lacking credible carbon pricing policies, recognizes carbon leakage and diminished industrial competitiveness as significant risks.

The Business Council and MNP have been unable to identify any another jurisdiction with a carbon pricing regime **that does not provide robust protection** from the effects of carbon pricing for trade-exposed industries.

Canada's Output Based Pricing System has avoidance of carbon leakage as a core principle, and the system applies protections for EITE industries that are not applicable in B.C. because the Provincial Government has a unique system. This has the effect that B.C. EITE industries are worse off than those in any other province and more at risk of carbon leakage.

## A VISION FOR THE FUTURE—B.C. COMMODITIES IN OUR DAILY PRODUCTS

The value proposition is that a more competitive industry can attract investment to B.C.; support innovation in further GHG reductions; and sustain and grow high wage jobs and new companies through technology and innovations.

B.C. companies producing low carbon content commodities are not competitive on a global scale. Current Provincial policies aren't supportive enough. And the costs of production are just too high. Industry needs more support from the B.C. Government to bring the opportunity to life.

The impact of this is counter to what we all want to see. We are knowingly pushing investment to other jurisdictions with higher carbon content commodities, which does nothing to help manage climate change.

### Pride in B.C. Innovation—Cement

Lafarge has recently invested $28m in a new low carbon fuel system at its Richmond cement plant to allow for increased transition from fossil fuels. This circular economy driver will divert over 100,000 tonnes of landfill material every year and will eliminate the creation of landfill methane.

## ACTIONS TO OPTIMIZE THE B.C. LOW CARBON ADVANTAGE AND GLOBAL CLIMATE CHANGE SOLUTION POTENTIAL

Below are a number of recommended actions, grouped according to six themes, that are a result of extensive collaboration with subject matter experts from across the industrial sector and were confirmed by MNP's examination of the differences between competing jurisdictions in 2019:

1. Regulation
2. Business Investment, Marketing and Branding
3. Tax Policy
4. Climate Policy
5. Infrastructure
6. Innovation

Industry leaders reinforced the urgency of this action in the spring of 2020 as they assessed, together with Busines Council, the devastation to our economy by the COVID-19 pandemic.

These actions can help ensure we are agile and flexible on investing in the growth of current operations and new projects in B.C. that will contribute to a net reduction in global GHGs. For a full list of actions see Appendix 2.

### 1. REGULATION

Without question, in surveys with the Business Council's members and the detailed work with subject matter experts, the ever more complex, slow and uncertain regulatory framework in B.C. has a significant impact to competitiveness and investment.

Cumulatively, the increasingly cumbersome regulatory and permitting processes and a more complex and uncertain legal environment add to the economic burden on businesses. In general, companies and exporters in the natural resource, manufacturing, transportation and infrastructure sectors are most affected by regulatory costs associated with provincial and local government environmental policies and processes. It is not a simple task to quantify these costs, or to determine how they compare with those in other jurisdictions. What we do know from international studies that track regulatory performance is that Canada has seen an alarming erosion over time. This trend is consistent with reviews done nationally (Resources of the Future Economic Strategy Table report) and here in B.C. (Mining Jobs Task Force).

While the regulatory systems have elements of excellence—data and science leadership, social integration—the metrics around timelines and complexity are poor. Overall, it is fair to say that the regulatory environment for traded industries in B.C. currently serves as a source of competitive disadvantage. Like Canada as a whole, the province has gradually acquired a reputation as a very difficult place to undertake both greenfield and brownfield industrial projects in sectors such as forestry, mining, energy, manufacturing and infrastructure.

> "…energy infrastructure bottlenecks, an outdated tax system, an increasingly complex legal and regulatory environment for business, and Canada's fragmented internal market are among the factors inhibiting investment and slowing capital formation."
>
> ***Global Competitiveness Report***
>
> ***World Economic Forum, 2017-18***

Most B.C. business leaders believe the province's regulatory burden puts them at a disadvantage relative to many other provinces and U.S. states as well as jurisdictions like Australia. Environmental review processes and permitting rules are becoming more complicated, costly and protracted. Permitting a mine can take several years, even after a project has been approved under the Environmental Assessment process. Absent, or unfinished treaties with Indigenous Peoples, unresolved title claims and the need for Reconciliation often add further complexity and time for developers, notably in the natural resource, transportation and infrastructure sectors.

## Pride in B.C. Innovation—Forestry

The Brock Commons Tallwood House is an 18-storey mass timber hybrid student residence at the University of British Columbia. It was the world's tallest contemporary wood building at the time of completion in 2017. The use of mass timber in place of more carbon-intense building realized a carbon benefit equivalent to removing 511 cars from the road for a year. The prefabrication of the mass timber also reduced on-site waste by about two-thirds and reduced traffic and transportation to and from the site.

