

A PLAN FOR ECONOMIC RECOVERY & REORIENTATION

HOW CANADA ACHIEVES
POST-PANDEMIC PROSPERITY

A REPORT BY THE
COUNCIL OF CANADIAN INNOVATORS

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HOW CANADA ACHIEVES POST-PANDEMIC PROSPERITY

COVID-19 has taken a shocking hit to Canada's economy. The virus has shuttered businesses operations, halted trade and forced the government to spend money that was never budgeted for so that Canadians and the businesses they work for could financially survive the duration of the pandemic.

Meaningful recovery should not just aim at recouping the economic losses but also positioning Canada for success in the global economy that awaits us on the other side of the pandemic. For that, we need a new set of policy strategies and tools focused on enabling our job and prosperity engines – Canadian high-growth innovative technology companies – to scale globally. A successful green recovery means developing strategies that advance national clean tech champions particularly in segments such as smart cities, IoT, agriculture, energy, mining, forestry, transportation, etc.

For years, innovation experts have said that one essential element for sustained regional growth is the presence of significant concentrations of 'scale-up' companies. These companies are innovative, high-growth businesses whose ability to scale from millions to billions provide lucrative returns to national economies.

Without a strong base of domestic, high-growth companies in Canada, our governments will not have the critical public wealth necessary to pay down the deficit incurred during the pandemic, which is now slated to be over \$350 billion.

A successful post-pandemic recovery starts with a national prosperity strategy.

HOW TO BUILD A PROSPEROUS COUNTRY IN THE 21st CENTURY

Era of Traditional Infrastructure

National

- Transportation (railways, canals, seaways, highways, airline)
- Energy (hydro dams & transmissions, pipelines, nuclear reactors)
- Communications (Bell TransCanada Microwave, Telesat Canada Satellites)
- Culture (CBC, Canadian Content Rules)
- Global Institutions (UN, Bretton Woods, NAFTA)

Cooperatives

- Agricultural (feed supply, processing, equipment, butteries, processing, marketing)
- Financial (credit unions)
- Insurance (mutual companies)
- Energy technologies (AOSTRA SAGD, CANDU Reactor)

Social

- Universal education
- Labour Regulations
- Environmental Regulations
- Social welfare programs
- Socialized healthcare
- Canada Pension Plan

Era of Intangibles (Digital, IP, Data).

National

- Updated foreign direct investment (FDI) strategies
- Updated trade strategies
- Updated research funding strategies
- Updated Competition Bureau regulations
- Domestic media/content strategies
- National data strategy
- National cyber strategy
- National IP strategy
- Strategic procurement
- Digital Stability Board (DSB) for international digital governance

Cooperatives

- Data trusts (energy, mining, forestry, agriculture, cities, healthcare, etc.)
- Patent cooperatives (key vertical sectors key horizontal technologies)
- Digital standards

Social

- Data governance regulations to protect private and sphere and personal autonomy
- Data governance regulations to protect democracy/elections
- Utilize tax code to address externalities from digital realms
- Future of Work (social programs, education)

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The foundation of a sustainable and smart economic renewal needs to be built through market-tested, innovative Canadian companies commercializing their ideas to scale globally and expanding their freedom-to-operate into global value chains for the knowledge-based and data-driven economies.

It's critical that Canadian policymakers begin working closer with market-proven, innovative companies to address their challenges to scale. Tangible production-based economy relies on a different set of policy levers than the economy of IP and data which are the critical assets of the global economy driven by innovation.

Given that the innovation economy is created, managed and regulated by government, a more strategic hands-on management is required for success.

As seen in the United States, Sweden, Singapore, South Korea, Germany and Israel, governments that work closely with their private sectors to create an ecosystem that allows them to scale up globally are seeing the greatest innovation outcomes. It is no coincidence that Germany, South Korea and Singapore are the top 3 ranked countries in innovation performance.

Canada must be ready to adopt new thinking on innovation and not get stuck looking to the past for solutions for the future.

