



# ADVANCING A NATIONAL CIRCULAR ECONOMY APPROACH: IDENTIFYING POTENTIAL MODELS FOR CANADA

SCOPING STUDY | MARCH 2023

PREPARED BY:



IN COLLABORATION WITH:



**Report prepared for:**

This project was undertaken in partnership with the Government of Canada.

Ce projet a été réalisé en partenariat avec le gouvernement du Canada.

The logo for the Government of Canada, featuring the word "Canada" in a serif font with a small Canadian flag icon above the letter 'a'.

This Report was distributed as part of the Circular Economy Summit Government-to-Government Roundtable on Advancing Collaboration on the Circular Economy in Canada on June 20, 2023.

**About Circular Economy Leadership Canada**

Circular Economy Leadership Canada (CELC) was launched in 2018 as a network of corporate leaders, non-profit think tanks, and academic researchers. An initiative of The Natural Step Canada, CELC consists of more than 60 partner organizations and is working to connect Canada's circular economy community, as well as serving as a bridge to similar networks around the world. We provide thought leadership, technical expertise, and collaborative platforms for accelerating systems change and the transition to a low carbon, circular economy in Canada.

[www.circulareconomyleaders.ca](http://www.circulareconomyleaders.ca)

**About Smart Prosperity Institute**

Smart Prosperity Institute is a national research network and policy think tank based at the University of Ottawa. We deliver world-class research and work with public and private partners—all to advance practical policies and market solutions for a stronger, cleaner economy.

<https://institute.smartprosperity.ca>

**Contact:**

Paul Shorthouse, Managing Director, CELC

[pshorthouse@circulareconomyleaders.ca](mailto:pshorthouse@circulareconomyleaders.ca)

**Disclaimer**

The information, concepts, and recommendations expressed in this document are based on information available at the time of the preparation of this document. Action or abstinence from acting based on the opinions and information contained in this document are the sole risk of the reader. Circular Economy Leadership Canada and the Smart Prosperity Institute shall have no liability for any damages or losses arising from use of the information and opinions in this document. All information is provided "as is" without any warranty or condition of any kind. The document may contain inaccuracies, omissions, or typographical errors.

# Table of Contents

<b>Background</b>	<b>3</b>
<b>1. Introduction</b>	<b>5</b>
<b>2. Key Findings from the Research</b>	<b>8</b>
2.1 Level of ambition and motivations	8
2.2 Development approach	11
2.3 Governance models and implementation	13
2.4 Sectors and material focus considerations	15
2.5 Stakeholder engagement and involvement	18
<b>3. Models for Advancing a National Circular Economy Approach</b>	<b>21</b>
3.1 Introduction	21
3.2 Models for Consideration	22
Federal actions common to all five models	22
<i>Model 1: Mainstreaming Circularity</i>	23
<i>Model 2: Collaborative National Policy Framework</i>	25
<i>Model 3: Bottom-up Innovation Agenda</i>	27
<i>Model 4: Public-Private Sector-Based Transition Agendas / Roadmaps</i>	29
<i>Model 5: Phased Hybrid Approach</i>	31
<b>4. Conclusions</b>	<b>34</b>
Appendix A: Methodology	37
Appendix B: Leading Jurisdictional Profiles / Case Studies	38
Appendix C: Interview Summaries	41
Appendix D: Virtual Workshop Summary	40

## Background

A circular economy is a regenerative economic system that changes how goods and services are designed, manufactured, and used. A circular economy minimizes waste and reduces greenhouse gas (GHG) emissions, improving sustainability, and tackling climate change and biodiversity loss while also allowing for economic growth and development.

The circular economy has been recognized as an effective model for accelerating the achievement of multiple UN Sustainable Development Goals (SDGs). As was documented in a study<sup>1</sup> by Global Compact Network Canada, Circular Economy Leadership Canada, and a number of leading businesses, specific SDGs that have a strong linkage to the circular economy include:

- SDG 6 – Clean Water and Sanitation
- SDG 7 – Affordable and Clean Energy
- SDG 8 – Decent Work and Economic Growth
- SDG 9 – Industry, Innovation and Infrastructure
- SDG 11 – Sustainable Cities and Communities
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 14 – Life Below Water
- SDG 15 – Life On Land

In November 2021, the Council of Canadian Academies (CCA) Expert Panel on the Circular Economy in Canada published its *Turning Point* report<sup>2</sup>, considered the first comprehensive assessment of the benefits, opportunities, and challenges associated with advancing the circular economy in Canada. The *Turning Point* report highlighted opportunities for Canada to become more economically successful, socially equitable, environmentally sustainable, and resilient by embracing the circular economy model across sectors and supply chains. From a broad sustainability perspective, the CCA report noted that circular practices and business models directly contribute to meeting 21 of the 169 SDG targets and indirectly contribute to 28 other targets.

Taking a strategic approach to advancing the circular economy will help ensure that opportunities and benefits are maximized while barriers are addressed and friction is minimized. According to the Expert Panel: “developing circular economy roadmaps and strategies at the national and sub-national levels, as well as for particular sectors or materials, will be key to facilitating the transition towards a circular economy.” For Canada, an overarching strategic approach could help set direction, recognizing that implementation will likely be shared by many partners and at all levels of government.

At the same time, it is important to note that achieving the full benefits of a circular economy will require transformational, systems-level change that is often only possible by leveraging new models of collaboration that challenge traditional structures. This type of systems-level change also requires organizations to engage with unusual partners on issues that at times are outside of their current mandates and/or jurisdictions.

---

<sup>1</sup> See: <https://unglobalcompact.ca/leveraging-a-circular-economy-to-fast-track-the-sdgs-guide/>

<sup>2</sup> See: <https://cca-reports.ca/reports/the-circular-economy-in-canada/>

## **About this Scoping Study**

This scoping study was conducted by Circular Economy Leadership Canada (CELC), in collaboration with Smart Prosperity Institute (SPI), for Environment and Climate Change Canada (ECCC) during the fall of 2022. The purpose of this scoping study is to identify, review, and assess what governance models might be best suited to support a coordinated national approach to advancing the circular economy in Canada. Insights within this document build off findings from CELC and SPI's previous work on the topic, as well as the CCA's Expert Panel report. Specific research included:

- Undertaking a scan of leading national-level circular economy strategies and approaches (i.e., case studies) from Europe, selected for their diverse governance models;
- Undertaking a review of a smaller number of Canadian policy approaches (circular economy and non-circular economy focused) at the national and sub-national levels;
- Conducting 20 informant interviews with key stakeholders; and
- Hosting two stakeholder workshops (in-person and virtual) that engaged more than 170 people in total. (Note these workshops were conducted in English).

From the research, analysis, and consultations, the scoping study identifies five potential governance models for advancing a coordinated, national approach to the circular economy in the Canadian context, which are presented in this report. These findings are offered to support ongoing conversations with respect to catalyzing a 'made-in-Canada' approach to advancing the circular economy.

# 1. Introduction

The circular economy (CE) is a systemic approach to production and consumption for living within planetary boundaries that conserves material resources, reduces energy and water use, and generates less waste and pollution.<sup>3</sup>

In essence, it seeks to shift from the current linear (*take-make-dispose*) model of economic growth to a more circular model based on three principles: i) designing out waste and pollution, ii) keeping products and materials in use, and iii) regenerating natural systems.

Globally, as the awareness for the circular economy model and its solutions has grown and its benefits become better understood, so has the momentum for its adoption amongst businesses, investors, and policy-makers.

Developing a national circular economy strategy, in close collaboration with sub-national governments and other stakeholders, was flagged by the Expert Panel as a key role for national governments. There are a number of international examples of comprehensive circular economy policy strategies from around the world. Globally, jurisdictions such as the EU, Finland, Scotland, the Netherlands, and Germany have developed and are implementing coordinated circular economy approaches that include various combinations of frameworks, roadmaps, strategies and/or action plans.

## A 'Made-in-Canada' Approach to the Circular Economy

While Canada can learn from international examples, its unique economic, environmental, social, geographic, and jurisdictional characteristics require a 'made-in-Canada' approach to the circular economy. Some of these unique characteristics include:

- **Jurisdictional structure:** Canada's federated system results in a complex division of powers and decision-making processes as it relates to critical issues such as the environment, the management of natural resources and economic development - which are all shared jurisdictions.
- **Geography:** Canada has a small population largely concentrated in a few major cities, across a large geographic area, with significant regional diversity. Canada's rural, remote, Indigenous, and northern communities form a vital part of its economic and cultural identity.
- **Export-oriented, natural resources-based economy:** Canada's economy is highly integrated with global supply chains, especially the United States, resulting in varying degrees of market or value chain influence within domestic and international markets.
- **Culture:** Canada faces awareness and education, behavioural, and consumer culture barriers to the adoption of circular practices.
- **Reconciliation with Indigenous Peoples:** Canada is working to advance reconciliation and renew its relationship with Indigenous peoples, based on recognition of rights, respect, cooperation, and partnership.