Governments regulate to protect the public interest. The balance that needs to be struck is what degree of regulation is necessary and at what cost to doing business. Business leaders highlighted regulation in Canada as one of the most significant cost and competitiveness factors to operating in B.C. It is not about being against regulation—the key is that it be efficient in delivering intended public interest outcomes. Increasingly cumbersome regulatory and permitting processes and a more complex and uncertain legal environment add to the economic burden on businesses in B.C.

The Canadian Energy Research Institute completed a study in March 2020 that found that Canadian projects face a 13 to 19-month delay compared to projects in the U.S. This adds to project costs in

Canada of approximately 15%.[5] That is on new projects. B.C. has a very complex environment for existing operations with daily consequences adding time and cost. This is due in large part to the nature of agreements with Indigenous Nations, which tend to address a specific issue, rather than comprehensive pathways to support the resolution of relationships between Indigenous Nations and the Crown.

***Australia's Environmental Assessment Review***

*Australia, one of the key competitors for many of B.C.'s exports sectors, is expected to formalize changes to its regulatory processes in the fall of 2020 to a streamlined "single touch" system for state and federal assessments using specialized teams of officials.*

*The goal is to fast-track 15 large infrastructure projects worth $72 billion and 66,000 jobs. The target is to have approvals in place in 21 months instead of the usual 3.5 years.*

*Statement from the Prime Minister of Australia, June 2020:*
*"…these approvals alone cost industry over $300 million just in 2019. That's not good enough.*

*At the end of 2019, approval decisions took 90 days on average. Today they take 40. That is what we've achieved this year in 2020.*

*Our goal is to cut these times by a further 25% by the end of this year – to 30 days for major projects. Ultimately, our objective is the streamlining of Commonwealth and state processes to a point of 'single touch approvals".*

*These commitments are what B.C. is competing against for investment.*

The Business Council has called on the Provincial Government to halt the development of new regulations as we work collaboratively to get the economy going again. This is not the time to be adding to the operational burden of companies.

Ultimately, B.C.'s goal should be to organize its people, processes, technology and culture around what happens on the land, in communities and within a broader economic framework.

[5] Competitiveness of Canada's Regulatory Framework for the Oil and Gas Sector, Study No.185 March 2020, Canadian Energy Research Institute.

### *A Natural Resources Corridor as a Partnership with Indigenous Nations*

*Developing a modern, multi-purpose, natural resource trade corridor is a real opportunity to accelerate exporting B.C.'s and Western Canadian resources to meet growing demand in Asia. The corridor can provide a true nation-to-nation building opportunity where coastal and interior Indigenous communities are equity partners with the Government of B.C. throughout its development and ownership. It could provide an opportunity Indigenous equity participation in projects.*

*Investor uncertainty in B.C. and Canada could be significantly reduced when land for industrial use is permitted and developed though a government-Indigenous partnership. This would in turn attract and enable development across the natural resource supply chain.*

## REGULATORY ACTIONS

1) Transform the **regulatory system** to create efficient and effective regulatory processes that provide global leadership in sustainability performance, cutting complexity not corners.
   - Increase efficacy and timeliness of regulatory programs and oversight
   - Improve inter-agency coordination with clear, dedicated sectoral leadership and accountability (and resource this accordingly)
   - Simplify service delivery for proponents, the public and Indigenous communities by decreasing duplication and interaction points
   - Address the cumulative effects of resource development in the permitting process
   - Improve industry confidence in the regulatory process including increased predictability and therefore decreased risk for industry seeking to invest in the Province
   - Improve availability and utility of data and information sharing to support effective and efficient processes
   - Decrease financial risks with respect to:
   - Cost for industry to engage in regulatory processes
   - Internal cost for authorization processes and compliance activities
   - Create a unique stream for known performers with strong records of compliance
2) Introduce a competitiveness lens to current and future regulations and compliance measures to assess and weigh the impact on communities and economic prosperity so it is well understood.
3) Develop a modern, low carbon natural resource trade corridor—where Indigenous communities are equity partners and projects deemed to be in the national interest have a different gate through processes.
4) Leverage technology as a compliance and decision making and consultation tool.
5) Resolve the pathways to reconciliation and Crown revenue sharing arrangements with Indigenous communities to create greater certainty in decision-making.

A sectoral working group is already working diligently on many of these goals for the mining sector; this needs to be expanded immediately to other natural resource and energy sectors and should include a clear lead for coordination of ideas and effort

## 2. BUSINESS INVESTMENT, BRANDING AND MARKETING

The way companies behaved and invested pre-pandemic will be different from the way forward. Many within the industrial sector have international parent companies, or companies with operations in multiple provinces and jurisdictions. Capital will look for
the most favourable place to invest. We need to send a strong signal to investors that there is an advantage to investing in B.C.

