

Submission to the Select Standing Committee on Finance and Government Services

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Summary

B.C.'s ambition to build a clean economy is a defining opportunity for our generation, an opportunity made even more poignant by our experience with the COVID-19 pandemic. We have so many opportunities and advantages to harness, and we believe that Budget 2021 can and should be a historic budget that firmly places the province on a trajectory towards a resilient recovery, with lower carbon pollution, enhanced global competitiveness, reconciliation with First Nations, greater equity and shared prosperity.

Doing so is no small task, it requires a significant multi-year investment of both human and financial resources, starting with stimulus investments this fall and furthered through Budget 2021. We strongly endorse the view shared in the consultation document, that *"The power of a greener future to help grow our economy is at the heart of CleanBC, our government's plan to invest \$1.3 billion towards climate action over four years. CleanBC is a central pillar of B.C.'s Restart Plan and our path to a more resilient economy."*

Clean Energy Canada's Budget 2021 Recommendations

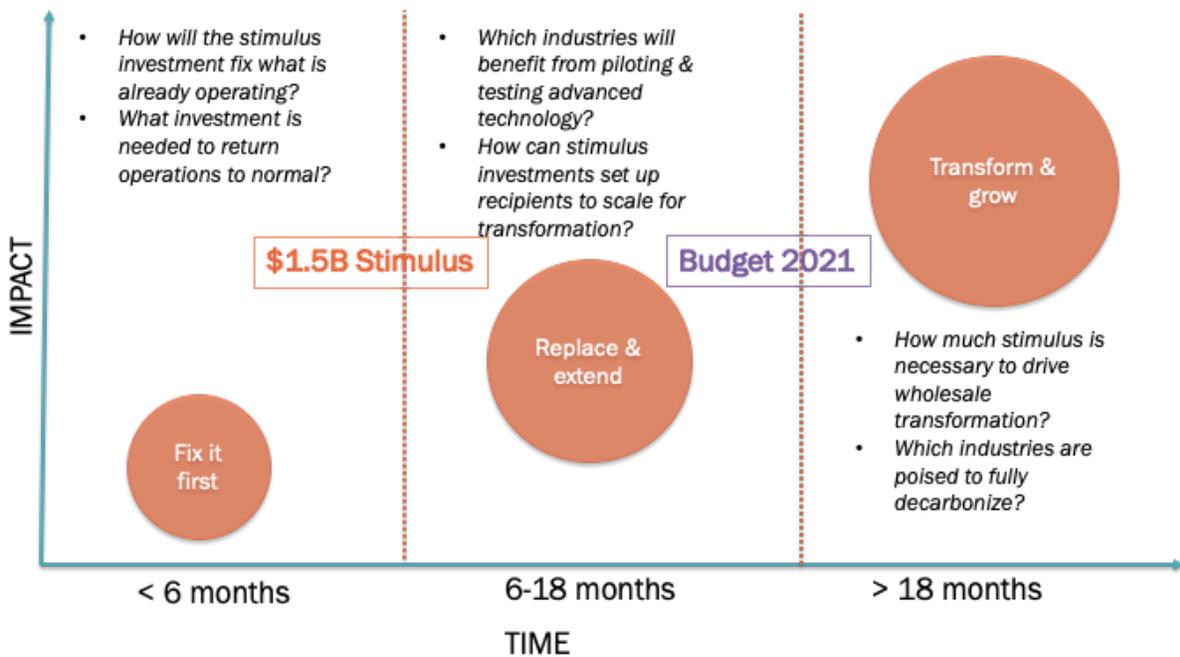
1. Ensure all ministries with responsibilities for implementing the CleanBC plan remain fully funded to advance legislation, regulations and programs on schedule.

CleanBC is both a climate plan and an economic plan. Bolstered by the recommendations of the Emerging Economy Task Force and the Innovation Commissioner, it is clear that B.C stands to gain economically by building on efforts to date to diversify our economy and support businesses delivering clean energy and climate technologies and services.

To achieve B.C's 2030 climate targets and put us on a trajectory to achieve our 2050 target, the province's post-COVID economic recovery needs to put climate action at its centre. A study

released in early May¹ by experts at Oxford surveyed 231 central bank officials, finance ministry officials, and other economic experts from G20 countries on the relative performance of 25 major fiscal recovery policy archetypes across four dimensions (speed of implementation, economic multiplier, climate impact potential, and overall desirability). It concluded that green fiscal recovery packages can act to decouple economic growth from GHG emissions and reduce existing welfare inequalities that will be exacerbated by the pandemic in the short-term and climate change in the long-term.

As illustrated below, the government must ensure that it looks beyond near-term stimulus towards Budget 2021 to put the province on a trajectory to transform and grow in a sustainable way. While some may be tempted to delay the implementation of CleanBC's policies or reduce the scale of its various programs, this would be a disservice both economically and environmentally.