Over the last two decades in Canada, the circular economy has advanced in an ad-hoc fashion, often through bottom-up efforts at the local level that are somewhat unique based on various market drivers, public interests, policy actions, and business models within sectors and supply chains. Circular economy

---

<sup>3</sup> <https://cca-reports.ca/reports/the-circular-economy-in-canada/>

efforts and initiatives have advanced in areas that include plastics, metals and minerals, forestry, agri-food, construction, and textiles.

Although Canada is not a leading producer of academic knowledge on the circular economy, the number of Canadian publications on the subject have increased significantly since 2015 and continue to rise, mirroring international patterns. According to the review recently conducted by the CCA Expert Panel, the number of English-language peer-reviewed publications on the CE within Canada has been very limited and mostly related to waste reduction, but “both the gray and peer-reviewed literature are quickly evolving due to increased interest in and experimentation with CE practices.”<sup>4</sup> The CCA Expert Panel’s *Turning Point* report offers a comprehensive synthesis of this literature. Expertise and R&D capacity are also improving.

Major cities and smaller communities alike have been advancing their zero waste and circular economy plans and strategies, most recently with the support of the Federation of Canadian Municipalities, the National Zero Waste Council, and other partners as part of the Circular Cities and Regions Initiative.

Communities, businesses, and non-profit organizations have been championing circular economy models within their own operations and across supply chains, through initiatives such as the Canada Plastics Pact, Metal Tech Alley (British Columbia), Our Food Future / Circular Opportunity Innovation Launchpad (Ontario), Circular Construction Lab (Quebec), the Share Reuse Repair Initiative, Project Zero, and others. These efforts have been supported to various degrees by provinces and territories, eight of which have a roadmap, strategy, or legislation in place to help advance the circular economy (BC, AB, ON, QC, PEI, NS, YK, and NWT).

The federal government in Canada played an important convening role in co-hosting the 2021 World Circular Economy Forum, bringing Canadian stakeholders together, as well as sponsoring the CCA report. While the federal government is also beginning to advance the circular economy in its policy development across important sectors and material streams, stakeholders in Canada have identified through the interviews and workshops for this scoping study a need for stronger federal leadership and support.

## Importance of a Nationally-Coordinated Effort

As these initiatives have evolved and matured - accelerated by a greater awareness of the importance for the circular economy model and its underlying principles and practices amongst industry, governments, and the public - so have the calls for a coordinated national approach in order to address key barriers and issues. Key barriers include:

- A lack of knowledge, information, and demand for circular products and solutions;
- Cost challenges compared to the extraction and linear use of materials and natural resources;
- A lack of harmonized policies, standards, definitions, and frameworks;
- Siloed approaches across sectors and within industries, including insufficient ‘systems thinking’; and
- Gaps in innovation, technology, infrastructure, and financing.<sup>5</sup>

As was identified through the virtual stakeholder workshop for this scoping study, a nationally coordinated approach to the circular economy in Canada could bring the following benefits:

- **Provide a vision, establish priorities, generate momentum, and set direction** to enable alignment across multiple dimensions (e.g., across sectors, different levels of government, etc.).

---

<sup>4</sup> <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p. 5-6

<sup>5</sup> <https://www.canada.ca/en/services/environment/conservation/sustainability/circular-economy/circular-north-america/discussion-paper.html>

- **Raise awareness for and the profile of the circular economy** and its opportunities, including providing a communication platform and supporting tools.
- **Harmonize approaches** to avoid complexities of jurisdictional disconnects by convening dialogues between the efforts and policies underway at all levels.
- **Align regulatory structures and policies** with circular economy goals.
- **Develop common metrics, terminologies, and definitions** for the circular economy in both official languages.
- **Improve data collection, inform new standards, and enhance the measurement** of circularity, including material flow accounting.
- **Support collaboration between industries** and avoid the duplication of efforts.
- **Guide investments into innovation and critical infrastructure** and address gaps in a coordinated fashion.
- **Align supply chains**, which cross borders and scale markets for secondary materials.
- **Bring additional funding and incentive programs** to scale place-based models.
- **Future-proof the Canadian economy** around combined imperatives of low-carbon economy and opportunity to reduce social, economic, and ecological liabilities while increasing the resilience of materials and manufacturing sectors.

## Overview of this Summary Report

This summary report highlights insights and key findings from the research and analysis undertaken to identify possible governance models for advancing the circular economy in Canada. The report includes information structured around four sections:

- A summary of key findings from the research as it relates to the important factors for advancing the circular economy in Canada, based on the case study analysis from other leading jurisdictions in Europe, the review of two cross-cutting national policy frameworks (on climate change and advancing innovation), and the 20 key informant interviews and two workshops.
- An overview of five potential governance models for advancing a national approach to the circular economy in the Canadian context, comparing the models against a set of assessment criteria.
- Conclusions summarizing a number of key take-aways and considerations for Canada.
- Appendices that include the methodology, more detailed summaries of the case studies, highlights from the key informant interviews, and a summary from the virtual stakeholder workshop.

**Note to Reader:** This scoping study focuses less on ‘what’ a Canadian strategy should include, and more on ‘how’ a Canadian approach could be developed and implemented - based on a review of several leading jurisdictions and consultation with Canadian stakeholders. As such, this report does not include recommendations for the inclusion of any specific priority sectors or material streams for Canada, but rather provides considerations with respect to governance models, implementation, and the role of the federal government.



## 2. Key Findings from the Research

As described previously, this scoping study draws from multiple sources of information, with research and analysis of six jurisdictional case studies; a review of two cross-cutting Canadian policy strategies related to (1) climate change and clean growth and (2) the innovation agenda; and insights gathered from key informant interviews and two workshops with Canadian stakeholders.

The case studies examined the development and implementation of CE approaches from: the European Union, Finland, the Netherlands, Scotland, Germany, and Quebec. The two Canadian strategies (i.e., the Pan-Canadian Framework on Clean Growth and Climate Change and the Nation of Innovators) were selected in order to draw upon distinct governance models that may be relevant to a made-in-Canada approach.

The following sub-sections explore important considerations coming from multiple aspects of the research for this scoping study, organized around the following themes as relevant to advancing a national approach for Canada:

- Level of ambition and motivations
- Development approach
- Governance models and implementation
- Sector and material focus considerations
- Stakeholder engagement and involvement

### 2.1 Level of ambition and motivations

#### *Insights from jurisdictional case studies*

The concept of a circular economy has gained momentum across many countries, as a solutions-oriented model for achieving economic development while addressing environmental issues, including climate change.

The circular economy model offers new ways for actors across the economic system to collaborate and advance sustainability in alignment with both domestic targets and global Sustainable Development Goals. The EU, the Netherlands, and Scotland have explicitly indicated that they view actions on the CE as a way to meet their commitments to implement the SDGs.<sup>6</sup> Furthermore, the circular economy offers a vision of how the economy could function in alignment with maintaining the health and productivity of natural systems.

Common motivations for fundamental systemic change flow from mostly high-level economic, social, and environmental goals that transfer across sectors, stakeholders, regions, and parts of the value chain. The most common motivations for circular economy approaches centered on:

- **Sustainable economic growth.** Economic goals are often positioned around: the reduction of import dependencies (particularly in Europe), decreasing a reliance on virgin resources and materials, improving supply chain resiliency, expanding market opportunities, creating diverse and inclusive jobs, and increasing competitiveness. Germany, for example, has a focus on economic competitiveness and decreasing reliance on material imports. As another example,

---

<sup>6</sup> See page 127 of the CCA's *Turning Point Report*: [https://www.cca-reports.ca/wp-content/uploads/2022/01/Turning-Point\\_digital.pdf](https://www.cca-reports.ca/wp-content/uploads/2022/01/Turning-Point_digital.pdf)

Finland has placed an emphasis on exporting Finnish circular economy solutions to a world in transition.

- **Environmental imperatives.** Environmental goals for the CE transition include: improved resource efficiency, improved ecological sustainability, cutting waste and pollution, a reduction of greenhouse gas (GHG) emissions, and the protection of biodiversity. Evolving environmental policies, including stricter waste and resource management regulations and net zero carbon targets, are further accelerating ambition and action. Scotland, for example, has integrated CE targets into its climate plan, as it is viewed as a key pathway to the country's emissions reduction goals. Scotland's 2020 Climate Change Plan update includes a vision for a fully circular economy by 2045 driven by a focus on responsible consumption, responsible production, and maximizing value from waste and energy.
- **Social inclusion and community benefits.** A third area of motivation is related to social and community benefits. These goals include: inclusive community development, investments in education and skills development (i.e., just transition), encouraging new consumption models, improving affordability and access to lower cost goods and services, and encouraging opportunities for social enterprise. As one example, Finland has been incorporating the circular economy into the curriculum at all levels of the Finnish education sector which, in turn, has promoted a broad understanding of the circular model and the emergence of new skills. Scotland has developed a cities and regions program to support opportunities on the ground.

