



Bioindustrial Innovation Canada

A sustainable chemistry alliance.

2025 Pre-Budget Consultation Submission for Bioindustrial Innovation Canada

March 10, 2025



Recommendations in Brief

Recommendation 1: That the Government of Canada realign priorities and funding criteria for the regional economic development agencies to allow for national economic development projects that span provincial and regional borders, thus cutting red tape and helping to strengthen Canada's economic resiliency.

Recommendation 2: That the Government of Canada fund national green tech accelerators to help scale up businesses and improve the efficiency of our supply and value chains, thus strengthening sector resiliency and industry competitiveness.



Introduction

[Bioindustrial Innovation Canada](#) (BIC) provides critical strategic investment, advice and services to business developers of clean, green, and sustainable technologies. We invest capital and highly qualified personnel (HQPs) in emerging companies that are commercializing technology which supports the transition towards a more productive, sustainable and internationally competitive economy. BIC works closely with these technology developers as well as Canada's natural resources sectors, including forestry, agriculture, fisheries, to promote the creation of green chemistry value chains that are powering Canada's economy and supporting sector resiliency. Canada is uniquely positioned to be a global leader in the bioeconomy given its natural resource endowment. It is these resources and their transformation and exploitation that will allow Canada to meet energy global demands for low-carbon products while also positioning Canada as a strong trading partner with the European Union and other nations, diversifying our trade relationships and strengthening Canada's economic independence. As the demand for clean, green, and sustainable products increases, Canada has another opportunity to be at the forefront of the transition to a lower carbon economy, while producing good jobs across sectors including natural resources, agriculture, and manufacturing. It is this transition, utilization of our resource endowment, and development of novel intellectual property that will allow Canadian manufacturers to increase their productivity and international competitiveness, avoiding carbon intensity tariffs related to export markets.

Currently, Canada is falling behind our competitors in terms of connecting its resource sectors and transformational technologies to the productivity of its industries, resulting in a lack of international competitiveness. Investments in its bioeconomy will help to open market opportunities as Canada diversifies its market access with partners and allies across the pond. Today, the bioeconomy is a \$4 trillion industry and Canada is well positioned to generate about \$200 billion in new economic opportunity if they move in the right way.

At a time when Canada faces serious economic threats, this is a great opportunity to grow the economy, address efficiency issues, and become more competitive, while emerging as a leader in green, clean and more sustainable energy and technologies.

Recommendation 1: That the Government of Canada realign priorities and funding criteria for the regional economic development agencies to allow for economically relevant projects that span provincial and regional borders to support technology development and scaling across Canada regardless of region, thus strengthening Canada's economic resiliency.

Canada's Regional Development Agencies (RDAs) play a vital role in securing our economic development and boosting the strength of multifaceted projects across the country, however the way they are currently set up has created red tape that limits capacity of projects with national potential. The region-based structure of the programming has created geographic siloes that limit the transformational potential of companies looking to develop projects at a national scale, at a time where it is essential to break down inter-provincial barriers. These regional approaches also limit the ability of national incubators and accelerators to offer programs to the benefit of all



Canadian enterprises, resulting in entrepreneurs and companies wasting time, capital and resources, shopping around regions for the best available support.

Canada's natural resources and industrial value chains traverse territorial, regional and provincial borders. We should encourage and leverage the potential for emerging technologies to scale across diverse regions and collaborate with industry players, from supply to value-chain, across the country, regardless of their postal code.

The regional economic development programs have rigid funding criteria which limit the capacity of projects to work across both supply and value chains. This has created challenges for BIC's program offering. For example, an automotive component manufacturer in Southern Ontario looking to develop lower-carbon materials for the battery supply chain may have begun their research and development in Quebec, leveraging forestry research on lignin properties, but would likely build and scale up at their home plant in Ontario. Forcing the company to navigate and work across multiple disconnected RDA entities while potentially not being eligible for funding or support in either based on regional focus areas. BIC has numerous examples of companies in its portfolio that have faced similar challenges and have been forced to establish separate entities in multiple provinces or have simply left the country for other regions willing to reduce the required leg-work.

For these reasons, BIC recommends that the Government of Canada amend funding eligibility criteria for programs within the regional economic development agencies to allow for inter-provincial, territorial and national projects that could benefit multiple regions, while strengthening Canada economic resiliency. Alternatively, the government can also create a new funding stream from RDA funds that specifically provides support for national projects that have significant regional development benefits. During a time when breaking down inter-provincial barriers is key, the government needs to act quickly to prevent its own crafted siloes from further hindering economic growth.

To ensure national interest and the efficiency of operational projects, RDA leadership should be meeting regularly to identify opportunities for partnerships and collaboration across regions, to build resilient supply and value chains for national industries. For example, ACOA may be supporting a forestry biomass to high-value sugars project in Nova Scotia as FedDev and FedNord Ontario also considers supporting a project to source high-value sugars for a large fermentation biotech firm in southern Ontario. When one technology could be positioned in both locals utilizing Canadian inputs to support off takers across 3 sectors in multiple provinces. A coordinated approach can help realize market opportunity by bringing supply chains and value chains to the same table, spanning regions. Similarly, a highly successful technology commercialization project that has developed an enviable track-record should be shared across RDAs as a model to build and grow successful companies regardless of region.