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¹ Hepburn, C., O’Callaghan, B., Stern, N., Stiglitz, J., and Zenghelis, D. (2020), ‘Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?’, Smith School Working Paper 20-02. (Forthcoming in: *Oxford Review of Economic Policy* 36(S1)) <https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper20-02.pdf>

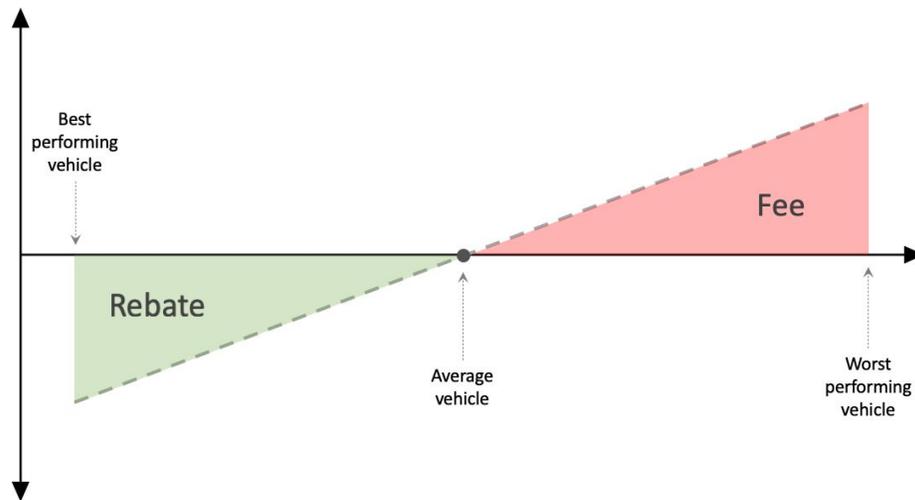
2. The Ministries of Finance and Energy, Mines and Petroleum Resources are directed and resourced to:
 - a. Develop an equitable, revenue neutral ‘feebate’ system based on vehicle emissions performance.
 - b. Develop an income-tested, targeted “top up” incentive to make new & used zero emission vehicles more accessible.

As part of its toolbox to reduce transportation emissions, the B.C government offers a purchase incentive for zero-emission vehicles (ZEVs). However, concerns have been raised about the impact of this program on the government’s budget. These concerns have been amplified by the financial pressures resulting from the COVID-19 pandemic.

Replacing the ZEV purchase incentive with a revenue-neutral feebate offers the opportunity to send a strong market signal to both automakers and consumers, boost sales of ZEVs and other efficient vehicles, cut carbon pollution and improve air quality.

A revenue-neutral feebate can reduce the government’s spending on ZEV purchase incentives by using the revenues from the feebate to finance its rebate incentives. In lieu of public spending on generally available incentives, a new means-tested ZEV incentive could be offered to low and lower-middle income British Columbians for either new or used ZEVs, enhancing equity and enabling these drivers to benefit from the significant fuel cost savings associated with ZEV ownership.

Feebates are market-based instruments that consist of “rebates” and “fees” on new vehicle purchases. Purchases of new ZEVs and other efficient vehicles are given a rebate, while inefficient vehicles are subject to a fee. The goal of feebates is to reduce greenhouse gas emissions by increasing the number of ZEVs and other efficient vehicles on the road.



Fees and rebates can be based on the rated greenhouse gas efficiency (g CO₂eq/km) of new vehicles. Therefore, feebates provide incentives for consumers to purchase ZEVs and other efficient vehicles and for manufacturers to improve the performance of their vehicles.

Feebates do not change the total number of vehicles sold, but they shift the composition of the vehicle stock on Canada's roads from inefficient vehicles to ZEVs and other efficient vehicles. Research has shown that feebates can have a meaningful effect on the mix of new vehicles. On average, a \$1,000 fee (or rebate) causes a 30% to 40% reduction (or increase) in the market share of a vehicle ([Rivers & Schaufele 2017](#)).

Policy design considerations can address potential concerns related to equity associated with the need for a certain class of vehicle, based on employment or region of the province. For example, separate rates and pivot points could be applied to different classes of vehicles, such as SUVs, pick-up trucks, or vans. Differentiating rate schedules by vehicle class means that the performance of a particular vehicle is only compared with vehicles in the same class. For example, this design would reward customers for choosing a more efficient SUV over a less efficient one, but it would not incentivize customers to choose a lighter-weight vehicle over an SUV. While such a design diminishes the feebate's effectiveness, it can address other concerns that might arise.

We recommend that the B.C government develop and implement both a revenue neutral feebate and a means-tested "top up" ZEV incentive to accelerate deployment of ZEVs, enhance equity, and reduce the extent of public support for purchase incentives.

3. The Ministries of Transportation and Infrastructure and Municipal Affairs and Housing are directed and resourced to:

- a. Work with BC Transit & TransLink, respectively, and the federal government to advance the electrification of their respective bus fleets, including on-route and/or depot charging infrastructure.

Transit agencies around the world are transitioning away from diesel buses to electric. From China and Europe, to Chile and the United States, demand for electric buses is growing and this trend is only expected to accelerate. B.C. is now aiming to catch up.