The economic, environmental, and social motivations listed above are also commonly linked to the existential threat of climate change and, to a lesser extent, biodiversity loss and planetary boundaries. The complexity of the economic, environmental, and social threats and opportunities have further motivated these jurisdictions to look to the CE as a model for systemic transformation.

### *Insights from Canadian stakeholder interviews / workshops*

Based on consultation for this study, Canadian stakeholders felt that the federal government could play an important role in setting the ambition, establishing overarching goals and objectives, developing guiding principles for Canada's circular economy, and establishing a common definition for the circular economy.

Many stakeholders felt that establishing a high-level framework that sets out a shared vision and areas of opportunity would be an important first step, prior to developing more sector specific plans or roadmaps. Establishing a shared set of goals, and how circularity approaches and models can deliver on these goals, will help to sharpen the focus amongst actors.

### ***Insights from Canadian policy examples***

The climate change crisis, seen both as a risk and as an opportunity, was the primary motivation for the federal government developing the *Pan Canadian Framework on Climate Change and Clean Growth* (PCF). In this instance, Canada was aligning with other countries that had recently signed on to global commitments as part of the 2015 Paris Agreement - establishing a target to reduce GHG emission by 30% by 2030 from 2005 levels. It was also building on existing sub-national momentum to take action on climate by many provincial and territorial governments. Of relevance to the circular economy agenda, the PCF identified the opportunities for Canada in addressing the climate change crisis, while also integrating an economic theme related to cleantech innovation and jobs.

With respect to the *Building a Nation of Innovators* (BNI), a multi-year innovation and skills plan, it was developed to recognize innovation as a key driver of long-term economic growth and competitiveness in the global economy. This is particularly interesting given evidence that suggests the circular economy model inspires investments in innovation, creating greater resiliency and improving competitiveness. An important foundational step in developing the BNI was an examination of best practices and approaches from other relevant countries to identify strategies for fostering innovation at the federal level - similar to the scan of leading jurisdictions that was part of this scoping study.

### ***Key considerations for Canadian approach***

Important take-aways based on analysis of the jurisdictional case studies, Canadian policy frameworks, and stakeholder consultation as it relates to Canada's approach for advancing the circular economy and the level of ambition and motivation include:

- Recognizing that circular economy principles and practices can support a multitude of economic, social, and environmental priorities (in line with several of the UN SDGs), including jobs and just transition, diversity and inclusion (including potential for linkages with Indigenous Truth and Reconciliation), climate, biodiversity loss, and community resiliency.
- Canada's alignment with existing international (e.g., G7, OECD, and major trading partners), national (e.g., existing plans and mandates), and sub-national (e.g., provinces / territories and local governments) CE related commitments and efforts will be important.
- The potential to integrate CE in a more meaningful way across existing policies, strategies, and programs, including Canada's *Emissions Reduction Plan 2030* and the *Federal Sustainable Development Strategy* among others.
- A reality that Canada may have specific, unique motivating factors which should be considered as part of the approach to advancing the CE - some of which were identified through the stakeholder workshops.
- That, as part of similar overarching policy frameworks, such as the PCF, an important role for the federal government was setting the level of ambition, as well as the overarching goals and objectives.
- The importance of developing common language, clear definitions, and a vision to guide the work.

## 2.2 Development approach

### *Insights from jurisdictional case studies*

Across the case studies, circular economy initiatives have often been instigated at one of two levels: at the local / regional or 'outside of government' level of action (i.e., "bottom-up"), or by national governments (i.e., "top-down").

Where local and regional strategies exist, the activities were initiated at the local level by local governments and/or non-profit organizations. Municipalities and cities function as accelerators, while the private sector can develop circular business models and advance innovation. In addition, citizens' choices, actions, and attitudes play an integral role in the transition.

At the national level, leading companies and industry associations have often worked closely with the federal government and, in some cases, third-party non-profit organizations. At the national level, much of the efforts in leading countries have been initiated by the Ministries of Environment in combination with other ministries, including small business, innovation, economic development, agriculture, and forestry.

Over time, local, regional, and national efforts have become increasingly aligned given the high degree of coordination and collaboration needed to advance the circular economy.

Efforts to establish a definitional framework for the "circular economy" in the leading jurisdictions have helped set a common foundation upon which strategies and plans were developed, as well as goals and targets set. At the highest level, many are aligned with the overarching definition provided by the Ellen MacArthur Foundation and its circular economy principles. Policies and strategies are then often shaped around demand and supply factors (shifting consumption patterns and the circular supply of resources and materials).

In Germany, the Circular Economy Initiative Deutschland (CEID) took a three-step approach to developing clear goals, targets, and objectives. The first step entailed developing a vision that clearly outlined the economic, environmental, and social objectives of the strategy. This grounded the development of the strategy in clear objectives and motivated stakeholders to engage as part of the next phases of strategy development.

In addition, the development of comprehensive CE strategies has often been through an evolution of policy and program development over a period of several years or more. For example, in the European context, the EU's *Roadmap to a Resource Efficient Europe* provided an important framework and first step toward an EU-wide *CE Action Plan* that cuts across borders, policies, and sectors. In Finland, its initial Circular Economy Roadmap in 2016-2025 (focused on key sectors) has now led to a Roadmap 2.0 (focused on key goals, audiences, and actions), covering the period of 2019-2025.

The development of Quebec's new provincial CE strategy is being led by its *Ministry of Environment, the Fight Against Climate Change, Wildlife and Parks* in close collaboration with RECYC-QUÉBEC. The province's "top down" CE strategy has been informed by extensive 'ground work' undertaken over the last decade by the *Pôle Québécois de Concertation sur l'Économie Circulaire* - a network of leaders from its higher education institutions designed to inform policy and strategy for the province- reflecting a convergence of interests and actions across the province.

### *Insights from Canadian stakeholder interviews / workshops*

The Canadian stakeholders consulted as part of the scoping study provided a variety of suggestions for how Canada could advance the circular economy within the domestic context. However, a common

theme was that a phased approach makes sense for Canada given where things currently sit in terms of the level of maturity with respect to the circular economy.

There is a need to shape the CE approach through engagement (i.e., market and industry need to be ready / prepared for these shifts), starting with a 'guiding', voluntary framework, then establishing regulation(s) over time and targets in a phased or sequenced approach. It was noted that setting targets too quickly creates risk and added cost for business and consumers (e.g., for retooling equipment, supply chain costs added to goods and services, etc.).

While recognizing that broad and diversified engagement with stakeholders will be important, work can start immediately by building on efforts to date, such as the work of the CCA Expert Panel and CELC's scoping study. Efforts could look to further map out CE initiatives across Canada, as well as identify important economic sectors and provide enhanced access to data and metrics in support of the CE. Simultaneously, the federal government could look to build CE into its existing sustainability, climate, economic, and innovation plans and programs in a purposeful and more broad-based fashion - referencing how the Province of Quebec plans to mainstream the circular economy across government ministries.

Over time, a more formal CE strategy, and potentially plans for certain materials and/or sectors with specific performance or productivity targets, could be developed through engagement with other levels of government, industry, and key stakeholders as dialogue and activities on the topic of CE mature. Efforts here should be informed by science and data - which should include developing more robust material flow accounts for Canada and related analysis.

### *Insights from Canadian policy examples*

Both the federal PCF and BNI were developed through a phased approach that involved significant consultation over a period of several months and even years. For the PCF, the framework was released quite quickly in 2016 following Canada's ratification of the Paris Climate Agreement. For BNI, the development and engagement process took two years (began in the summer / fall of 2016 and carried through to the fall of 2018).

### *Key considerations for Canadian approach*

Important take-aways based on analysis of the jurisdictional case studies, Canadian policy frameworks, and stakeholder consultation as it relates to Canada's approach for advancing the circular economy and its development approach include:

- The need to consider a phased approach to policy development and developing a framework that is flexible and adaptable given the broad, evolving, maturing, and longer-term nature of the circular economy agenda.
- The need to consider existing efforts on the ground and to enable "bottom-up" initiatives given that waste and recycling are managed locally, and small businesses and communities are able to adapt circularity to their local contexts.
- The opportunity to build on existing clusters of activity and collaborate with regional actors, including other levels of government, businesses in key sectors, industries, academia, NGOs, and others.
- The reality that scaling up outcomes will require both industrial policy (production), as well as motivating behaviour change (consumption).

## 2.3 Governance models and implementation

### *Insights from jurisdictional case studies*

The manner in which the strategy is implemented depends on the model and its governance. Common implementation practices include creating an agency or department to oversee the execution of the strategy, an external advisory body or steering committee made up of diverse stakeholders to monitor and guide its implementation, and a reporting framework to provide progress updates. The leading jurisdictions have also embraced a need for comprehensive and cross-cutting policies and programs within their overarching CE strategies (e.g., incentives, education, research, informational tools, regulatory instruments), given the broad and systemic nature of the CE.