While regional differences and priorities should be respected, there is no reason to stop a project from growing simply because it will leave the boundaries of a province.



BIC's multi-pronged approach offers Canada a chance to attract and retain sustainable projects of global significance, meaning domestic technologies and innovations remain domestic and bring value and investment to the Canadian economy, but only if we truly allow those projects to grow and flourish without the limitations created by regional or provincial barriers. If we keep these stringent rules, many global partners who are interested in Canada will choose to do business elsewhere. By establishing funding pathways for national green business accelerators, the Government of Canada can ensure more sustainable and innovative ideas successfully reach commercialization, positively impacting the economy, and strengthening our green economy. At a time of trade instability, it is imperative we break down internal barriers to help secure our economic development and remain competitive.

Recommendation 2: That the Government of Canada fund national green tech accelerators to help scale up businesses and improve the efficiency of our supply and value chains, thus strengthening sector resiliency and industry competitiveness.

Canada is in an enviable position globally with an abundance of natural resources, talent and innovation capabilities, positioning it as a global leader in clean, and green technologies. These technologies are poised to create good paying jobs across both rural and urban setting, reduce GHG emissions, and secure our economic prosperity. Recognizing that there are a number of mechanisms that exist federally to support the identification, validation and scale up of these technologies, none of them have the unique ability to act as third-party validators or embed human resource assets into these private sector entities to support overcoming commercialization hurdles and position these companies for success. In fact, these activities are considered high-risk and not appropriate for members of Canada's civil service, regardless how qualified. Given the government cannot undertake these types of activities on its own, it needs strong partnerships with non-governmental organizations that have a long track-record and history of success.

In Canada, non-profit business accelerators like BIC are already doing the work of identifying, validating and investing in pre-commercial sustainable technologies and embedding their expertise to de-risk both private and public sector investment in order to build successful and globally relevant companies. BIC has a robust pipeline of transformative technologies operating in the clean tech space, with significant potential to support the increased productivity and competitiveness of industries across various sectors while delivering good paying jobs along a multitude of industrial value chains.

Enabling organizations like BIC (not-for-profit and non-governmental) to expand and strengthen its reach is where Government can play a key role. Currently Canada is at a competitive disadvantage compared to the United States and many European countries, with the red tape and sector programing siloes that exists across a multitude of federal line departments. Canada needs simplified and harmonized policies across federal and provincial levels to enable and grow world-class companies and deliver economic value for Canada, sustainably.

Targeted investments to support business accelerators with a focus on the high growth sectors like the bioeconomy would help organizations like BIC expand their impact across the country to



support emerging companies. Support in the form of technology and market validation, raising of capital (including IPOs), scaling for market demand, and aligning with existing value-chain stakeholders to build out cradle to cradle manufacturing opportunities in Canada.

BIC's track record of success demonstrates the value a relatively small, commonsense impactful investment could yield. Through its program with the Federal Economic Development Agency of Southern Ontario (FedDev), BIC has invested \$25 million (50 percent contributed by FedDev) into 35 portfolio companies that have achieved a documented one million tons (one megaton) plus of GHG emissions reduction, while creating over 5,200 jobs. BIC was also able to leverage over \$400 million in additional third-party capital investments for these companies. All of this was achieved while respecting FedDev programming requirements to operate only within Southern Ontario. Looking ahead, these 35 portfolio companies are on track to support a reduction of over 13 megatons of GHG reductions by 2030, and create an additional 5,000 jobs, in addition to 15,000 indirect and direct construction jobs.

Even with this enviable and successful track record, a willingness to adopt this proven model across other RDAs has been unsuccessful as they have been focused on sector specific activities or only willing to support entities currently established in the region.

A [2023 report](#) from Deloitte⁴ calls for new models of collaboration and industrial networks to scale and accelerate clean technologies, pointing to the urgent need to commercialize technology solutions if Canada has any hope of realizing climate targets. Additional government support would allow BIC to connect innovation clusters nation-wide across sectors that will support decarbonization efforts in the energy, manufacturing, fuels, and automotive sectors.

A 2020 study by Research Money indicated that the Canadian bioeconomy could grow to contribute up to \$75 billion annually to the Canadian economy by 2030.³ It is time to invest more efforts in identifying, validating and de-risking these types of technologies while supporting their scale up needs to ensure their competitiveness on the global stage. Currently, we need to build on our strengths while increasing our capacity for technology development, otherwise these technology companies will continuously choose the path of least resistance and most support – to do business, and Canada will miss out on the growing international investment opportunity that this sector represents. BIC's track record is enviable however, BIC, and accelerators like it, need help to continue to de-risk investments and grow capacity to aide businesses in their validation and scale up efforts.