While the province points to LNG Canada as its example of new natural resource development, the broader market signal the Province sends is one of increasing complexity and cost. A public- and market-facing marketing strategy is needed to grow investment (and jobs) here in the Province and abroad. Business leaders are consistently saying in this new era that in a globally competitive market for capital there is little chance of investment in B.C. at this time.

Yet the potential for B.C. industries described in this Low Carbon Advantage plan could be a once-in-a-lifetime opportunity to brand and market B.C. products to jurisdictions, like Japan, that have an interest in purchasing cost competitive, lower GHG content goods. As well, Environmental, Social and Governance (ESG) metrics to measure the sustainability and societal impact of an investment in a company or business is increasingly important in the investment world.

The proven GHG advantage of B.C.'s low carbon content commodities should be a huge advantage and a product that can be differentiated in the market.

***Environmental, Social and Governance***

*Responsible investing is widely understood as the integration of environmental, social and governance (ESG) factors into investment processes and decision-making. ESG factors cover a wide spectrum of issues that traditionally are not a part of financial analysis yet may have financial relevance. This might include how corporations respond to climate change, how good they are with water management, how effective their health and safety policies are in the protection against accidents, how they manage their supply chains, how they treat their workers and whether they have a corporate culture that builds trust and fosters innovation.*

*Even in a post COVID-19 world, these factors will continue to grow in significance. The Dow Jones Sustainability Index (DJSI) is the world standard on measuring ESG performance.*

*Responsible Steel, of which Teck Resources is a member, is a new global standard and certification program on ESG for the steel industry.*

**BUSINESS INVESTMENT, MARKETING AND BRANDING ACTIONS**

6) Develop a clear investment attraction strategy that includes a compelling value proposition (aligned with this paper) and welcome door for investment.
   - Market the actions within this plan, specifically on regulatory reform demonstrating B.C.'s commitment to new investment and the growth of current operations; and market B.C.'s reliable political and government environment, sound public health system and First Nations support for businesses generating low carbon content commodities and offsets
   - Develop investor-centric offerings to navigate B.C.'s investment and regulatory structures
   - Resource and give clear leadership to regulatory efforts for new investments with demonstrable and significant economic benefits for B.C.
7) Develop an in-market marketing plan and branding for B.C. commodities based on this plan, as well as ESG initiatives, that highlights B.C.'s low carbon content commodities.
   - Put on offer our low carbon advantage on exports, energy intensity (B.C. clean energy) clean supply chains, technology and sequestration
8) Create a formal process to assess the individual and cumulative impacts of government policy changes on key competitive measures and to monitor policies that improve competitiveness in our competing export market jurisdictions.

## 3. TAX POLICY

Cost, in terms of taxes paid, is undoubtedly a significant factor in investment decisions, both for existing operations and new investment. Cost competitiveness was key in LNG Canada's final investment decision and the Province acknowledged this through various fiscal measures that evened the playing field with other sectors and jurisdictions. There have been several reports written about the lack of tax competitiveness in B.C. in the last number of years. Exporting generates widespread economic benefits and is at the heart of B.C.'s prosperity—B.C. presently has one of the highest average marginal effective tax rates (which excludes carbon tax) of all advanced economic jurisdictions.

The ***Stronger Tomorrow, Starting Today*** plan has comprehensive recommendations on tax competitiveness.

Our focus in this ***Low Carbon Advantage*** plan is on EITE and the carbon tax. It was the finding of MNP, confirmed by the Business Council's research, that all other global jurisdictions have recognized that if other competing jurisdictions have much lower carbon prices, or no carbon price at all, local industries will be at a competitive disadvantage, which impacts communities, the economy and jobs. This is particularly true for those industries which are emissions-intensive and trade-exposed. The Federal Government has recognized this and has put in place protections from the federal carbon price of 80-90% on an industry's average emissions. The aim of the federal Output Based Pricing System is to minimize competitiveness risks for emissions-intensive trade-exposed production while retaining the carbon price signal and incentive to reduce GHG emissions. **B.C. is the only jurisdiction in the world that has a price on carbon without protections for its trade-exposed industries.**

Several environmental advocacy groups weighed in on the development of the federal system which has EITE protections as part of its key principle to minimize carbon leakage and competitiveness risks.

*"We . . . support the hybrid design of the backstop instrument which applies a carbon levy and an output-based pricing system to ensure EITE industries reduce emissions while limiting the risks of carbon leakage."*

***David Suzuki Foundation and Pembina Institute, April 9, 2018***

*"We applaud the federal government on finalizing the design of the carbon pollution pricing system for large emitters in a way that incentivizes Canada's heavy industry to innovate and reduce emissions while protecting competitiveness in international markets"*

***Pembina Institute, June 28, 2019***

### *EITE Industry Protections*

*Jurisdictions that have implemented Emissions Trading Systems have considered protections for* ***emissions-intensive trade-exposed industries*** *(EITE). These systems recognize that without special provisions or offsets to address increased energy-related costs stemming from domestic climate policy, business may shut down or shift production to other jurisdictions which have fewer or no constraints on emissions. This may lead to carbon leakage.*