Third-party, independent agencies have commonly been involved and/or established to help lead on coordination and implementation. Third-party or arm's length agencies often act as convenors to drive implementation and engagement, such as Finland's Innovation Fund Sitra or Zero Waste Scotland. Germany's CEID has led their roadmap efforts, which was founded on behalf of the country's Federal Ministry of Education and Research to promote Germany's multi-stakeholder approach to transitioning to a CE.

In the Netherlands, the CE governance structure functions to incorporate regular strategy evaluations and adaptations. The high-level implementation of the government-wide program is directed by a steering committee, which is composed of national government ministries and a diversity of other stakeholders. The Netherlands Environmental Assessment Agency (PBL) publishes a progress report every two years to monitor and evaluate the progress made toward its objectives and to provide the necessary knowledge for an informed policy process.

In Finland, implementation of the CE roadmap is assigned to the owners of the actions and pilots, who can ask for assistance from stakeholders, the steering group, project administration, and their networks as needed. The steering group, experts from the various focus areas, and the project administration team meet two to four times a year to examine implementation and decide on future direction. All organizations involved in the roadmap, including key stakeholders, also meet once a year at a seminar to review roadmap progress, collect input on roadmap renewal, and plan for next steps.

In 2021, Scotland appointed the world's first Minister of the Circular Economy. This was done as a way to create ownership of the CE agenda and strategy within Scotland. The same Ministry portfolio also encompasses green skills development and considerations for biodiversity, signifying how Scotland is linking several environmental and economic aspects together under one mandate as part of its longer-term strategy. Beyond the Scottish government, Zero Waste Scotland has played an integral role in funding, developing and accelerating the nation's CE strategy. Although the organization was initially established to focus on waste reduction, Zero Waste Scotland has redirected its focus to being the driving force behind the country's CE.

As a means to track progress against policy efforts, each jurisdiction has established key performance indicators. In Scotland, these indicators include, for example, the total amount of waste produced by sector (household, commerce, construction, etc.) and the carbon impact of waste - looking at the whole-life impacts of waste.

### *Insights from Canadian stakeholder interviews / workshops*

Commonly repeated recommendations from Canadian stakeholders as it relates to the role of the federal government with respect to governance and implementation included:

- Setting the ambition and overarching goals
- Supporting with coordination across industry, all levels of government, and other stakeholders
- Establishing common language, definitions, and standards
- Improving education and awareness on the topic of CE amongst businesses and the public
- Providing better access to information and data (such as for waste management, material flow accounting, and performance metrics)
- Driving demand for CE through procurement practices
- Acting as a catalyst and enabler to support CE and the innovation agenda (including through policy and funding mechanisms)

Those consulted from industry confirmed that the federal government can play an important role as an enabler and facilitator, but should not be overly prescriptive in terms of its approach. The federal government could focus on addressing barriers and reducing risk to businesses, helping to drive investment.

Some flagged that top-down policies have a risk of creating distortions, and that a more effective approach for developing a CE strategy in Canada would be from the “bottom up”. Canada’s place-based CE initiatives are already generating a great deal of innovation and momentum that can and should be leveraged.

In addition, many stakeholders felt that the provinces and territories should be responsible for defining the implementation mechanisms in their own jurisdictions, while the federal government can help by setting the broad framework and provide support through programs and other enabling tools and resources. The federal government can also help by playing a coordination role, linking together efforts between provinces while providing a national view.

### *Insights from Canadian policy examples*

With respect to governance, the PCF established a number of Ministerial tables to offer advice and provide feedback, including for the Ministers of Innovation, Ministers of Energy, the Canadian Council of Ministers of the Environment, and Ministers of Finance.

The BNI is implemented by the ministries and agencies responsible for economic growth and innovation. The Ministry of Innovation, Science, and Economic Development (ISED), the National Research Council (NRC), and the Canada Foundation for Innovation have been particularly instrumental. In addition, BNI launched Economic Strategy Tables.

### *Key considerations for Canadian approach*

Important take-aways based on analysis of the jurisdictional case studies, Canadian policy frameworks, and stakeholder consultation as it relates to Canada’s approach for advancing the CE as it relates to governance models and implementation include:

- The importance of cross-departmental and inter-governmental collaboration and cooperation, enabling a holistic and systemic approach.
- The need to consider unique participatory models that support innovative, collaborative ways of working with government and the private sector (e.g., citizen’s juries, transition agendas, sector tables).

- The option for engaging with or creating an independent, third-party agency or administrative body (e.g., Sitra, CEID, and Zero Waste Scotland) to support implementation and coordination.
- The importance of developing specific metrics, indicators, and a structure for tracking progress over time and reporting out on goals and objectives.

## 2.4 Sectors and material focus considerations

### *Insights from jurisdictional case studies*

Many countries have used linkages to their existing policies and strategic plans to justify and prioritize the focus of their CE efforts. This has resulted in leading countries having different objectives and agendas despite similar overarching goals. For example, some CE strategies have created objectives that focus specifically on closing identified gaps in material supply chains. Scotland and the Netherlands are two examples where they are developing resource flows and closing loops by setting up connections and infrastructure investments so that waste from one sector becomes a resource for another.

Other CE strategies have focused more on addressing circularity opportunities in specific sectors or material streams - either where there is a specific challenge or high-volume of waste, where there is alignment with an industry strength or resource advantage, or both. Several jurisdictions have picked a focus for their strategies based on core resource sector or industry strengths within those countries, such as the agri-food, forest-based loops, and minerals / mining in Finland, the bioeconomy in the Netherlands, remanufacturing in Scotland, and manufacturing and business model innovation in Germany.

Interestingly, while Finland's first CE Roadmap (published in 2016) focused on important sectors for that country (i.e., sustainable food system, forest-based loops, technical loops, and transport and logistics), the second iteration (published in late 2019) evolved to focus more on four overarching goals and a set of specific actions aimed at four key audiences (i.e., central government, local governments, businesses, and citizens). From a materials perspective, for example, the federal government in Finland has taken on the role of establishing an internationally competitive battery ecosystem and building a database that enhances the circulation of materials.

In the Netherlands, the CE strategy is a government-wide program streamlined and coordinated with the national policy agenda. The Dutch government collaborated to draft five "transition agendas", focused on reducing the use of primary raw materials and specific sectors and value chains considered cornerstones to the Dutch Economy, with bio-based solutions cross-cutting all of them.

Scotland's strategy is centered around improving material flows and augmenting innovation. Four specific areas of focus were selected due to their economic importance in that country and their value added to Scotland's Sustainable Development Plan supporting GHG emissions reductions that help to achieve that country's climate change targets. The Scottish Government also recognizes that these four priority areas have a high potential impact on increasing and up training Scotland's workforce.

In the "Circular Economy in Québec - Economic Opportunities and Impacts study", four key sectors were identified for their economic importance to the province and high growth potential in the CE. This selection represents the areas of most significant projected growth: agri-food, energy, construction, and metal products. Noting that organizations often require signals to act, the report also identifies policy priorities to be served through regulation, taxation, and government support to foster a CE in Quebec.

Quebec is soon to launch (in spring 2023) its Sustainable Development Strategy 2023-2028, which will include the development of a CE roadmap focused on a number of key sectors. The first goal within this



framework is for the Quebec government to incorporate CE into existing strategies. Each ministry will have to create an action plan and build CE into their objectives, actions, and sectoral priorities - such as RECYC-QUÉBEC integrating CE priorities into its 5-year action plan.

### *Insights from Canadian stakeholder interviews / workshops*

The Canadian stakeholders consulted for this study were split in terms of how and when to advance and integrate sector or material-focused CE strategies into the broader approach.

This split relates, in part, to stakeholder perspectives on the 'readiness' of some sectors over others in terms of their level of maturity, as well as with respect to awareness and the business case for circularity. For example, some sectors, products, and materials (such as plastics, wood, concrete, steel, electronics, and construction) are further along than others in advancing and integrating their own CE related plans, strategies, or roadmaps - and some already have. Others are less advanced (such as textiles and manufacturing).

Stakeholders were concerned that developing a national CE strategy under-pinned by a number of sector strategies might create siloed thinking and reinforce old economic structures, instead of allowing for an opportunity to re-invent value chains and material management approaches (such as through industrial symbiosis and waste-to-resource linkages across sectors and non-traditional players within industries). This concern further reinforces the need for and importance of systems thinking and collaboration as it relates to advancing the CE and its opportunities for Canada.

Rather than developing a CE strategy focused on sectors, there may be value in considering a focus on materials that flow through multiple sectors and/or cross-cutting themes such as job creation, innovation, supply chain resiliency, and economic productivity. A few stakeholders felt that Finland's Roadmap 2.0 may present a better framework for Canada at this stage than a sector-focused strategy, given its set of overarching objectives and actions targeting specific audiences.