Now is the time to step up and secure economic development through targeted resource-based innovation, strategic investment and collaboration with trusted partners who have track records of success. **We believe that organizations like BIC, who offer services and support to these early-stage companies, often slip through the cracks due to their highly technical, cross-sectoral nature. BIC can move quicker and be nimbler at identifying new trends and validating technologies than our government departments, and as a result, is able to play a critical role in growing the bioeconomy in Canada faster and more efficiently. We recommend the creation of a national low-carbon acceleration program for \$50M that would allow BIC to**



replicate its successes in Ontario across the country, with no restrictions on jurisdictions within Canada. A \$50 million investment from the government could see BIC invest in an additional 50 companies and leverage \$700 million in third-party investments. This would allow BIC to connect innovation clusters across Canada to support decarbonization efforts in energy, fuels, and automotive sectors.

Conclusion

Canada needs a stronger approach to green economic development to grow its economy and support the productivity and global competitiveness of its industries. BIC's work in supporting businesses has already demonstrated significant impact and a huge return on investment for the government. To truly unlock the potential of Canada's bioeconomy, it is crucial to adapt current federal funding structures under RDA's and remove barriers across our borders to improve supply chains and allow Canadian businesses to grow faster. By allowing projects to scale nationally and simplifying policy and regulatory, Canada can accelerate the growth of emerging green technologies and enhance its competitiveness on the global stage.

Further, investing in green tech accelerators like BIC will strengthen our economic development and innovation, as more businesses will reach commercialization and be ready for exports. With targeted support for scaling businesses, improving supply chain efficiency, and fostering cross-sectoral partnerships, Canada can secure our economic development, increasing productivity and good jobs.

A cross-sectoral approach will help to identify opportunities across Canada while linking seemingly disparate supply and value chains resulting in sector and industry resiliency. With sufficient support, Canada can become a global leader and a destination for top talent, foreign direct investment (FDI) with technologies looking for low-carbon inputs, and a welcoming manufacturing sector while meeting energy demands and diversifying trade relationships and opportunities.

BIC thanks the Department of Finance for the opportunity to submit recommendations ahead of the 2025 Federal Budget. We would be happy to have a conversation regarding this opportunity or to answer any questions at the contact information below.

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Briefing Note

Canada's Bioeconomy Opportunity

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Coordinating Canada's Bioeconomy Opportunity

BIC Background

Bioindustrial Innovation Canada (BIC) provides critical strategic investment, advice and services to business developers of clean, green, and sustainable technologies. We invest capital and highly qualified personnel (HQP) in emerging companies that are commercializing technology which supports the transition towards a more productive, sustainable and internationally competitive economy. BIC works closely with these technology developers as well as Canada's natural resources sectors, including forestry, and agriculture to promote the creation of green chemistry value chains that can power Canada's economy and support multi-sector resiliency.

