



**Submission for *Clean Technologies in Canada* study
for
the House of Commons Standing Committee on Environment and Sustainable
Development**

By: Bioindustrial Innovation Canada

Submitted on October 24, 2022

Introduction

Bioindustrial Innovation Canada (BIC) is a national not-for-profit business accelerator that provides critical strategic investment, advice, and services to developers of clean, green, and sustainable technologies. BIC has a strong track record of successfully supporting early-stage companies across Canada and positively impacting many industries. Our portfolio partners range from leading lithium-ion battery resource recovery companies to cleantech companies using innovative technology to purify everyday resources such as water, as well as others that seek to decarbonize transportation and establish value chains for Canada's vast agriculture and forestry sectors.

A leader in the emerging Canadian bio and circular economies, BIC is well positioned to identify and support early-stage clean, green and sustainable companies and focused on helping them overcome hurdles to commercialization while effectively allowing them to remain and grow here in Canada. BIC's portfolio companies are on track to achieve over 13 megatons of greenhouse gas (GHG) emissions reductions by 2030 while supporting thousands of jobs in the process. To date, BIC's investments have helped portfolio companies create over 5,200 jobs through \$19.5 million in direct investments in 32 early-stage companies further leveraging another \$355 million in third-party investments and documenting over 1 megaton of GHG emissions.

Beyond providing capital, BIC also employs a team of technical experts in the sustainable chemistry field, providing added value to start-ups in the industrial bioeconomy, sustainable processes, and the circular economy. This approach allows BIC to be more integrated when selecting companies for funding, as our team has significant experience in these highly technical fields. Doing so ensures that BIC is more than just a business accelerator or capital partner; we look beyond financials when determining which companies to seed and support through their commercialization and scale-up challenges. We believe this expertise and experience would be helpful to the government when it comes to making targeted investments in new and emerging businesses and understanding the opportunities to further decarbonize established value chains such as automotive and aerospace.

BIC understands that reaching Canada's net-zero targets will take a nationwide effort. The environment and economy can go hand-in-hand, and our work is a prime example of that harmony. By supporting green business accelerators – particularly those focused on clean technologies – it is possible to amplify these positive benefits further and establish Canada as a leader in sustainability.

Clean Technologies in Canada

BIC supports clean technologies as a crucial necessity for Canada to reach its ambitious target of net-zero emissions by 2050. To that effect, we believe that the current study on clean technologies in Canada is both timely and welcomed by sectors facing challenges pertaining to innovation, decarbonization, and the future of our shared climate.

More emphasis is needed on clean technologies in order for Canada to reach its net zero targets. A 2022 report from the International Energy Agency (IEA) suggests that the globe needs more collaboration and greater development of clean, sustainable technologies.¹ It should be noted that world leaders requested the report at last year's COP26 climate conference to help align actions and scale up investment in technology in five major sectors – power, road transport, steel, hydrogen, and agriculture – which account for approximately 60% of global GHG emissions.

¹ <https://www.reuters.com/business/environment/global-climate-goals-threatened-by-lack-clean-tech-collaboration-iea-2022-09-19/>

An increased and renewed focus on clean technologies will be a significant factor in how economies are positioned for the future. It is an unfortunate myth that clean technologies must entirely replace traditional methods; clean technology does not necessarily mean displacing old ones, rather, it is about improving processes and creating more opportunities for value, jobs, and innovation while supporting increased productivity and competitiveness. However, innovation and change take time, and work must be done now in order to see future benefits.

In this context, BIC submits the following recommendations regarding clean technologies in Canada.

Recommendation 1: Develop a national strategy for green business accelerators and incubators, including avenues for funding programs and opportunities to support these cross-sectoral innovation opportunities.

Business accelerators like BIC – with proven track records of how to successfully identify promising start-ups that have a focus on sustainability and clean technologies – are in a position to leverage the exponential growth of their service offering. With the support of government-backed investments, these accelerators can further secure additional private capital to invest and assist green technology developers on the road to commercialization, a goal that helps both Canada's economy and moves the country closer to its net-zero ambitions. By establishing a national green business accelerator strategy, Canada can ensure more sustainable and innovative ideas successfully reach commercialization and have the opportunity to positively impact the Canadian economy and the fight against climate change.