### *Insights from Canadian policy examples*

Of relevance to the CE, the BNI policy framework applied a cluster network approach, including its theme on "Building Ecosystems: Science, Technology, and Superclusters" focused on important areas of Canadian industrial strength and emerging technology. Superclusters, which are groupings of innovation-based companies that work together to develop new technologies, services, and products, were launched with the ultimate goal of creating job opportunities, increasing competitiveness, and driving Canadian economic growth.

The BNI policy framework also aims to foster collaboration between multiple sectors, levels of government, and academia, in order to expand innovation and support Canadian businesses in the global market, as well as supporting small and medium enterprises (SMEs) through this policy with various funding and mentorship programs, tax credits for research, and the encouragement of entrepreneurship and innovation.

### *Key considerations for Canadian approach*

Important take-aways based on analysis of the jurisdictional case studies, Canadian policy frameworks, and stakeholder consultation as it relates to Canada's approach for advancing the circular economy as it relates to sectors and material focus considerations include:

- Many of the leading jurisdictions have focused on leveraging their existing resource and industry strengths as it relates to the CE. For Canada, this could be in areas such as the bioeconomy, minerals /metals, and enabling technologies such as AI, big data, and Internet of Things.
- Opportunities to build off existing sector efforts and provincial / territorial plans should be considered, in collaboration with key stakeholders and other levels of government - recognizing that sectors will likely advance at their own unique pace given varying levels of maturity.
- Advancing cross-cutting themes or materials as opposed to a focus on sectors or traditional industries may help avoid siloed approaches and allow for greater innovation and synergies to come from new collaborations within and between sectors and industries (e.g., waste-to-resource and industrial symbioses).

## 2.5 Stakeholder engagement and involvement

### *Insights from jurisdictional case studies*

An inclusive approach to stakeholder engagement is identified as essential to creating the necessary momentum behind a broad and inclusive CE strategy or plan. An inclusive approach means including stakeholders from *all* aspects of the value chain as well as a diversity of perspectives, from all levels and areas of government, to businesses, academia, non-profits and civil society actors, consumers, and otherwise marginalized groups. Close working relationships between various levels of government and different departments are also important given the various responsibilities and accountabilities at each level, as well as to account for regional differences.

For example, the Netherlands developed its five transition agendas through extensive stakeholder consultation involving experts from the business community, NGOs and authorities, and other relevant stakeholder groups. Finland's CE Roadmap development involved extensive stakeholder engagement including dozens of expert interviews representing a range of key stakeholders, a number of round table discussions, and engagement with more than 1,000 individuals at various stakeholder events.

Leading jurisdictions have identified important roles for the federal government, municipalities, other levels of government, businesses, NGOs, academia, and citizens - although some have also placed greater emphasis on specific groups.

For example, the EU's *Circular Economy Action Plan* stresses that business and consumers are the key drivers in the process to moving towards a more CE. Local, regional, and national governments and authorities are expected to act as catalysts in this transition. The European Commission also has a fundamental role to play in supporting it, by ensuring that the right regulatory framework is in place for the development of the CE in the single market.

Scotland, for example, emphasized the important role of youth. Scotland has also prioritized high-profile brands to encourage them to embrace a more circular approach and bring new products and services to market. High-profile brands have the opportunity to set an example and impact buy-in from broader industry players across the value chain.

Finland has also prioritized young stakeholders through its incorporation of a CE focused curriculum at all levels of its education sector. This promotes greater understanding of CE concepts, the emergence of new skills, and social progress, thus easing the transition among citizens.

Finland has also identified municipalities as accelerators of change to a CE; they activate local business, develop their public procurement measures, and encourage all citizens to engage, at a local level, in these practices. Actions include regional CE trials providing references for enterprises, sharing lessons in local networks, and facilitating a *Circular Economy Municipality of the Year* competition to inspire local actions.

Finland's approach also supports business actions. This includes circulating materials between companies in eco-industrial parks and CE coaching for companies looking to grow internationally.

### ***Insights from Canadian stakeholder interviews / workshops***

Many of those consulted for this scoping study reinforced the importance of broad and diversified engagement with stakeholders to ensure various perspectives are considered from across the country. In addition, a need to build awareness amongst the general public with respect to the value and benefits of the CE was also raised as essential for garnering support and buy-in.

Stakeholder engagement could take into account various motivational profiles in Canada (building on recent research by Sitra and One Earth in Canada, for example), to understand the human side to behaviour change. Given the systemic nature of the CE, stakeholder engagement processes should be collaborative across industries and sectors to avoid siloed thinking – they should be deliberately multi-sectoral in order to learn from each other's issues and solutions.

It will be important to engage youth and new generations, as well as embed equity considerations into CE plans (e.g., enabling solutions within the sharing economy). When referring to the economic value of the CE, consideration for who is benefitting from this value should be made to avoid the further concentration of wealth amongst a few (with some pointing to examples from other leading jurisdictions such as Scotland's focus on a just transition).

In addition, engaging with communities of different sizes, geographies, and cultures will be essential to understanding what CE means, for example, within more rural and remote communities as opposed to urban centres (e.g., the impact of waste management approaches in northern and remote communities on areas such as infrastructure access, cost, etc.). Canada's CE approach will also need to be developed in collaboration with Indigenous peoples, presenting a possible mechanism to advance Truth and Reconciliation.

### ***Insights from Canadian policy examples***

Extensive engagement with a diversity of stakeholders was undertaken in the development of both Canadian strategic policy frameworks. For the PCF, the framework was developed by the federal government in collaboration with the provinces and territories (PT), and the federal government works closely with the PT governments to drive this work at a regional level. The federal and provincial governments collaborated with an extensive range of businesses, Indigenous communities, non-profits, and others, to maximize the number of voices being heard and efforts being made. The First Ministers tasked four working groups on clean growth and climate change, which held consultations across the country, to gather information on possible solutions and suggestions.

For the BNI, two rounds of engagement were held, including the 2016 Mobilizing Canadians for Inclusive Innovation Approach and the 2018 National digital and data consultations.<sup>7</sup> Extensive industry and government collaboration, including with industry experts, academics, and start-ups, helped to develop

---

<sup>7</sup> See page 17: [https://ised-isde.canada.ca/site/innovation-better-canada/sites/default/files/attachments/New\\_IJEDC\\_19-044\\_INNOVATION-SKILLS\\_E\\_web.pdf](https://ised-isde.canada.ca/site/innovation-better-canada/sites/default/files/attachments/New_IJEDC_19-044_INNOVATION-SKILLS_E_web.pdf):

and implement an effective policy, and ensured that it is aligned with the needs and priorities of the private sector and the innovation ecosystem - important learnings for the CE approach given the need to consider new collaboration models at a systems level.

### ***Key considerations for Canadian approach***

Important take-aways based on analysis of the jurisdictional case studies, Canadian policy frameworks, and stakeholder consultation as it relates to Canada's approach for advancing the CE as it relates to stakeholder engagement and involvement include:

- The importance of engaging with a broad and diverse set of stakeholders to establish support and buy-in on the CE agenda.
- The need for CE education and awareness building, including making more established linkages between CE as a solution for fighting climate change, biodiversity loss, and other critical economic, social, and environmental issues.
- The importance of collaboration between the federal government and the PTs, as well as inter-ministerial cooperation.

## 3. Models for Advancing a National Circular Economy Approach

### 3.1 Introduction

A collaborative model of governance is a key ingredient of successful CE projects and initiatives. Advancing the CE involves coordination and collaboration in multiple dimensions: vertically – across different levels of government, horizontally – between departments within a government, and cross-sectorally – with private and civil society stakeholders.<sup>8</sup>

As evidenced in the case studies, the CE can be approached either as a ‘top-down’ strategy developed and implemented from above, or as a bottom-up strategy promoted and implemented mainly by business, NGOs, and civil society. Research suggests that a combination of the two is best suited to reconciling the different environmental, social, and economic motivations of public and private sector actors. In this hybrid approach:

*...the public sector implements top-down measures (such as legislation and policy, developing support infrastructure, and raising social awareness), while the private sector implements bottom-up measures (including collaborative business models, product design for circularity, developing closed-loop supply chains, and utilizing information and communications technology for product life-cycle management).<sup>9</sup>*

Possible models for developing a national, coordinated CE approach in Canada are outlined below. Regardless of the model adopted, a nationally coordinated approach to the CE will involve federal engagement and inter-ministerial cooperation across multiple departments (AAFC, ECCC, ISED, NRCAN, TBS). The role of the federal government can be smaller or larger depending on interest; however, under all of these models, it is assumed that the federal government would be more active than it is currently.

A nationally coordinated approach also implicitly requires provincial / territorial / Indigenous government engagement, and as with federal engagement, this role can also be smaller or larger and there can be alternate ways to approach it. Not only do PTs have many jurisdictional authorities directly related to CE policies and actions,<sup>10</sup> but some PTs have already taken leadership on the CE and are well along with their own initiatives. Product stewardship policies and programs exist in all PTs, albeit the products covered differ widely.