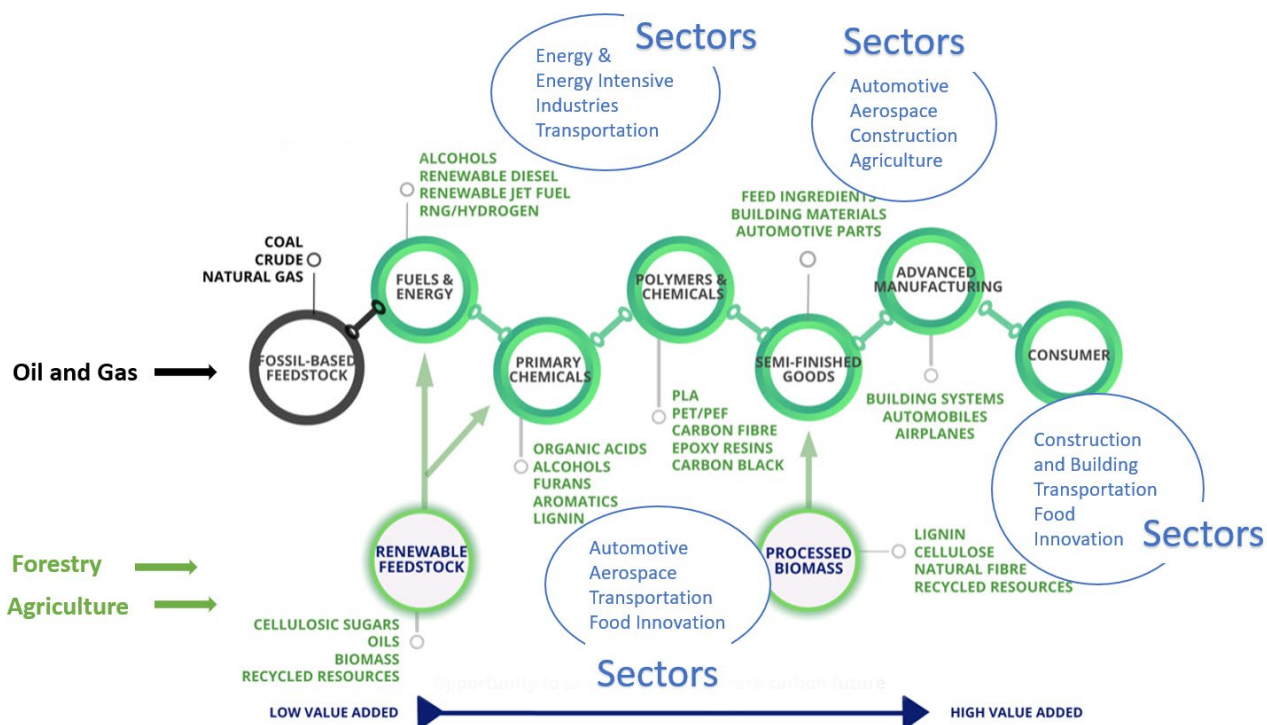


Figure 1: Green Chemistry Value Chains and Cross Sectoral Relationships

This graphic may look complex, but it represents Canada's real opportunity for global competitiveness. Canada has the ability to shift from a fossil-based and resource-based export country to a country that produces its own low-carbon inputs, displacing imported fuels, energy, primary chemicals, polymers, semi-finished goods, advanced manufacturing and consumer goods – which represent approximately 70% of Canada's current imports from the United States (U.S.).^{1 2}

¹ Statistics Canada – "Canadian International Merchandise Trade" (2022): <https://www.statcan.gc.ca>
U.S. Census Bureau - U.S. International Trade Data: <https://usatrade.census.gov>

² Global Affairs Canada - Trade Data: <https://www.international.gc.ca>

Canada's Competitive Advantage

Canada is uniquely positioned to be a global leader in the new economy (a.k.a. the bioeconomy) given its natural resource endowment. It is these resources and their value-add transformation and exploitation that will allow Canada to meet the increasing global demand for low-carbon products while also positioning the country as a strong trading partner with the European Union (E.U.) and other nations that are aligned with carbon intensity requirements. It is Canada's resource sectors and the value-add they can deliver that will allow Canada to diversify our trade relationships and strengthen our economic independence.

As the demand for clean, green, and sustainable products increases, driven by growing awareness of climate change, regulatory policies, and consumer preferences³, Canada has an opportunity to be at the forefront of the transition to a lower carbon economy, producing the goods that will meet the needs of a changing global economy⁴. It is this global low carbon transition, leveraging our resource endowment, and the development of novel intellectual property, that will allow Canadian manufacturers to also increase their productivity and international competitiveness, displacing imports (primarily United States (U.S. based) and improving export opportunities with other global markets.

In Canada we fund technology development by sector and by region, making it difficult to leverage opportunities from sectors that are not traditionally aligned (e.g., agriculture and automotive). Agriculture program funding typically falls under Agriculture and Agri-Food Canada (AAFC) yet technology development funding for automotive typically falls under Innovation Science and Economic Development (ISED) and the National Research Council (NRC). When you have supply chains and value chains that also cross sectors and regions, the ability to support opportunities becomes increasingly more complex. Our system of government is set up in silos and the sharing of information across those silos is hampered by civil servants looking to maintain relevance and control. There are no incentives to dismantle these silos that are only adding to the hurdles encountered by SMEs, MNEs and agencies set up to support them.

You might then think that other federal departments like Innovation, Science and Economic Development Canada (ISED) or the Regional Development Agencies (RDAs) would support opportunities that cross sectors and leverage Canada's resource advantage, but you would be remiss. ISED pushes all resource-based projects back to AAFC and Natural Resources Canada (NRCan) and the RDAs do not work across regional boundaries so projects that involve resources from the prairies (e.g., flax, soy, hemp) being transformed into value added inputs (e.g., soy foams, bio-based materials for lightweighting of electric vehicles) for sectors such as automotive need to find ways to coordinate across departments that don't have communication protocols and disparate sector mandates.

At a time when Canada faces serious economic threats, this is a great opportunity to grow the economy, address efficiency issues, and become more competitive, while emerging as a leader in green, clean and more sustainable energy and technologies.

³ McKinsey & Company. (2024). "The rise of low-carbon products: Market trends and business strategies." [<https://www.mckinsey.com/business-functions/sustainability/our-insights/the-rise-of-low-carbon-products>]

⁴ International Energy Agency. (2023). "Global Energy Review 2023." [<https://www.iea.org/reports/global-energy-review-2023>]

Canada needs to start looking at decarbonization as a means of productivity and competitiveness for our sectors and our industries. If we don't support technology identification, development, validation and scaling in this space and the opportunity for technology adoption with existing small and medium enterprises (SMEs) and multi-national enterprises (MNEs), our industries will have fewer export opportunities because of the hurdles they face around carbon intensity tariffs.

It is not to say that we don't have mechanisms in Canada to develop low-carbon technologies, it is simply that we lack the ability to look cross-sectoral at opportunities and the ability to support technology identification, development, validation and scaling across sectors and regions. We must better leverage current players in Canada who can help do this work.