*Canada has an output-based pricing system that recognizes that large industrial facilities face competition from peers in jurisdictions that do not yet have a price on pollution. The system is designed to maintain a competitive position relative to international peers. The federal carbon pollution pricing system, also known as the federal backstop, does not apply in B.C. The European Union has identified 147 industrial activities that are EITE and thus receive special treatment.*

## TAX POLICY ACTIONS

9) Recognize the need to avoid carbon leakage as a core principle of policy, which is currently missing from CleanBC.
10) Provide emissions-intensive trade-exposed producers with protection from the full carbon tax consistent with the approach in the Federal Government in order to prevent carbon leakage.
11) Address the Capital Cost Allowance which continues to be a factor in cost competitiveness with U.S. producers.

## CLIMATE POLICY

Emission offsets have been part of B.C.'s climate action toolkit since 2008. The Province uses them to achieve a carbon-neutral public sector—an initiative that's won international praise and awards. However, offsets and market mechanisms such as carbon trading are not included as compliance tools in the climate policy framework for industry. That is resulting in tremendous lost opportunities. Preliminary third-party analysis indicates that B.C. industry offset projects could have a material impact on both GHG reductions and the economy.

B.C. needs to include carbon offsets and market mechanisms as compliance tools in their climate framework with investment in nature-based solutions and the Federal Government needs to play a coordinating role in a national offset market and own the space from intellectual property development to application and adoption credits allowing industry to choose technology.

### *Carbon Offsets*

*Carbon offsets, or certified carbon emission reductions, can contribute to real reductions in the near and medium term, with the advantage of (1) buying time for longer term technological and infrastructure solutions to evolve, (2) creating room for economic growth and (3) mitigate the potential for investment leakage and carbon leakage.*

*A preliminary estimate of the potential for carbon reductions from B.C. offset projects prepared by BlueSource Canada ranges from 5.5 MT/yr by 2025 to 20 MT/yr by 2030. These numbers are material, as 6 MT/yr of offsets would be roughly equivalent to the remaining 25% reduction that is needed by the CleanBC program to achieve the 2030 reduction goal.*

*Market mechanisms, including carbon trading and offsets are being included by an increasing number of jurisdictions as a key part of a robust climate*

### *Indigenous Participation*

*Sustainable resource development with Indigenous participation is part of the Canadian identity and there is significant interest and opportunity from Indigenous leaders in B.C. in offsets and nature-based opportunities that can support economic opportunities.*

**CLIMATE POLICY ACTIONS**

12) B.C. must include carbon offsets and market mechanisms as compliance tools in their climate framework that should include:
    - Investment in nature-based solutions
    - Time for longer term technological and infrastructure solutions
    - Support for technology sector to provide validation of quality and veracity of offsets
    - Creation of room for economic growth
    - Mitigation of potential investment leakage and carbon leakage
13) The Federal Government must play a leading/coordinating role on a national offset market with Canada offering high-quality nature-based solutions.
    - Include Indigenous communities as partners in nature-based solutions
    - Explore Internationally Transferred Mitigation Outcomes (ITMOs) as an opportunity to monetize the low GHG-intensity of B.C. commodities—collaborate with the Federal Government on critical international negotiations around the implementation of Article 6 of the Paris Accord
    - Lead the creation of a national trading market for Canadian business and excess for international purchase
14) Support the exploration, with Alberta and Saskatchewan, of regional emissions trading and a global centre for technology and innovation in methane and carbon sequestration and use.
15) Canada needs to own the space from Intellectual Property development to application and adoption credits allowing industry to choose technology.
    - Consolidating and leveraging federal funds in support of this
    - Consider further tax credits for companies that invest in R&D and capital expenditures focused on emissions reductions, and that allow for collaborative sectoral investment where like businesses share in the investment and risk
16) Maintain and improve B.C.'s GHG product-on-product and displacement advantage with competing jurisdictions as a key component underpinning the credibility of an ongoing low carbon industrial strategy. As in competitiveness, it is important to understand the impacts of key policies on lowering GHG product intensities.
    - Explore the value of an accreditation-style model for verification and branding of low carbon content commodities
17) Government of Canada to pursue bi-lateral agreements to create markets for low carbon product and confirm Article 6 agreement templates for demonstration (e.g., Japan, Korea).

## 4. INFRASTRUCTURE

B.C. exporters and importers use trade networks that rely on multiple modes of transportation to move their cargo. The trade networks connect B.C. businesses to global markets, facilitate trade and underpin both provincial and national economic growth. As such efficiency and reliability is key.

Approximately $1 of every $3 of Canada's trade in goods beyond North America moves through a port, with a significant portion of these goods moving in containers. The Canadian economy will take the hit when the ports, and Vancouver International Airport, cannot accommodate growing trade. These kinds of plans are essential to export industries.