Recently, national action on plastics and guidance for consistent approaches to extended producer responsibility have been coordinated through the CCME. Beyond this, there is a wide variation in how comprehensively PTs are addressing the CE. British Columbia, Manitoba and the Yukon explicitly include a CE in their respective climate plans, and as part of this British Columbia is also developing a CE strategy. Quebec has the most comprehensive approach to date on the CE, with sector-specific circularity strategies (e.g., critical and strategic minerals, management of organic matter), explicit integration into climate and green economy plans, and a CE roadmap under development.<sup>11</sup> However, and notwithstanding initiatives through the CCME, the absence of national coordination on the more comprehensive CE agenda risks resulting in fragmented approaches that increase transaction and operational costs.

---

<sup>8</sup> <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p. 172-173

<sup>9</sup> <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p. 175

<sup>10</sup> Viz., natural resources, waste management, education and skills training, and responsibility for municipal institutions.

<sup>11</sup> See <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p. 67-70, and project interviews.

## 3.2 Models for Consideration

Five possible models for a national, coordinated CE approach in Canada were identified through the review of international and domestic case studies, key informant interviews, and the two stakeholder workshops. The models are:

- **Model 1:** Mainstreaming Circularity
- **Model 2:** Collaborative National Policy Framework
- **Model 3:** Bottom-up Innovation Agenda
- **Model 4:** Public-Private Sector-Based Transition Agendas/Roadmaps
- **Model 5:** Phased Hybrid Approach

Each model is profiled in more detail below, and case study parallels are referenced. A high-level, preliminary qualitative assessment of each considers the following criteria:

- Level of ambition;
- Jurisdictional considerations;
- Benefits of the model;
- Risks of the model for achieving CE objectives;
- Timelines for initiation;
- Political readiness;
- Stakeholder readiness;
- Stakeholders to be mobilized;
- Cost to the federal government;
- Anticipated overall impact on innovation, job creation, and GHG / environmental benefits; and
- Equity, diversity, and inclusion (EDI) considerations.

### Federal actions common to all five models

While five potential models were identified for a national CE approach, they share a set of common federal actions that are essential to creating a shared vision and understanding, to establishing the initial knowledge base to develop and monitor a national approach, and to enabling action on the CE through regulatory, policy, and investment activities. These common federal actions are summarized in Box A. Note that Box A is referenced in the description of each model to avoid repetition.

## Box A: Menu of potential federal actions common to several models

### Establish initial knowledge base

1. Establish a baseline for national material flow analysis, map main initiatives currently underway, and scope priority economic sectors or waste streams; support data, data aggregation, and access to data; develop assessment tools and methodologies.
2. Provide guidance around measurement, reporting, and tracking progress - including the types of metrics and performance indicators to consider.
3. Identify value / basis for linkages to other policy priorities.

### Implementation

4. Communicate and raise awareness of the value, concept, and ambition.
5. Invest in the innovation ecosystem (not only research, development, and commercialization of new materials and technologies, but also sectoral and cross-sectoral innovation collaboratives).
6. Leverage circular procurement.
7. Undertake legislative reforms (e.g., right-to-reuse and right-to-repair), regulatory reforms (e.g., barriers to the use of and movement of secondary materials, or conversely waste export bans or penalties), and use of economic instruments (environmental taxes, flexible regulations, tradable permits - where these fall under federal jurisdiction).
8. Undertake fiscal reforms to de-risk investments in innovative CE service, business, and technologies, and unlock private capital in areas where uncertainty limits investment potential.
9. Invest in critical infrastructure; clearly identify where federal investments into circular infrastructure are forthcoming so companies know where to target.
10. Invest in skills and training for a CE.
11. Facilitate a community of practice to build social fabric and share emergent learning – lessons learned, success stories, best practices within sectors, across country and from other jurisdictions.

## Model 1: Mainstreaming Circularity

**Description:** No stand-alone CE strategy is developed at the federal level; however, CE approaches are integrated into existing federal tools, policies, and strategies in a larger way than presently, where they support existing policy goals.

**How:** The CE is integrated in a more holistic fashion into existing plans and priorities (e.g., mandate letters, strategic environmental assessments, the federal Emissions Reduction Plan, Federal Sustainable Development Strategy, Green Building Strategy, procurement, and funding criteria). A central body (e.g., the Clean Growth Hub via an expanded mandate) coordinates with designated leads across departments, and this is supported by public service training on systems thinking and circularity.

Coordination of federal/provincial/territorial (F/P/T) CE efforts occurs within the existing fora relevant to those strategies. Private, NGO, and public sector CE initiatives are primarily supported through the federal role in establishing the initial knowledge base (Box A, actions 1,2,3), and enabling legislative and regulatory reforms (Box A, action 7).

**Case Study Parallels:** Scotland's CE strategy is viewed as a key pathway to meeting its emissions reduction goals and is intertwined with its climate change plan, which includes a vision for a fully CE by 2045. This vision focuses on responsible consumption, responsible production and maximizing value from waste and energy. However, this CE vision is additional to the CE-specific legislation and route map.

Quebec’s first CE roadmap is currently under development in a process led by the Ministère de l’Environnement et la Lutte Contre les Changements Climatiques (MELCC). The roadmap is being created in conjunction with the province’s Sustainable Development Strategy 2022-2027. For the CE roadmap, each ministry has to build an action plan and incorporate CE into their objectives, actions, and sectoral priorities. Both the roadmap and strategy are expected to be made public by Q2 of 2023. The CE roadmap is founded on eight years of robust collaboration and constituency building on CE principles, concepts, and applications between Quebec academia and a broad array of business and civil society organizations.

### High-level, Preliminary Qualitative Assessment

<b>Level of ambition</b>	<b>Low to medium</b> , depending on degree of integration.
<b>Jurisdictional considerations</b>	<ul style="list-style-type: none"> <li>• Ready fit with federal and PT strategies / policies.</li> <li>• Jurisdictions pursue their own interests and seek to apply circularity where they deem fit.</li> <li>• Jurisdictions could co-develop tools to reduce conflicting policies.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Maximizes leverage of existing priorities, programs, funding, and constituencies.</li> <li>• Minimizes institutional investment and risk of overlap and duplication with existing work underway within GoC.</li> <li>• Reinforces focus on existing policy priorities, avoids perception of competing priorities.</li> </ul>
<b>Risks (as it relates to achieving CE objectives)</b>	<p><b>High:</b></p> <ul style="list-style-type: none"> <li>• Risk of confusion and misunderstanding of CE potential and full range of approaches (by GoC employees and by public).</li> <li>• CE focus may be diluted by existing policy priorities.</li> <li>• Risk of siloed approach within and between departments.</li> <li>• Risk that full CE potential will not be achieved, and uptake by Canadians will be hindered, if overall CE vision, guidance, literacy, terminology, data and tools are lacking.</li> <li>• Risk of a lack of harmonization across Canada if focus is on federal action rather than a nationally coordinated approach (F/P/T and stakeholders).</li> <li>• Risk that implementation and awareness barriers persist if sub-national policies are not aligned.</li> <li>• May leave smaller players out of the conversation and redo existing work in the private/NGO space.</li> <li>• May presents risks from a competitiveness perspective vis-a-vis other global trading partners with respect to the strategic adoption of the CE.</li> </ul>
<b>Timelines</b>	<b>Medium:</b> Integration into existing strategies and policy frameworks would entail opportunity identification and program amendments for each.
<b>Political readiness</b>	<b>High:</b> Urgency for expanded approaches to meet targets in existing strategy/policy frameworks.
<b>Stakeholders to be mobilized</b>	<ul style="list-style-type: none"> <li>• Direct: All relevant federal government departments and agencies, but most notably AAFC, ECCC, ISED, NRCAN, TBS.</li> </ul>



	<ul style="list-style-type: none"> <li>• Indirect: Provinces and territories through standard FPT processes. Private, civil society, and academic organizations engaged through consultation processes of each department.</li> </ul>
<b>Readiness to implement</b>	<b>Medium:</b> CE is largely outside frames of reference of existing strategy / policy stakeholders, & CE has its own distinct constituency.
<b>Cost to the federal government</b>	<b>Low:</b> Would draw on commitments to existing strategies / policy frameworks.
<b>Overall impact</b>	Defined by mandate of existing strategies / policy frameworks, which may be narrower than full CE potential.
<b>EDI</b>	Defined by mandate of existing strategies / policy frameworks.

### Model 2: Collaborative National Policy Framework

**Description:** Federal, provincial, and territorial governments, with input from major local government partners, collaboratively set a national vision and ambition for the CE. This vision is then implemented and interpreted within each jurisdiction’s powers, with joint efforts to harmonize wherever possible.

**How:** The broad orientation for a national CE approach is developed through an intergovernmental forum or process (e.g., CCME or Regional Energy and Resource Tables, or other), which establishes a common vision and ambition, ideally, framing the CE as an economic development and innovation agenda. Shared high-level objectives are established, with guidance and common language/definitions to support consistency in approaches across the country.

Governments at all levels then support progress towards these collaboratively developed objectives through policies, programs, and actions within their jurisdictional powers.