Furthermore, the incubators and accelerators that are best equipped to support the identification, development, validation of low-carbon technologies for adoption by our SMEs and MNEs are only funded at a regional level and are again most often sector specific – ***which guarantees those cross sectoral opportunities, and the development of the novel supply and value chains are not priorities or missed altogether.*** Organizations like BIC work hard to help prevent this but of course they run into trouble by having to piecemeal projects across line departments to enable them to offer the support they provide. The regional and sectoral siloed aspect to this funding, means there is no ability or opportunity to identify and validate technologies across regions or across sectors that could benefit a multitude of existing SMEs and MNEs.

BIC has experienced firsthand working across sectors and across regions attempting to scale technologies that have been de-risked through RDA funds and can speak to the difficulty in working with these technologies and or industry players who are physically located in different regions.

The idea of the Clean Growth Hub was theoretically sound; however, it remains staffed with a multitude of civil servants who understand only their line department siloed offerings and are too far removed from the sectors and industries they are tasked to support. The current model of utilizing civil servants, no matter how academically qualified, needs to be augmented by real world experience and markets, otherwise we risk missing the opportunity to align technologies across regions, sectors and industries.

Considerations for Realignment and Support

1. Establish a coherent national economic development strategy that aligns priorities of the RDAs and re-focuses their mandates to support building supply and value chains across the country.

Plotting a few dots on a map regarding supply and value chains – across provinces that really don't talk to one another, highlights the missed opportunities to utilize existing resources, develop value-add products and support decarbonization of value chains across multiple regions. Being focused on value chains means sectors are not forced to fit into programming specialized by line departments.



Figure 2: Supply and Downstream Value Chain Players

2. Dedicated support for cross-sectoral opportunities
 - Dedicate support to national business accelerators through the RDAs as well as through NRC's IRAP programs that allow for national and cross-sectoral projects to take shape.
 - Provide a dedicated funding stream to allow for projects that cross provincial or geographic boundaries to ensure that a cross-country approach is taken when considering which projects will provide the most benefits.

The available pool of RDA funds all come from the same pot of taxpayer money, why should a business be forced to relocate or set up temporary officers to access funds in another region. While regional differences and priorities should be respected, there is no reason to stop a project from growing simply because it will leave the boundaries of a region. A national approach could also help to reduce double dipping in programs across regions. BIC has seen numerous examples of this over the last decade.

3. Create economic development opportunities by ensuring that RDAs and other funding agencies are led by industry experienced staff who have created successful businesses and opportunities and redirect officer support to guiding businesses on how to navigate program and investment offering. A short survey of BIC portfolio companies and supported SMEs has indicated that the Clean Growth Hub is ineffective and time consuming to manage relationships within it. Although there may be a 'No wrong door' policy, the shuffling of files internally is hindered by siloed departments with no ability to look at supporting opportunities that may span multiple sectors and multiple regions. Adding to industry frustration with the ever-revolving door or disappearing contacts within the entity.

Canada's public service does a lot of things well. However, to successfully execute a mandate on economic development, the leadership needs to have experience in economic development that includes the private sector and non-governmental agencies. Regional development agencies need to be nimble and move quickly to meet the needs and demands of business. Companies cannot be left waiting six months or more for decisions on investment or project support and should not be expected to spend countless hours completing overly complicated application forms without support from the civil service.

4. Dedicated support for national low-carbon business accelerators by redeploying funds diverted to the Clean Growth Hub or those from the failed SDTC project. Canada has no funding for national business accelerators which reinforces the hurdles encountered by SMEs and MNEs when they attempt to develop, validate and scale technologies with supply and value chains that cross regional and sector boundaries. Furthermore, our civil service needs to add value to the sectors and industries they support. They need to shift from being 'Gate Keepers' to enablers. If that is considered too risky then administrative dollars need to shift to other enablers (accelerators) who are willing and able to take on the risk for government.

The Need to Diversify Trade

While the United States (U.S.) and Canada share the largest bilateral trade relationship in the world, political factors—such as protectionist tariffs, policies, infrastructure investments, labour disputes, and environmental priorities—are shaping the efficiency and accessibility of cross-border trade routes for many of Canada's industries. As a result, Canada needs to look at increasing opportunities with trade partners, apart from the U.S., to ensure the stability and growth of its economy.

Canada needs to do a better job at linking farms in the Prairies or the forests in Northern Ontario to the manufacturing capabilities of Quebec and Ontario, and beyond. As it stands, Canada exports too much of our raw materials to the U.S. and loses out on the value-added processing, technology development, and investment opportunities these resource sectors could create. The creation of a stronger national program(s) to help create bio-based supply and value chains across all regions of Canada would enhance economic integration and allow Canada to better withstand global disruptions. Although, the U.S. remains the largest importer of Canada's resources, the value of these goods is becoming increasingly important to other trading partners – namely the European Union (E.U.), who have significant urgency and hence see the value these goods truly represent.

The Opportunity to Leverage Existing Partnerships

The E.U. is Canada's second-largest trading partner for goods and services (collectively), after the United States. The trade between Canada and the E.U. has seen exponential growth since the Canada-European Union Comprehensive Economic and Trade Agreement (CETA) was implemented. The trade between Canada and the E.U. grew a record high of \$100 billion in 2021, a 33.7% increase compared to the 18.6% growth in 2016 that was recorded by overall Canadian merchandise trade over the same period⁵ and continues to grow as we move into the latter half of decade.