Every national transformation requires fearless effort by those in power. This moment calls for bold policymaking with a sense of mission and a generational effort to make the country resilient and prosperous for the decades to come. Here are our recommendations on a meaningful economic reorientation:

- 1. Introduce clear standards and guidelines for a safe return to workplaces**
- 2. Utilize market-proven Canadian companies as a central part of the rebuilding of the economy and revisit the analytical framework for FDI**
- 3. Improve the government's supply chain resiliency through strategic domestic procurement, especially in healthcare & clean-energy sectors**
- 4. Increase Canada's IP capacity to help capture the benefits of COVID-19 related R&D**
- 5. Create national data strategies for Canada's most strategic sectors**
- 6. Increase access to capital for Canada's fastest-growing firms**
- 7. Reverse tech talent brain drain in this rare labour market opportunity**
- 8. Fast track the adoption of national standards and regulations for healthcare and cybersecurity**

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1. INTRODUCE CLEAR STANDARDS AND GUIDELINES FOR A SAFE RETURN TO WORKPLACES & SCHOOLS

Public and private sector organizations around the world are evaluating digital strategies to reopen workplaces safely. Business leaders are keen to appropriately reopen offices with public and employee safety as the top priority. Most parents have been reticent to return to the office environment until they know their children will be safe in school environments.

Governments should create standards and regulations for the responsible use of contact tracing, tracking and monitoring solutions to maintain the health of employees to reopen safely.

Standards development organizations (SDOs), like the CIO Strategy Council, are already working to develop national standards for the safe return to work. Once complete, the government should work to amplify these guidelines and standards to business leaders, to encourage a safe reopening and appropriate management of sensitive personal employee health data related to COVID-19.

2. UTILIZE MARKET-PROVEN CANADIAN COMPANIES AS A CENTRAL PART OF THE REBUILDING OF THE ECONOMY AND REVISIT THE ANALYTICAL FRAMEWORK FOR FOREIGN-DIRECT INVESTMENT

It is critical to acknowledge that during this downturn; our innovators are not merely surviving but are working overtime to grow. This is because their companies will be the driving force for the post-pandemic economy and Canada's future prosperity.

Local wealth creation is important because the taxes domestic companies pay on their revenues are reinvested by governments into the important social and infrastructure programs all businesses use and Canadians care about.

Governments need to harness the proven ambition and ingenuity of Canadian innovators, who can help the government achieve their recovery and public health goals while refuelling the economy.

Throughout the pandemic, Canadian technology companies operating in the healthcare, education, remote work, and enterprise sectors have actively provided their services and products to help fight

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the spread of COVID-19 in Canada and keep people safe. Some companies have had more of an impact outside of Canada, helping foreign governments on their recovery efforts, particularly financial technology (Fintech) companies helping to deliver stimulus aid. Canada opted not to use domestic Fintech companies to distribute capital throughout the pandemic.

Despite the sizeable contribution domestic technology companies make toward Canada's economic prosperity, government policies regarding innovation have featured incentivizing the expansion of foreign tech branch plants across Canada over developing strategies to grow domestic innovators. The nature of IP and data-intensive economy is such that foreign-direct investment in knowledge-based economy is extractive as evident by flows of IP and data out of Canada and multinational tech giants pay little or no taxes in jurisdictions they operate in.

The Canadian government needs to revisit the analytical framework for foreign direct investment (FDI) in technology because FDI has different features in the traditional economy than in the intangible economy.

3. IMPROVE GOVERNMENT SUPPLY CHAIN RESILIENCY THROUGH STRATEGIC DOMESTIC PROCUREMENT, ESPECIALLY IN HEALTHCARE & CLEAN-ENERGY SECTORS.

In the global innovation race, having the Canadian government as a purchaser of domestic goods and services is considered a major validator for domestic companies that helps to accelerate future sales with other governments around the world. This also enhances Canada's innovation export potential. In the post-COVID economy, the government should move swiftly to modernize its procurement policies to enable to entry of more domestic firms into the fold.

By utilizing government procurement processes to drive economic growth and enhance supply chain resiliency to support economic regrowth, these firms will substantially contribute to Canada's economic recovery and become more equipped to offer unique 'made-in Canada' solutions to the international community.

Canadian governments need to become larger purchasers of "Made-in-Canada" digital products and services.

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Emerging general purpose technologies (GPTs) such as Artificial Intelligence will impact the social and economic character of Canada as we find our way out of the pandemic. Only by modernizing Canada's procurement processes can we start to unlock the economic power of Canada's purchasing power for new entrants and innovative scale-ups.

4. INCREASE CANADA'S IP CAPACITY TO HELP CAPTURE THE BENEFITS OF COVID-19 RELATED R&D

Using a traditional “shovel-ready physical infrastructure” lens for Canada's economic recovery – whether it be roads, bridges or hockey rinks – to stimulate demand and drive productivity has no traction in a 21st century global economy where IP and data are the most valuable business and national security assets.