Clean energy is Canada's—and B.C.'s—comparative advantage on climate. We have a history of designing cutting-edge industrial processes that run on renewable power. A full 97% of B.C. Hydro's electrical power is from clean or renewable sources. Phase 2 of the Comprehensive Review of BC Hydro plan is to expand the electrification of the economy and attract new, clean businesses to B.C. This needs diligent effort where it can be done in an economic manner and may be the only way some sectors can achieve targets.

## Pride in B.C.—Nature-Based Solutions

Shell recently announced an agreement with Tokyo Gas and GS Energy to receive the world's first carbon-neutral LNG cargo with all parties committed to assisting the transition towards a lower-carbon future.

"Carbon neutral LNG cargoes are another choice we are offering our customers, as they seek to address their CO2 emissions today. In turn, they are then able to offer the same to their customers who increasingly want to reduce the net carbon footprint of their energy use," said Slavko Preočanin, Vice President, Shell LNG Marketing and Trading.

Nature-based projects protect, transform or restore land and enable nature to add oxygen and absorb more CO2 emissions from the atmosphere. Each carbon credit is subject to a third-party verification process and represents the avoidance or removal of 1 tonne of CO2. Credits used for this deal are bought from Shell's global portfolio of nature-based projects. These projects also have extra benefits such as offering alternative sources of income to local communities, cleaning air and water, improving soil productivity and maintaining biodiversity.

As outlined in ***Stronger Tomorrow, Starting Today***, recent policies announced by the federal government create a strong incentive for the use of alternative fuels to lower GHG emissions, such as marine LNG fuel use and bunkering, and hydrogen. B.C. is going in a similar direction. But greater uptake of such fuels requires infrastructure to support existing operations and policy to encourage new investment and certainty for ongoing operations.

### INFRASTRUCTURE ACTIONS

18) Refocus current infrastructure/capital plans to support Canada's export economy and trade patterns and further the build out of clean infrastructure:
    - Continue with electrification, including fuel switching, transmission and distribution
    - Provide incentives for fuel switching
    - Build efficiency into trade routes for inter-provincial and international exports
    - Address rail barriers and expand capacity in the west
19) Support efforts on the "port of the future" including use of alternative fuels, spatial planning, digitization, LNG bunkering and use of electric vehicles and equipment.

## 5. ENABLING COMMERCIALLY VIABLE INNOVATION WITH IMPACT

The Province of B.C. has very few low-cost abatement options at its disposal, for two main reasons. First, B.C. differs from almost every other nation and subnational jurisdiction that has been able to meaningfully reduce GHG emissions in one telling way—our existing 95% clean electricity system. Most of the jurisdictions that have substantially reduced emissions have done so in large measure via "fuel switching". We cannot take advantage of the commonly used carbon abatement option to further reduce GHGs since it is already in place. Second, a decade of experience with the carbon tax indicates that most of the inexpensive emission reduction options have already been implemented in B.C. as households and businesses have incrementally responded to the escalating carbon levy.

> "The world needs technology and strong policy to move in a new direction. Throughout history, humanity's energy use has moved toward more concentrated, convenient and flexible forms of energy. With greater understanding of the climate challenge, we are making huge strides in developing the technology we need to move toward a low carbon future."
>
> ***Samantha Gross,***
>
> ***Why are Fossil Fuels So Hard to Quit?,***
>
> ***Brookings Institution, 2020***

Support for technology and focused innovation are critical components of reducing domestic GHGs and driving economic growth. In fact, breakthrough technologies may be the only solution to achieve domestic targets. For industry, the relatively high risk of early adoption (high cost, regulatory burden, uncertain return on investment) discourages the adoption of new products and processes. Governments must prioritize the role technology can play in emissions reductions—in particular breakthrough technologies which can de-risk technology adoption by industry —and assess the possibility of technological innovation as a way to provide room for growth.

Breakthrough technologies will be essential to meeting 2050 GHG reduction targets for Canada. We must adopt a technology solution in B.C.—we cannot spend our way to the targets. This is not featured enough in CleanBC, the Province's current climate action plan. Without innovation, the path to 2030 targets is in question, even if all the actions within the current CleanBC plan were to be taken. The CleanBC plan could be one that leads in the world, but there is a real lack of transparency for consumers and businesses on the true cost of the plan.

The intersection of industry innovation and clean technology already supports productivity, efficiency and GHG reductions across multiple sectors, with projects in areas from water and wastewater to energy management.

But the potential is far greater.

B.C. now has the opportunity to support the further adoption and diffusion of technology and innovation across industries, while providing reference customers and growth pathways for local innovation firms. Together with Indigenous partners, we can also be the leader in nature-based solutions. B.C. is home to Canada's Digital Technology Supercluster, a cross-industry collaboration which includes some of Canada's biggest names in healthcare, communications, natural resources, technology and transportation. With all this talent and passion, we have an opportunity—and responsibility—to help the world by demonstrating our innovation.