In order to leverage and increase this trade opportunity, Canada should consider two separate but equally important paths:

1. Aligning Current Regulatory and Policy

Canada needs to better align our current regulatory and policies with that of the E.U. to ensure tariff free opportunity. At the moment, we are well behind the E.U. in terms of clean tech and low carbon policy development, but we can look at that as an opportunity to learn from their successes and their mistakes as we work to develop our own.

Canada and Canadian businesses can and should strategically position themselves to **leverage the E.U. Green Deal policies** by aligning with sustainability trends, exporting green products and services, and meeting compliance standards that give them access to the lucrative E.U. market, all the while providing business security around industry technology adoption and transition to lower carbon opportunities.

The Canadian government should also seek recognition from the E.U. that our current practices in agriculture and forestry are sustainable, with the aim of lowering compliance and regulatory hurdles that Canadian businesses will face to prove that their products are sustainable.

2. Leveraging Foreign Restrictive Policies to Increase Inward Investment

Use existing restrictive policies (e.g., Renewable Energy Directive (RED II/RED III), Indirect and Direct Land Use (ILUC), & E.U. deforestation-free products regulation (EUDR)) as opportunities to increase inward investment opportunities for existing E.U. firms to position themselves in Canada. A number of policies currently being put into play in the E.U. are creating significant restrictions around industrial and business opportunities in that region and as a result could be seen as opportunities for Canada to identify, validate and increase inward investment opportunities.

⁵ <https://www.international.gc.ca/trade-commerce/economist-economiste/analysis-analyse/benefits-ceta5-avantages.aspx?lang=eng>

Canada's Opportunity to Grow through Alignment

We do not need to reinvent the wheel, but we do need to do a better job of keeping up if we are going – ensuring that policies and regulatory are aligned while not being punitive – thus improving the productivity and competitiveness of our industries and our economy.

That said, the urgency currently felt in the E.U. is primarily related to energy security and food security – these should be seen as opportunities for Canada in terms of economic development and trade.

Given Canada's abundance around energy, land and resources we have the opportunity to be more attractive and competitive partners on the world stage by focusing on innovation output to meet the needs of a global market. Canada's lagging performance in knowledge creation, knowledge impact, and knowledge diffusion have resulted in poor trade diversification. We are not using our strengths to our advantage.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	17th	9th	22nd
2021	16th	8th	23rd
2022	15th	9th	23rd
2023	15th	9th	20th
2024	14th	8th	20th

Figure 3: Canada's Innovation Input and Output Rankings

This coupled with lack of investments in Canadian innovation, R&D, IP and capital continue to result in declining innovation impact ⁶.

Science and innovation investment

Scientific publications ⓘ	R&D investments ⓘ	Venture capital ⓘ		International patent filings ⓘ
		Deal numbers	Deal values	
▼ -8% 2022 - 2023	▼ -4.7% 2021 - 2022	▼ -17.2% 2022 - 2023	▼ -50.4% 2022 - 2023	▼ -7.3% 2022 - 2023
▲ 1.8% 2013 - 2023	▲ 1.5% 2012 - 2022	▲ 3% 2013 - 2023	▲ 10.6% 2013 - 2023	▼ -1.7% 2013 - 2023

Figure 4: Canada's Science and Innovation Investment

An opportunity to increase that innovation impact is to align with existing policies and opportunities with Canada's second largest collective trading partner – the E.U.. Understanding their policies as

⁶ <https://www.wipo.int/gii-ranking/en>

they relate to cleantech/low-carbon and how Canada can play on its strengths will provide greater opportunity for innovation outputs and economic impact.

1. Develop and Export Sustainable Products and Cleantech Solutions

E.U. Green Deal policies promote renewable energy, energy efficiency, and emissions reductions, creating demand for cleantech products.

Canadian Strengths:

- Expertise in renewable and low-carbon energy technologies (wind, solar, hydro, nuclear).
- Innovations in carbon capture, utilization, and storage (CCUS).
- Water treatment and pollution control technologies – green chemistry technologies to support.
- Bioeconomy Products: Export bio-based materials such as sustainable wood products, bioplastics, and biofuels.

Opportunities:

- Enter partnerships or joint ventures with E.U.-based renewable energy or cleantech firms.
- Seek funding through E.U. initiatives supporting green innovations (e.g., Horizon Europe).
- Partner with E.U. businesses to align with circular economy goals.
- Better promote Canada's sustainably managed forestry and resource sectors to meet E.U. environmental standards. Along with this better promote the products made from Canada's sustainably managed forestry resources.

2. Invest in Sustainable Supply Chains

E.U. regulations prioritize resource efficiency, waste reduction, and ethical supply chains.

Canadian Strengths:

- Access to sustainable resources (e.g., certified sustainable timber, eco-friendly agriculture) to support the decarbonization of existing Canadian supply chains.
- Advanced supply chain management practices and value chain identification.