By supporting business accelerators through developing a national strategy and ensuring avenues for funding, Canada can focus efforts on decarbonizing existing value chains and align efforts across sectors to fight climate change and effectively reduce its greenhouse gas emissions. Climate change is a challenge that governments can no longer address on their own, and by supporting innovative early-stage companies, they no longer need to. BIC's work supporting innovation in the sustainable chemistry and clean technology sectors ensures that more companies, projects, and ideas have the opportunity for development and commercialization.

For example, business accelerators such as BIC provide support to start-ups too early in development to be eligible for government funding due to the early commercial nature of their research and development stage. By allowing third-party business accelerators to apply instead, Canada can ensure that a range of financial tools – such as non-repayable and low-interest loans – are available to help Canadian start-ups move the development needle and scale up operations to drive growth, all while minimizing risk.

Recommendation 2: Ensure that Canada's clean technologies sector is competitive vis a vis other jurisdictions, notably with respect to the U.S. Inflation Reduction Act and Climate Smart Commodities Investments Programs.

In August 2022, the competitive landscape for clean technologies shifted dramatically with the arrival of the Inflation Reduction Act (IRA). The IRA provides massive subsidies that do not exist in Canada, such as an Investment Tax Credit (ITC) worth up to 50% (Canada is rolling out one worth 30%); production credits for clean fuels but especially ones of strategic importance such as hydrogen (up to \$3 USD / KG) and sustainable aviation fuel (SAF) (\$1.75 USD / gallon). Canada has no production incentives to compete against these and will not be seen as a competitive destination for technology development or investments as a result.

This new mechanism makes it next to impossible to grow sustainable projects here in Canada without a focus on green accelerators – like BIC – who can help bridge the gap and provide strategic technical support at the same time. For example, the IRA subsidies to support a sustainable aviation fuel project

make the economics related to its scale-up and production difficult to compete with. However, BIC's multi-pronged approach offers Canada a chance to attract and retain globally significant green projects by supporting the technical, business and early-stage financial investment opportunities they represent.

Another aspect of remaining competitive with other jurisdictions concerns the notion of "brain drain." In addition to improving Canada's GHG reductions, increased support for green business accelerators would also help retain Canada's brightest and most innovative minds. The future is a green economy, and decisions related to sector support now will significantly impact Canada's economy and workforce in the years to come.

BIC understands and experiences this firsthand. Canada faces significant challenges regarding talent retention in all sectors and must do more to ensure Canadian start-ups continue to call Canada home. Data from Statistics Canada shows that Canada's emigration levels jumped in 2021, and Q4 of the same year saw the largest number of residents leaving since the 1970s (an increase of approximately 215% from the previous year).² Further, Ceridian's 2022 Pulse of Talent survey reveals that 60% of Canadian respondents are considered a flight risk, with 39% open to leaving for the right opportunity and 21% actively looking.³ By ensuring our best and brightest stay and grow roots in Canada, we guarantee success for our country in the green economy of the future. BIC helps early-stage companies build and keep talent by providing access to technical expertise to overcome commercialization hurdles. This talent is supported by BIC and imbedded directly in the company to support the needs of the early-stage company while offering experience to recent graduates.

Conclusion

By focusing on clean technologies, we can grow our economy, create new jobs, and transition workers – particularly in hard-to-decarbonize sectors, such as aviation, shipping and heavy industry. There is also an opportunity to re-imagine traditional sectors and move towards reduced emissions through biofuels, bioplastics, renewable energy sources, and the emerging circular economy.

We understand that reaching Canada's net-zero targets will take a nationwide effort and concrete initiatives. Innovation is crucial to fighting climate change, and policies supporting the development and implementation of innovative practices must be a pillar of any government effort to address climate change. We would like to thank the committee for the opportunity to contribute to its study on clean technologies in Canada.

For Further Information

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² <https://betterdwelling.com/canada-just-saw-the-biggest-q4-for-residents-permanently-leaving-since-the-1970s/>

³ <https://www.ceridian.com/ca/resources/2022-pulse-of-talent-spotlight>