## Pride in B.C. Mining —Teck Resources

The SunMine solar farm, owned by Teck Resources, is built on a fully reclaimed mine site in the City of Kimberley, B.C. When opened in 2015, it was Western Canada's largest solar power facility; the first grid-connected solar facility in B.C.; and the first built on a reclaimed mine site. SunMine uses 4,032 solar-cell modules mounted on 96 solar trackers that follow the movement of the sun to maximize solar exposure.

**NNOVATION ACTIONS**

20) Explore, as a convenor, of the science and research communities, the possibility of technological innovation as a way to provide room for growth (targets) that includes some of the innovations described in this paper, such as electrification.
21) Support efforts, through direct investment and tax credits, for the role technology can play in emissions reductions, in particular, breakthrough technologies to de-risk technological adoption by industry.
    - Provide seed funding for start-ups in the idea space as a technology fund with the right procurement rules that do not stifle small companies
    - Use existing vehicles such as the supercluster as a consolidator of activity

## BEYOND OUR BORDERS

As has already been stated, B.C. can have an outsized impact on global GHG with its low carbon content commodities. There should be a strong desire to market this advantage, and the province's robust track record on climate to a global marketplace. Here at home we need to promote greater collaboration for Western Canada, and nationally on innovation, offsets and market mechanisms—all elements missing from the CleanBC plan.

Internationally Transferred Mitigation Outcomes (ITMOs) are referenced. These provide an opportunity to monetize the low GHG intensity of B.C. commodities.

An example would be LNG produced in B.C. displacing thermal coal in a host jurisdiction. In a hypothetical ITMO, these reductions would be applied against B.C.'s targets rather than the targets of the host country, so the host country "loses" these reductions in their adjusted emission inventory. The amount shared is negotiable, but these shared reductions will represent a cost to the host

jurisdiction which may then look for the best bids or find more reductions to meet their own targets. In essence an ITMO assumes host countries would give up their reductions against their own targets. In the Paris Accord context, these are a commodity and not free.

This is important because under the way targets are calculated under the Paris Agreement the buyer (not the supplier—e.g., B.C.) gets the credit for the actual displacement of higher emission intensity coal with LNG, while B.C. does not get "credit" for improving global emissions through the supply of its superior low carbon content emissions products.

The rules are not final, and B.C. can only participate in ITMOs with Canada. Canada has stated that the priority is to first focus on emissions reductions within Canada, but part of Canada's approach to climate change could also involve acquiring allowances for emissions reductions in other parts of the world, as a complement to domestic emissions reduction efforts.

## CONCLUSION—THE TIME IS NOW FOR CLIMATE, JOBS AND OUR FUTURE

As we grapple with the significant economic shock of the COVID-19 pandemic while still focused on how best to limit carbon production and reduce GHGs emissions, the world is looking for solutions. B.C.'s Low Carbon Advantage can position our province and companies as leaders—and provide an opportunity for jobs, growth and prosperity to recover from this shock—as the world continues to move through the global energy transition.

It can also be a source of pride within B.C. for the local communities, companies and employees who support these efforts to be low carbon.

B.C. can show leadership and have an outsized impact in the world's GHG emissions by becoming a cost-competitive, low carbon supplier of energy and commodities. This benefit can grow if the Provincial Government uses its levers to ensure B.C.'s low carbon exporters can become more cost-competitive as world demand for commodities returns with our global economic recovery. Over time this can have greater positive global impact than a focus only on domestic reductions within B.C. We need to stop defining what we can do to within the confines of a provincial border and generate more prosperity for the people of our province.

The technical work of this report was prepared collaboratively with the Provincial Government. Despite positive signals including a commitment in the 2020 Throne Speech to chart a path to a low carbon economy, no firm commitments from Government have been made. In the meantime, our competitive position has only deteriorated and is now made worse by the economic fallout of the COVID-19 pandemic.

B.C.'s export sector needs a signal from the Province to know that Government takes this leadership opportunity seriously. That it sees the opportunity to promote this workhorse of the provincial economy in this unprecedented time. And that the Province commits to working collaboratively with business on building out this brand.

That signal is for the Government of B.C. to announce protections for EITEs. We cannot continue to be the global outlier. B.C. business needs the Provincial Government to stand beside it and ensure our competitiveness.

There is a significant opportunity to advance B.C.'s economy and corresponding high wage jobs in rural and urban B.C. while reducing the cause and impacts of global climate change. This includes

clear opportunities to accelerate meaningful reconciliation with Indigenous peoples and drive commercially viable innovation that can lead materially to further reductions in domestic emissions.