Unfortunately, as the recent Statistics Canada report shows, as the global race to accumulate IP and data marches on, the intangible assets as a percentage of Canada's economy shrunk while during the same period these assets in the global economy soared.

We need to teach our entrepreneurs the strategic value of IP.

CCI's recent survey also found that 75% of Canadian companies surveyed have either decreased their IP investment activities, in research or patenting, or have kept investment levels at pre-COVID-19 levels. For an economic recovery, we will need to refocus on generating and commercializing intangible assets especially since the global race for their control is not abating. Governments must come to terms with what shores up value in today's global economy: ownership of IP and control of data.

Governments must come to terms with what shores up value in the digital economy: ownership of IP and control of data. When it comes to ownership, it means holding the rightful title to your IP so that you can extract economic rents from them.

The Canadian government should expand the national IP Collective to focus on generating and preserving the intangible assets created with current emergency government funding.

Implementing the overdue IP Collective to optimize the value of taxpayer investments into R&D will further increase freedom-to-operate for

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Canadian companies and help generate and protect the new intangible assets created to fight COVID-19.

The IP Collective should quickly increase in scale and scope to address threats and opportunities for our economy, particularly regarding publicly funded research.

The Canadian government should update SR&ED to include the costs of filing and prosecuting a patent as an eligible expense under the SR&ED program.

Canada's innovators invest heavily in creating and acquiring intellectual property and data related to their R&D projects. Yet very little of these expenditures currently qualify for SR&ED treatment even though they are necessary to capture and grow the value of the investments supported by the SR&ED. The average cost of filing and prosecuting a patent application to a granted patent is approximately \$10K per country, per patented invention. This does not go as far to cover affiliated costs such as prior art search, drafting of

a patent application and other related costs.

The SR&ED tax incentive, and particularly its refundable portion, will deliver material and long-term value to Canada only if and to the extent that the IP flowing from the investment is situated in Canada. This will ensure that our firms and our economy are able to realize the benefits of the commercialization of the technology.

5. CREATE NATIONAL DATA STRATEGIES FOR CANADA'S MOST STRATEGIC SECTORS

It has been over two years since Canada's innovators called for the creation of the national data strategy and we have seen no progress on this file. The lack of a national data strategy compromises Canada's competitiveness, security, and democracy.

In the data-driven economy, the collective ability to amass, control, own, and commercialize these new assets will determine our ability to provide social services, security, and jobs for Canadians. Canada must act fast to both enshrine our regulatory principles, including data property rights, as part of the foundation of the global innovation economy and provide our innovators with competitive advantages in the ecosystem so they can support Canada's

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economic recovery while scaling up globally.

The Canadian government should accelerate the development of a national data strategy with considerations for the economic and non-economic impacts of data-driven sectors to drive prosperity and growth.

The transition to the data-driven economy has been expedited as a result of COVID-19. While the transition was underway thanks to the increasing number of connected devices through the Internet of Things (IoT), the pandemic has created new opportunities as the world becomes more conscious of the value of our data security.

The Canadian government should create data strategies for strategic sectors such as healthcare, clean-energy (including smart cities), agriculture, energy and mining.

Canada needs updated Digital Policy Infrastructure that facilitates productivity, prosperity, and security via global value chains. Governments that adapt quickly, invest in the right institutions, sectors, and regulatory frameworks to generate the proper incentive and support, will have a significant advantage in the post-COVID economy.

6. INCREASE ACCESS TO CAPITAL FOR CANADA'S FASTEST-GROWING FIRMS

Canada's future economy relies on innovative companies increasing their R&D investments into intangible assets, like IP and data and expanding their freedom-to-operate globally.

To facilitate this, companies need access to skilled talent and growth capital. Preserving employer-employee relationships is critical for the survival of any company and for a successful economic recovery.

Canada's current wage subsidy programs have provided some companies the means to avoid lay-offs and where possible rehire workers who were laid-off during the pandemic. Companies will keep investing as long as they have a perspective of partial support from the government.

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One successful business support program announced during the pandemic was IRAP's Innovation Assistance Program (IAP). IAP has helped Canada's most innovative companies preserve their highly skilled workforces, allowing them to continue investing in R&D and scaling globally as they weathered the pandemic's impacts. The \$250M funding envelope was quickly subscribed to by Canadian innovation firms who were unable to access the Canada Emergency Wage Subsidy (CEWS) program because of the ways their companies operated.