Accelerating the deployment of electric buses across B.C. will reduce greenhouse gas (GHG) emissions and support the province in meeting its 2030 targets. TransLink in Vancouver estimates that the life-cycle greenhouse gas emissions of electric buses will be some 90 percent lower than current diesel buses.

Transitioning from diesel to battery electric buses reduces noise levels - making our communities quieter, while at the same time enhancing the experience of transit operators and passengers thanks to less noise and zero exhaust fumes. Diesel exhaust impacts our health. Health Canada has directly associated diesel emissions with a significant number of acute respiratory and asthma symptom days, emergency room visits, hospital admissions, and restricted activity days.

In supporting electrification of buses, B.C. will also be supporting made-in-Canada technologies: there are four electric bus companies in Canada: GreenPower Motor Company (British Columbia based), The Lion Electric Company (Québec), New Flyer Industries (headquartered in Manitoba), and Nova Bus (Québec).

Additional support is needed to accelerate the efforts of BC Transit and TransLink in electrifying their bus fleets, including financial support for new and upgraded infrastructure, and replacing end-of-life diesel buses with electric buses. While near-term transit ridership may be lower due to COVID-19, we must take a long-term view—especially when it comes to replacing old buses with new buses.

TransLink's Low Carbon Fleet Strategy includes the replacement of over 600 diesel and diesel-hybrid with battery electric buses, installation of charging infrastructure on-route and at depots, and the construction of BC's first fully electric capable bus depot.

BC Transit's Plan includes replacing more than 1,200 existing buses and adding another 350 over the next 10 years.

A 2018 analysis Commissioned by CUTA on the Economic Impact of Transit Investment in Canada found that:

- The economic benefit of Canada's existing transit systems is at least \$19 billion annually.
- Transit reduces vehicle operating costs for Canadian households by about \$12.6 billion annually
- Transit reduces the economic costs of traffic collisions by almost \$3.2 billion annually
- Transit reduces annual greenhouse gas emissions by 4.7 million tonnes, valued at \$207 million
- Transit saves about \$137 million in annual health care costs related to respiratory illness.

We recommend that the B.C. government, in coordination with the federal government, support the efforts of both BC Transit and TransLink to build infrastructure to increasingly electrify their bus fleets, replacing end-of-life diesel buses with electric buses. Supporting this transition will ultimately require additional financial support—through loans or grants—for significant new and upgraded infrastructure, and the government should initiate engagement and work with TransLink, BC Transit and the federal government to develop and fund this transition.

4. The Ministries of Energy, Mines and Petroleum Resources and the Climate Action Secretariat are directed & resourced to:
 - a. Prioritize implementation of the forthcoming hydrogen roadmap, with a focus on developing an efficient regulatory framework to deliver the world's cleanest hydrogen
 - b. Develop and administer a \$10 million/year over 3 years fund, with specific allocations for (1) R&D and piloting of hydrogen production & use technologies in B.C., (2) supporting commercial deployment.

Hydrogen is not an energy source but an energy carrier. This means its potential role has similarities with that of electricity. Like electricity, the consumption of hydrogen does not release any greenhouse gas emissions. Hydrogen has rightfully been identified by the B.C government as critical to achieving our provincial and national emissions reduction targets. Hydrogen will play a crucial role in bringing about the required deep decarbonization of our economy.

By positioning B.C as the cleanest producer of hydrogen, the B.C government has the strategic opportunity today to align long-term economic and sustainability objectives and put the province on a path that will benefit British Columbians for generations.

Building on the work carried out for the B.C hydrogen study that the provincial government had commissioned and which was completed last year ([Zen 2019](#)), the B.C government is currently finalizing a provincial hydrogen roadmap. Meanwhile, the federal government is planning to release a Canadian hydrogen strategy this summer.

The BC government should seize the current national and global momentum. There is currently renewed interest in hydrogen worldwide. Several countries around the world have recently released or announced hydrogen strategies or initiatives, including Germany, the Netherlands, Portugal, and Australia. What is more, preeminent institutions and analysts have recently produced dedicated reports on hydrogen, including the International Energy Agency ([2019](#)), International Renewable Energy Agency ([2019](#)), and BloombergNEF ([2020](#)).

To advance the production and consumption of made-in-B.C clean hydrogen, new regulatory frameworks will be required, and should be prioritized. In addition, as an emergent industry there is a need for both additional research and development (R&D) and support for initial commercial deployment of new technologies and infrastructure. We therefore recommend that the B.C. government, informed by the forthcoming hydrogen roadmap, create a new funding program with specific allocations for R&D and deployment.

About Us

Clean Energy Canada is a climate and clean energy think tank within the Morris J. Wosk Centre for Dialogue at Simon Fraser University.

We work to accelerate Canada's clean energy transition by sharing the story of the global shift to renewable energy sources and clean technology. We conduct original research, convene influential dialogues, inform policy leadership, and build citizen engagement.

Clean Energy Canada is not a recipient of public funding.