But time is of the essence and our lack of competitiveness is resulting in carbon and capital leakage in B.C. today—leakage that we believe, if not addressed, will have larger impacts on high wage jobs, investment and Provincial Government revenues in the years to come. Action is required. Promotion of our Low Carbon Advantage will be just the spark we need.

## APPENDIX 1: EXPERTS CONTRIBUTING TO THE LOW CARBON ADVANTAGE TECHNICAL WORK

### Industry's Leadership Advisory Group:

Greg D'Avignon, Business Council of BC

Susannah Pierce, LNG Canada, Shell Canada

Susan Yurkovich, Council of Forest Industries

Tom Syer, Teck Resources

Brad Herald, Canadian Association of Petroleum Producers

### Industry's Technical Leadership Team:

Richard Dunn, Ovintiv

Chris Adachi, Teck Resources

Graham Kissack, Paper Excellence

Danielle Melchior, B.C. Council of Forest Industries

Rob Seeley, LNG Canada

Dave Schick, Parkland Corporation

Frederic Picard, Rio Tinto

### Industry and Energy Working Groups:

Bryan Cox, Canadian LNG Alliance

Vicki Balance, Explorers and producers

David Keane, Woodfibre LNG

Darcy McLaughlin, Saguaro Resources

Jonathan Moser, Lafarge Canada

Tyler Tarnoczi, Cenovus

Julia Balabanowicz, Innergex Renewable Energy

Skye McConnell, Shell Canada

Richard Prokopanko, Rio Tinto

Robin Silvester, Vancouver Fraser Port Authority

Geoff Morrison, Canadian Association of Petroleum Producers

Carolyn Chisholm, Rio Tinto

Rhona DelFrari, Cenovus

Bob Espey, Parkland Petroleum

Brendan Galloway, Petronas Canada

Colleen Giroux-Schmidt, Innergex Renewable Energy

Laurence Lemay, Shell Canada

Dave Lye, Ovintiv

Duncan Wilson, Port of Vancouver

Melissa Winks, Rio Tinto

Jeff Zweig, Mosaic Forest

Jock Finlayson, Business Council of B.C.

Ken Peacock, Business Council of B.C.

Denise Mullen, Business Council of B.C.

Cheryl Muir, Business Council of B.C.

Steve Carr, Consultant to Business Council of B.C.

Kim Henderson, Consultant to Business Council of B.C.

### Technical Consultants:

MNP

le-ef Consulting

### Government of B.C.:

Premier's Office

Ministry of Finance

Ministry of Jobs, Economic Development and Technology

Ministry of Environment and Climate Change Strategy

Climate Change Secretariat

Ministry of Forests, Lands and Natural Resources

Ministry of Energy, Mines and Petroleum Resources

## APPENDIX 2: RECOMMENDED ACTIONS FOR A PATH TO LEADERSHIP BALANCING NATURAL RESOURCE DEVELOPMENT AND CLIMATE

Medium term assumes 12–18 months, long term assumes a post-COVID-19-vaccine world.

| Recommended Action | Medium/ Long Term | Provincial/ Federal |
|---|---|---|
| **1.REGULATION** | | |
| **1.** Transform the **regulatory system** to create efficient and effective regulatory processes that provide global leadership in sustainability performance, cutting complexity not corners.<br>• Increase efficacy and timeliness of regulatory programs and oversight<br>• Improve inter-agency coordination with clear, dedicated sectoral leadership and accountability (and resource this accordingly)<br>• Simplify service delivery for proponents, the public and Indigenous communities by decreasing duplication and interaction points<br>• Address the cumulative effects of resource development in the permitting process<br>• Improve industry confidence in the regulatory process including increased predictability and therefore decreased risk for industry seeking to invest in the Province<br>• Improve availability and utility of data and information sharing to support effective and efficient processes<br>• Decrease financial risks with respect to:<br>  ○ Cost for industry to engage in regulatory processes<br>  ○ Internal cost for authorization processes and compliance activities<br>• Create a unique stream for known performers with strong records of compliance | Medium | Provincial |
| 2. Introduce a competitiveness lens to current and future regulations and compliance measures to assess and weigh the impact on communities and economic prosperity so it is well understood. | Medium | Provincial/Federal |
| 3. Develop a modern, low carbon natural resource trade corridor—where Indigenous communities are equity partners and projects | Long | Federal |
| | Long | Provincial |