To spur job creation and keep Canada's tech sector growing, the federal government needs support strategies for domestic companies that enable them to expand their footprints globally while creating more well-paying jobs here in Canada.

The Canadian government should extend the Innovation Assistance Program (IAP) until at least December 2020 for R&D intensive companies.

By extending IAP to December and possibly longer, the government will be giving companies the confidence they need to hire new workers, knowing that if their monthly business activities do decline, the alternative wage subsidy will be there to keep their workers on payroll.

For IAP 2.0, Canadian innovators would like to see the government make more strategic investments into R&D-intensive companies with proven track records of commercialization and growth. By empowering these market-tested companies to be the leaders of the recovery, the government would be helping to fuel job and public wealth creation, all necessary for Canada in the post-COVID economy.

7. REVERSE TECH TALENT BRAIN DRAIN IN THIS RARE LABOUR MARKET OPPORTUNITY

Highly skilled workers are like jet fuel for Canada's high-growth technology firms who are constantly looking for experienced talent to help them scale globally.

The Canadian government should work to increase access to skilled talent for Canada's high-growth firms by creating a pipeline of recent STEM graduates and displaced H-1B Visa holders into Canada's recovery-fuelling firms.

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8. FAST TRACK THE ADOPTION OF NATIONAL STANDARDS AND REGULATIONS FOR HEALTHCARE AND CYBERSECURITY

The government should create an 'Innovation Corps' to mobilize thousands of our brightest co-op students who had their Silicon Valley job offers rescinded. CCI has created a Tech Talent Radar portal to help connect thousands of recent graduates with Canadian innovators. We encourage the government to build on it and use this opportunity to reverse the extraordinary costs of brain drain and engage these brilliant young minds to support our domestic innovation ecosystem.

To effectively seize the opportunity of the U.S.' recent H-1B visa ban, Canada should make sure our Temporary Foreign Workers Program, with its Global Talent Stream for tech workers, is connecting Canadian employers with these displaced skilled workers first instead of allowing a 'nearshoring' of displaced tech workers for the uncertain future.

Governments should examine the opportunity for upskilling to address for future labour needs.

The government should also look to organizations such as Palette for strategies to help transition some traditional sector jobs (such as retail) by expediting and doubling down on upskilling through programs already funded through the government.

We live in a world with zettabytes of digital data. The amount of global data has been growing exponentially, doubling every two years. This growth trend is expected to continue toward 2021 and beyond, especially with the lasting effects of COVID-19 on the marketplace. Much of this data is private and sensitive, and therefore, it requires protection. Current data security needs exceed the current security techniques and are not capable of addressing future challenges.

Governments should accelerate the adoption of digital health and digital identity standards to support the protection of citizens and their data.

Governments should have meaningful discussions with industry on how to best leverage existing work in the health care space to support remote patient care and encourage the growth of digital health

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platforms. Outlining priorities and leveraging the work of the CIO Strategy Council on digital trust and identity standards is essential to support the tech ecosystem and will help unleash new technologies to meet the post-COVID needs of our provincial and federal data assets.

Canadians must be secured and regulated through progressive standards development within the digital tech sector. This is also an opportunity for the Government to work with partners worldwide and to set new global standards for the protection and access of data. This will necessitate a modernization of current privacy legislation to reflect well-grounded data protection and security measures and ensure that access to and usage of the platform is properly regulated.

Provincial governments should develop domestic healthtech strategies to increase technology adoption to improve patient outcomes

Governments should create new billing codes for testing non-standard solutions and for clinical trial activities for new innovative medical devices. Further, to ensure our healthcare system is better

prepared for modern pandemics, governments should: incentivize value-based healthcare using 'Made-in-Canada' Innovations, create procurement processes for provincial vendors of innovative health solutions, and increase spending on hospital innovation.

A greater partnership between healthcare systems and Canadian healthtech innovators will achieve greater patient outcomes and adoption.



ABOUT THE COUNCIL OF CANADIAN INNOVATORS

The Council of Canadian Innovators (CCI) is a national business association representing the fastest-growing technology companies headquartered in Canada. All our members are innovators, job creators, investors and philanthropists who care deeply about Canada's future prosperity. Since September 2015, CCI has advocated for strategies focused on accelerating the growth of Canada's scaleup community and updating Canada's digital policy toolkit for the 21st Century innovation economy.

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