Opportunities:

- Develop industry road maps to support the decarbonization of existing manufacturing sectors (i.e., validation of supply chains and value chains)
- Invest in supply chain development that leverages resource sectors like Agriculture and Forestry for inputs and decarbonization.
- Invest in value chain development that identifies opportunities to leverage low-carbon inputs.

3. Become Leaders in Green Hydrogen

The E.U. is heavily investing in green hydrogen as a cornerstone of its decarbonization strategy.

Canadian Strengths:

- Canada's abundant renewable energy resources for producing green hydrogen.
- Expertise in hydrogen technologies through companies like Ballard Power Systems.

Opportunities:

- Expand green hydrogen production and export infrastructure in all its forms – leveraging our renewables sectors and federal and regional port infrastructure.
- Collaborate with E.U. partners on hydrogen-related technologies and storage solutions.

4. Access E.U. Sustainability Funding

The E.U. Green Deal allocates significant funding for research and innovation in green technologies and industries. Canada needs to find ways to leverage this – both within and outside of Horizon E.U. funding.

Canadian Strengths:

- Strong R&D sector with government support for clean innovation.

Opportunities:

- Participate in E.U. programs like Horizon Europe, which are open to non-E.U. participants.
- Form partnerships with E.U. academic and business institutions to co-develop green innovations.
- Develop a green procurement policy across government that includes more than green energy procurement.

5. Build on Canada's Bioeconomy Leadership

Canadian Strengths:

- Advanced practices in sustainable forest management.
- Internationally recognized green chemistry accelerator
- Expertise in producing biofuels, bioenergy, and engineered wood products.

Opportunities:

- Invest in the development of bio-based chemicals, products and materials originating from natural resource inputs that align with E.U.'s Circular Economy Action Plan.

6. Align Agricultural Exports with E.U.'s Farm to Fork Strategy

Canadian Strengths:

- High-quality, sustainably produced grains, pulses, and other agricultural products.
- Emerging markets for plant-based proteins (e.g., peas and lentils for meat alternatives).
- Emerging fermentation cluster in Atlantic Canada with downstream capacity supported by Ontario.

Opportunities:

- Support programming for the adoption and promotion of sustainable farming practices (e.g., regenerative agriculture).
- Increase the funding for development of low-carbon meat alternatives and the technologies to support them (i.e., fermentation)

- Support E.U. certifications for organic and low-carbon agricultural/and other products.

7. Support/Fund Expertise in ESG Compliance and Reporting

Opportunities:

- Support Canadian SMEs to help them meet compliance with downstream value-chain partners. Many of Canada's value chains include MNEs with public ESG requirements – requiring their supply chains to conform.
- Develop digital tools for tracking and reporting sustainability metrics across sectors to ensure Canada's sectors remain competitive internationally.

Canada and its businesses can thrive by positioning themselves as leaders in sustainability, innovation, and compliance. By being proactive in meeting E.U. sustainability standards and aligning with E.U. Green Deal policies, Canadian companies can unlock significant market opportunities, enhance trade relationships, and solidify their global reputation in the cleantech economy.

Conclusion

As disparate as these topics may appear they are all interconnected with one impacting the other. Understanding the larger picture and seeing how a coordinated approach to investment in low carbon/cleantech projects and innovation needs to be prioritized for its potential to positively impact Canada's economic prosperity is paramount.

A coordinated approach, alignment of policy and diversification of trade opportunities can be summed up in a few statements:

- Leveraging our resource endowment to create IP will open doors to larger export markets.
 - Agriculture and forestry and even fisheries are not sunset sectors, they are the foundation of the new bio-based economy as industries shift to lower carbon intensity inputs.
 - Investing in these sectors will create generational wealth, support Canadian innovation, increase BERD spending, support rural economies and have positive impacts on Canada's declining innovation and GDP.
- Aligning our policy and regulatory with markets like the E.U. will demonstrate Canada is a trading partner of choice while helping to diversify and offset potential U.S. protectionist measures.
- Prioritize adding value to sectors and industries by shifting our civil service from being siloed 'Gate Keepers' to enablers. If the risk is too great, move the responsibility to outside agencies that can work cross-sectors.
- Supporting the identification, commercialization and adoption of low carbon/clean technologies by our existing industries is as much about productivity and international competitiveness as it is about the green economy. Investments in the commercialization and adoption of these technologies should be paramount to ensuring a competitive advantage of our industries. The reverse will see BERD dollars spent on foreign IP and the adoption of that IP by our firms.
- Increase the efficiency, and effectiveness of the Canadian tax dollar by flowing more support directly to industry and the creation of IP here at home. Shift the risk and administrative burden from government agencies to national acceleration agencies.

- Following industry's lead by supporting lower-carbon value chains will demonstrate Canada is a region of choice for manufacturing. As other regions are impacted by urgencies related to energy and food, Canada becomes a natural landing pad for inward investment and operations.