At the federal level, these actions potentially include the full list of potential actions outlined in Box A.

**Case Study Parallels:** The EU plays a fundamental role in supporting the transition to a CE in its member countries by ensuring that the right regulatory framework is in place for the development of the CE in the single market, while local, regional, and national governments and authorities are expected to act as catalysts for the transition.

Within Canada, the federal government took a leadership role in the coordination of the high-level approach of the PCF. It provides relevant support and guidance to the P/Ts, while the P/Ts are responsible for implementing the framework within their regions and ensuring they meet their emission reduction targets. The PCF was a F/P/T and inter-ministerial effort, with ministerial tables involving Ministers of Innovation, Ministers of Energy, the Canadian Council of Ministers of the Environment, and Ministers of Finance. Non-government stakeholders were consulted through four working groups.

While not included in the case studies conducted for this report, this approach also parallels the path taken by the CCME to develop the *Canada-Wide Action Plan on Zero Plastic Waste* and the *2022 Guidance to Facilitate Consistent Extended Producer Responsibility Policies and Programs for Plastics*.

## High-level, Preliminary Qualitative Assessment

<b>Level of ambition</b>	<b>Moderate to high</b> , depending on level of buy-in from P/Ts.
<b>Jurisdictional considerations</b>	<ul style="list-style-type: none"> <li>Accounts for both levels of government having critical powers and important roles in fostering a CE.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Maximizes opportunity for harmonized national approaches, identified as critical by stakeholders, while building on or supporting P/T or sector activities, priorities, and insights from work already underway.</li> <li>Brings experience of P/T CE leaders to the agenda.</li> <li>Optimizes the full range of policy levers available at the federal, P/T, and local government levels.</li> <li>Formalizes CE agenda within F/P/T institutional processes.</li> </ul>
<b>Risks (as it relates to achieving CE objectives)</b>	<ul style="list-style-type: none"> <li><b>Medium</b></li> <li>Subject to buy-in from P/Ts. CE is not prioritized on all P/T agendas, and even where it is there are widely varying emphases, approaches, and levels of action.</li> <li>May constrain opportunity for Indigenous and/or local government input and collaboration given protocols of the F/P/T body.</li> <li>Could silo CE agenda to one department based on the intergovernmental forum used, unless an inter-ministerial forum is created.</li> <li>Depending on the intergovernmental forum used, could default to a regulatory agenda and miss the economic development and innovation dimensions.</li> <li>Reduces opportunities for industry / community collaborative engagement.</li> </ul>
<b>Timelines</b>	<b>Long: May take time</b> to get on the F/P/T agenda amid other priorities, as well as to reach agreements. This could delay action on the CE.
<b>Political readiness</b>	<b>Low:</b> Inter-governmental fora already have full agendas and are subject to often shifting priorities.
<b>Stakeholders to be mobilized</b>	<ul style="list-style-type: none"> <li>Direct: Federal and PT government departments, ministries and agencies (including but not limited to CCME and any other relevant inter-governmental fora), local / regional governments.</li> <li>Indirect: Private, civil society, and academic organizations engaged through public consultation processes of these fora, rather than direct collaborative engagement.</li> </ul>
<b>Readiness to implement</b>	<b>Low:</b> CE vision / ambition is primarily set by governments, with private / NGO stakeholders having only arm's length input into these through public consultation processes.
<b>Cost to the federal government</b>	<b>Medium-High:</b> Would depend on implementation choices.
<b>Overall impact</b>	Potential for high impact if full F / P / T alignment on agenda, but potential for limited impact if critical mass of jurisdictions is not on board.
<b>EDI</b>	Defined by the inter-governmental process and forum.

### Model 3: Bottom-up Innovation Agenda

**Description:** The federal government facilitates a broad-based national advisory council to establish the initial vision and ambition, and a high-level framework that brings guidance for the CE and enables innovation sourced from various clusters and/or place-based activities (e.g., community-based projects and initiatives). Additionally, it invests in expansion of the Canadian knowledge base and generic tools that support economic development and innovation. Concurrently, it resources multiple initiatives to foster bottom-up collaboration and partnerships on the CE between geographically concentrated clusters of industry, academia, and other civil society organizations.

**How:** This model has three separate, but reinforcing, streams of activity. In the first stream, the federal government facilitates a broad-based national advisory council tasked with establishing the framing, vision, and ambition, high-level objectives and guidance, and common language, definitions, and standards for the CE in Canada. This council includes different levels of government and cross-sectoral representation from experts from industry, civil society, and academia.

In the second stream, the federal government develops an initial knowledge base for the P/T, municipal, private, NGO, and public sector CE initiatives (items 1-3, Box A). Further, it supports the enabling framework for implementation of the CE by taking actions within its own sphere of authority, such as items 6-11 from the menu in Box A.

In the third stream, it invests in geographically concentrated clusters of sector/material or place-based collaborations involving industry, academia, local governments, and other civil society organizations. Such collaborations are well suited to connecting the social change with the technological change dimensions of CE transitions. The investment in these bottom-up projects is amplified via a virtuous cycle, where the initiatives increase in size and number and begin to influence other areas, and/or intensify, accumulating into large-scale transformative change<sup>12</sup>.

These projects could take various forms: co-learning networks, test beds, living labs, pre-commercial innovation spaces, incubators, and accelerators to support SMEs and start-ups, material exchange platforms, and other strategic actions. Existing examples in Canada in this space include Our Food Future / COIL in the Guelph-Wellington region (ON), Metal Tech Alley in Trail (BC), and Centre for Intersectoral Studies and Research on the Circular Economy (CERIEC)'s clusters of sector-based CE living labs (QC).

**Case Study Parallels:** Canada's federal *Building a Nation of Innovators* initiatives foster collaboration and partnerships between industry, academia, and other organizations through geographically concentrated clusters of companies and organizations that work together to develop business models, technologies, services, and products, and to commercialize these activities. The programs provide funding for start-ups and small businesses; support the development of identified superclusters through tax incentives, funding, and other incentives; and partner with private sector and academic institutions.

Finland's 2021 Strategic Programme for a Circular Economy strengthens funding for research, development and innovation (RDI) and ecosystem activities that promote a low-carbon CE and for demonstration and facility investments; establishes a national competence network to support the work of municipalities and regional ecosystems in promoting a carbon neutral CE society; and launches and promotes CE ecosystems.

### High-level, Preliminary Qualitative Assessment

---

<sup>12</sup> See <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p. 175-176.

<b>Level of ambition</b>	<b>Moderate</b>
<b>Jurisdictional considerations</b>	<ul style="list-style-type: none"> <li>Federally and P/T supported.</li> <li>Emergence of findings / recommendations that are relevant to P/T mandates, but with less top-down direction.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Engages momentum of the 'coalition of the willing' for a pilot / exploration stage of CE opportunities.</li> <li>Less threatening to established actors than large-scale, system-wide alternative models.</li> <li>Less prone to institutional lock-in, postponement or premature termination than large-scale, system-wide alternative models.</li> <li>Maximizes opportunity for experimentation with a variety of different approaches, innovation and 'learning by doing', identification of resources, barriers, and effectiveness of different CE strategies and their impacts.</li> <li>Adaptable to economic, socio-economic, and geographic diversity and realities across Canada, as well as different stages of sectors and regions on CE journey.</li> </ul>
<b>Risks (as it relates to achieving CE objectives)</b>	<ul style="list-style-type: none"> <li><b>Medium</b></li> <li>Bottom-up could result in disparate players implementing different projects, and even risk of duplication if not effectively coordinated.</li> <li>Diversity of emergent approaches may preempt opportunities for nation-wide and cross-sector harmonization.</li> <li>Implementation of regional and sectoral CE efforts may face barriers if sub-national policies are not aligned.</li> <li>Limited ability to influence circularity for materials managed at national / international scales.</li> </ul>
<b>Timelines</b>	<b>Short:</b> Phase 1 of the enabling framework can be launched in a timely manner.
<b>Political readiness</b>	<b>Medium:</b> Federal commitment to lead and generate momentum on broad-based CE required.
<b>Stakeholders to be mobilized</b>	<ul style="list-style-type: none"> <li><b>Direct:</b> Relevant federal departments and agencies (e.g., ISED, NRCan, AAFC, NRC, etc.), local governments, Indigenous and community organizations, academia, industry associations, innovation and economic development agencies.</li> </ul>
<b>Readiness to implement</b>	<b>High:</b> Engages by design with already motivated stakeholders, leans on third parties to drive implementation agenda.
<b>Cost to the federal government</b>	<b>High:</b> Due to funding for 'learning by doing' model of bottom-up clusters and place-based initiatives.
<b>Overall impact</b>	Potential for high impact on innovation, regional job creation, GHG and environmental benefits but dependent on foci, success, and replicability of clusters and initiatives.
<b>EDI</b>	Opportunity for clusters and place-based initiatives to include EDI as they are led by communities.