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|---|---|---|
| deemed to be in the national interest have a different gate through processes.<br><br>4. Leverage technology as a compliance and decision making and consultation tool.<br><br>5. Resolve the pathways to reconciliation and Crown revenue sharing arrangements with Indigenous communities to create greater certainty in decision-making. | Long | Provincial |
| **2. BUSINESS INVESTMENT, MARKETING AND BRANDING** | | |
| 6. Develop a clear investment attraction strategy that includes a compelling value proposition (aligned with this paper) and a welcome door for investment.<br><br>• Market the actions within this plan, specifically on regulatory reform demonstrating B.C.'s commitment to new investment and the growth of current operations; and market B.C.'s reliable political and government environment, sound public health system and Indigenous support for businesses generating low carbon content commodities and offsets<br><br>• Develop investor-centric offerings to navigate B.C.'s investment and regulatory structures<br><br>• Resource and give clear leadership to regulatory efforts for new investments with demonstrable and significant economic benefits for B.C.<br><br>7. Develop an in-market marketing plan and branding for B.C. commodities based on this plan, as well as ESG initiatives, that highlights B.C.'s low carbon content commodities.<br><br>• Put on offer our low carbon advantage on exports, energy intensity (B.C. clean energy) clean supply chains, technology and sequestration<br><br>8. Create a formal process to assess the individual and cumulative impacts of government policy changes on key competitive measures and to monitor policies that improve competitiveness in our competing export market jurisdictions. | Medium<br><br>Medium<br><br>Medium | Provincial<br><br>Provincial<br><br>Provincial |
| **3. TAX POLICY** | | |
| 9. Recognize the need to avoid carbon leakage as a core principle of policy, which is currently missing from CleanBC. | Medium | Provincial |

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| 10. Provide emissions-intensive trade-exposed industries with protection from the full carbon tax consistent with the federal approach in order to prevent carbon leakage. | Medium | Provincial |
| 11. Address the Capital Cost Allowance which continues to be a factor in cost competitiveness with U.S. producers. | Medium | Federal |
| **4. CLIMATE** | | |
| 12. B.C. must include carbon offsets and market mechanisms as compliance tools in their climate framework that should include:<br>• Investment in nature-based solutions<br>• Time for longer term technological and infrastructure solutions<br>• Support for the technology sector to provide validation of quality and veracity of offsets<br>• Creation of room for economic growth<br>• Mitigation of potential investment leakage and carbon leakage | Medium | Provincial |
| 13. The Federal Government must play a leading/coordinating role on a national offset market with Canada offering high-quality nature-based solutions.<br>• Include Indigenous communities as partners in nature-based solutions<br>• Explore Internationally Transferred Mitigation Outcomes (ITMOs) as an opportunity to monetize the low GHG-intensity of B.C. commodities—collaborate with the Federal Government on critical international negotiations around the implementation of Article 6 of the Paris Accord | Long | Federal |
| • Lead the creation of a national trading market for Canadian business and excess for international purchase | Long | Provincial/Federal |
| 14. Support the exploration, with Alberta and Saskatchewan, of regional emissions trading and a global centre for technology and innovation in methane and carbon sequestration and use. | Medium | Federal |
| 15. Canada needs to own the space from Intellectual Property development to application and adoption credits allowing industry to choose technology.<br>• Consolidating and leveraging federal funds in support of this<br>• Consider further tax credits for companies that invest in R&D and capital expenditures focused on emissions reductions, and | | |

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| that allow for collaborative sectoral investment where like businesses share in the investment and risk | Medium | Provincial |
| 16. Maintain and improve B.C.'s GHG product-on-product and displacement advantage with competing jurisdictions as a key component underpinning the credibility of an ongoing low carbon industrial strategy. As in competitiveness, it is important to understand the impacts of key policies on lowering GHG product intensities.<br>• Explore the value of an accreditation-style model for verification and branding of low carbon content commodities | Long | Federal |
| 17. Government of Canada to pursue bi-lateral agreements to create markets for low carbon product and confirm Article 6 agreement templates for demonstration (e.g., Japan, Korea). | | |
| **5. INFRASTRUCTURE** | | |
| 18. **Refocus current infrastructure/capital plans** to support Canada's export economy and trade patterns and further the build out of clean infrastructure:<br>• Continue with electrification, including fuel switching, transmission and distribution<br>• Provide incentives for fuel switching<br>• Build efficiency into trade routes for inter-provincial and international exports<br>• Address rail barriers and expand capacity in the west | Medium | Provincial/Federal |
| 19. Support efforts on the "Port of The Future" including use of alternative fuels, spatial planning, digitization, LNG bunkering and use of electric vehicles and equipment. | Medium | Provincial/Federal |
| **6. ENABLING COMMERCIALLY VIABLE INNOVATION WITH IMPACT** | | |
| 20. Explore, as a convenor of the science and research communities, the possibility of technological innovation as a way to provide room for growth (targets) that includes some of the innovations described in this paper, such as electrification. | Long | Provincial |
| 21. Support efforts, through direct investment and tax credits, for the role technology can play in emissions reductions, in particular, breakthrough technologies to de-risk technological adoption by industry. | Long | Provincial/Federal |

| | | |
|---|---|---|
| • Provide seed funding for start-ups in the idea space as a technology fund with the right procurement rules that do not stifle small companies<br>• Use existing vehicles such as the supercluster as a consolidator of activity | | |