Canada needs a cross-sectoral approach to green economic development to grow its economy and support the productivity and global competitiveness of its industries. BIC's work in supporting businesses has already demonstrated significant impact and a huge return on investment for the government. To truly unlock the potential of Canada's bioeconomy, it is crucial to adapt current federal funding structures under RDA's and remove barriers across regional borders to improve supply chains and allow Canadian businesses to grow faster. By allowing projects to scale nationally and simplifying policy and regulatory, Canada can accelerate the growth of emerging green technologies and enhance its competitiveness on the global stage.

Further, investing in green tech accelerators like BIC will strengthen our economic development and innovation, as more businesses will reach commercialization and be ready for exports. With targeted support for scaling businesses, improving supply chain efficiency, and fostering cross-sectoral partnerships, Canada can secure our economic development, increasing productivity and good jobs.

A cross-sectoral approach will help to identify opportunities across Canada while linking seemingly disparate supply and value chains resulting in sector and industry resiliency. With sufficient support, Canada can become a global leader and a destination for top talent, foreign direct investment (FDI) with technologies looking for low-carbon inputs, and a welcoming manufacturing sector while meeting energy demands and diversifying trade relationships and opportunities.

Appendix: Examples of E.U. Policies Creating Restrictions for Existing and new Industrial Players

The European Green Deal, while designed to promote sustainable growth and environmental protection, introduces policies and regulations that can potentially restrict industrial and business growth opportunities in some sectors. These restrictions often arise due to increased compliance costs, regulatory burdens, or shifts in market dynamics.

1. Carbon Border Adjustment Mechanism (CBAM)

- Impact:
 - Increases costs for industries reliant on imports, especially in developing markets.
 - Puts pressure on businesses to reduce emissions or risk losing competitiveness.
 - Risks retaliatory tariffs or trade disputes with non-E.U. countries.

2. Stricter Emissions Regulations

- The E.U. is tightening emission reduction targets under initiatives like the Fit for 55 Package (55% reduction by 2030) and the E.U. Emissions Trading System (ETS).
 - Industries with high emissions (e.g., energy, steel, cement, and chemicals) face increased costs from purchasing emission allowances or retrofitting equipment.
 - Limitations on expansion for carbon-intensive businesses due to higher compliance and operational costs.

3. Renewable Energy Directive (RED II/RED III) + Indirect and Direct Land Use (ILUC)

- This directive limits and phases out the use of biofuels produced from feedstocks that are high risk for indirect land-use change (ILUC). The E.U. Commission sets criteria to define high and low ILUC risk biofuels. This will impact existing biofuels producers and new biofuels producers using agricultural crops as feedstocks from establishing in the E.U.
- Increases costs for industries transitioning from fossil fuels to renewable energy.
- Challenges energy-intensive industries (e.g., manufacturing) due to potential disruptions in energy supply and availability or higher prices during the transition.

4. The European Union's (E.U.) deforestation-free products regulation (EUDR)

- The EUDR aims to reduce the E.U.'s contribution to deforestation and forest degradation, it applies to commodities and derived products like cattle, cocoa, coffee, palm oil, soy, timber, and rubber. It prohibits these products from coming from land that was deforested or degraded after December 31, 2020.

5. Sustainable Finance Disclosure Regulation (SFDR)

- Mandates financial institutions to disclose the environmental, social, and governance (ESG) impacts of their investments.
 - Limits access to financing for businesses not aligned with sustainability goals.
 - Places additional reporting burdens on industries, particularly SMEs lacking resources for ESG validation and compliance.

8. Biodiversity Strategy and Farm to Fork Strategy

- Aims to restore biodiversity and promote sustainable agriculture, including reducing pesticide use by 50% and increasing organic farming to 25% by 2030.

- Puts pressure on agribusinesses to shift practices, leading to higher costs and reduced yields.
- Restricts land use for industrial or agricultural purposes due to rewilding or conservation efforts.

9. Circular Economy Action Plan

- Mandates resource efficiency, waste reduction, and stricter recycling rules for products like electronics, textiles, and packaging.
 - Increases costs for manufacturers and producers in adapting product designs and supply chains to meet circularity requirements.
 - Limits market entry for businesses unable to comply with eco-design and recycling standards.

10. Zero Pollution Action Plan

- Sets ambitious targets to reduce air, water, and soil pollution across all industries.
 - Heavy industries like manufacturing, mining, and transportation face stricter limits on emissions and effluents, increasing operational costs.
 - Businesses operating in pollution-prone sectors face fines, operational restrictions, or closure if unable to comply.

11. Energy Efficiency Directive (EED)

- Imposes energy efficiency targets for businesses and requires energy audits and retrofits.
 - Increases upfront costs for compliance, particularly for older buildings and facilities.
 - Slows growth for businesses with limited capital to invest in energy-efficient upgrades.

Opportunities Amidst Restrictions

While some policies create restrictions, they also present opportunities for businesses that innovate and adapt. For example:

- Renewable energy projects can benefit from subsidies and incentives.
- Circular economy technologies and bio-based products gain market preference under the E.U. Green Deal.
- Export opportunities arise for businesses aligned with sustainability standards.