## Model 4: Public-Private Sector-Based Transition Agendas / Roadmaps

**Description:** Federally-supported, industry-led collaborative tables, including a F / P / T, as well as industry, academia, NGO, local / regional government, and civil society perspectives, develop sector or material CE 'strategies' and/or 'roadmaps'.

**How:** Sectors or materials would be selected with input from key stakeholders including P / T governments, based on Canadian strengths, sector readiness, and CE opportunities. The desired outcomes for each table would reflect the different stages of readiness of sectors / materials in their CE awareness and best practice identification.

Priority sectors and/or materials would potentially include plastics (high readiness); agri-food, forest bioeconomy, construction and buildings, critical minerals and metals including electronics and batteries (moderate readiness); and textiles, industrial symbiosis, and remanufacturing (emerging readiness).<sup>13</sup> Additional consideration could be for materials which comprise significant and problematic waste streams, with a focus on waste reduction and creating the markets for these waste streams.

The tables would be supported by a central Secretariat, envisaged as collaborative rather than strictly top-down. Each sector/material table would:

- Identify specific sector and/or material strengths, opportunities, and risks.
- Identify and share sector and/or material best practices.
- Develop a sector and/or material CE strategy, including setting performance-based targets within key sectors around material use / waste reduction and other KPIs.
- Identify policy supports, critical infrastructure, and other enabling elements for success within the respective strategies (see examples of federal actions in Box A).

The policy supports, critical infrastructure, and other enabling elements for implementation of the CE identified by each table then becomes the agenda for further sector-specific F/P/T actions.

### Case Study Parallels:

In Finland, the initial CE roadmap in 2016 took a sector/material lens, identifying policy actions, key projects and pilots for four sectors/materials, plus cross-cutting actions required for systemic change. The roadmap development was led by Sitra, an independent federal innovation agency that answers directly to the Finnish Parliament, in close collaboration with government departments and business councils, and informed as well by extensive stakeholder engagement (expert interviews, round table discussions, public meetings and submissions). A 2019 update, under the guidance of a broadly-based government, business, research, and NGO steering committee and with stakeholder engagement, raised ambition and accelerated change within the actions of the first road map and incorporated almost 30 new actions. These roadmaps led to the adoption, in 2021, of a government resolution on the strategic programme for a CE, setting out the key measures by which the ministries will promote a CE.

In the Netherlands, the CE is driven by the government with a top-down approach. A Raw Materials Agreement, signed by government and industry, aims to protect raw materials through sustainable and circular action. The signatories collaborated to draft the five transition agendas, each focused on a specific sector and value chain that is a cornerstone of the Netherlands' economy, and developed with extensive stakeholder consultation involving experts from the business community, non-governmental organizations and authorities, and other relevant stakeholder groups. The concrete actions and projects

---

<sup>13</sup> More detail on status of these sectors at <https://cca-reports.ca/reports/the-circular-economy-in-canada/> p.53-66.

identified in the transition agendas formed the basis for the Circular Economy Implementation Programme<sup>14</sup>, launched in 2019, and updated in 2020 and 2021.

### High-level, Preliminary Qualitative Assessment

<b>Level of ambition</b>	<b>High</b>
<b>Jurisdictional considerations</b>	<ul style="list-style-type: none"> <li>Federally-supported, industry-led tables with federal and P/T participation allow each level of government to follow through with supporting policies and actions within their own mandates.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Reflects that opportunities and challenges differ widely by material and that materials are used across sectors.</li> <li>A sector focus aligns with the structure of existing federal programs and industry relations, as well as initiatives underway in P/Ts.</li> <li>A materials focus would foster cross-sector / industrial symbiosis solutions and create space for non-traditional players relevant to reinventing value chains.</li> <li>Maximizes ability to influence circularity for materials managed at national/ international scales.</li> <li>Brings industry leadership to raise profile and priority of the CE agenda.</li> <li>Strategy will be informed by, and therefore authoritative / influential to the sector or material stakeholders.</li> <li>Aligns with a sector 'lens' of other strategies and frameworks, therefore greater potential for synergies and integration.</li> <li>Would place Canada in a leading role internationally amongst its trading partners with respect to advancing the CE agenda.</li> </ul>
<b>Risks (as it relates to achieving CE objectives)</b>	<ul style="list-style-type: none"> <li><b>Medium</b></li> <li>A materials focus is a less conventional organizing model and may be harder to recruit to and require more groundwork, common agenda setting, etc.</li> <li>A conventional sector focus may impose old economic structures at the expense of reinventing value chains.</li> <li>Potential for duplication of effort or fragmentation of approaches if a shared, overall CE vision, guidance, terminology, literacy, data and tools have not already been established.</li> <li>Could be premature if sectors/materials have not had sufficient opportunity for experimentation and innovation, 'learning by doing'.</li> </ul>
<b>Timelines</b>	<ul style="list-style-type: none"> <li>Short-medium for initiation, medium-long for completion. Tables and central secretariat can be launched in a timely manner for some sectors/materials, although others may not be mature enough yet.</li> </ul>
<b>Political readiness</b>	<b>Medium:</b> Federal commitment to lead and generate momentum on sector-based CE required.
<b>Stakeholders to be mobilized</b>	Relevant federal departments and agencies (e.g., ISED, NRCan, AAFC, NRC, etc.), P/T governments, Indigenous and community organizations, academia, industry associations, innovation and economic development agencies.

<sup>14</sup> See: <https://hollandcircularhotspot.nl/wp-content/uploads/2019/09/Circular-Economy-Implementation-Programme-2019-2023.pdf>

<b>Readiness to implement</b>	<b>Medium:</b> Varies widely by sector or material.
<b>Cost to the federal government</b>	<b>Medium-High:</b> Would depend on implementation choices.
<b>Overall impact</b>	Potential for high impact on innovation, regional job creation, GHG, and other environmental benefits but dependent on influence and follow through on strategy recommendations.
<b>EDI</b>	Opportunity for EDI perspectives to be incorporated into the make-up of Tables and/or choice of sectors and materials.

**Model 5: Phased Hybrid Approach**

**Description:** A longer-term, staged approach which phases the bottom-up innovation agenda (model 3) and the public-private sector-based transition (model 4) to gradually build the common understanding, knowledge, experience, and capacity to advance a national CE approach along a deliberate learning pathway.

**How:** In this model, a national CE approach evolves in four phases, which are a hybrid of elements in Models 3 and 4 above.

In Phase 1, the federal government facilitates a broad-based national advisory council tasked with establishing the framing, vision and ambition, high-level objectives and guidance, and common language, definitions, and standards for the CE in Canada. This council includes different levels of government and cross-sectoral representation from experts from industry, civil society, and academe, and embeds equity and rural/remote lenses. Work in Phase 1 includes establishing the baseline for next phases: national material flow analysis, mapping of main initiatives currently underway, scoping of priority economic sectors or waste streams, and identification of value/basis for linkages to other policy priorities (e.g., innovation, climate, biodiversity, Indigenous reconciliation).

Phase 2 could be concurrent or sequential to Phase 1. It supports learning by doing through a bottom-up innovation agenda, resourcing collaboration and partnerships on the CE between geographically concentrated clusters of industry, academia, and other civil society organizations (see third stream of Model 3). These initiatives provide initial place-based and/or sector/material-specific learnings to inform the transition agendas/roadmaps in Phase 3.

By Phase 3, it is anticipated that there would be broader awareness of the value, concept, and ambition of the CE and a more mature understanding of specific sector or material strengths, opportunities, and risks; best sector or material practices; policy supports and critical infrastructure needs; and potential targets. This provides the foundation for the development of

public-private sector-based transition agendas/roadmaps (as in Model 4), potentially by sub-tables of the Phase 1 broad-based national advisory council.

In Phase 4, the policy supports, critical infrastructure, and other enabling elements for implementation of the CE identified by each transition agenda/roadmap then become the menu for further sector-specific federal and P/T actions.

**Case Study Parallels:** This phased approach incorporates elements from several case studies, described under models 1-4, but has no direct parallel.

### High-level, Preliminary Qualitative Assessment

<b>Level of ambition</b>	<b>High to Very High</b>
<b>Jurisdictional considerations</b>	<ul style="list-style-type: none"> <li>• Largely federally-led but with opportunities for P/T involvement in advisory processes and emergence of findings / recommendations that are relevant to P/T mandates.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• The phased approach enables bottom-up innovation to inform the development of public-private sector-based transition agendas/roadmaps.</li> <li>• Presents opportunities for CE to mature within regions and sectors, while providing critical supports along the way.</li> <li>• Enables a wide variety of players across Canada to bring their expertise and existing work to the forefront for collaboration.</li> <li>• Would place Canada in a leading role internationally amongst its trading partners with respect to advancing the CE agenda.</li> </ul>
<b>Risks for achieving CE objectives</b>	<ul style="list-style-type: none"> <li>• <b>Low-medium</b></li> <li>• Longer, phased timeline could be vulnerable to shifting priorities of next governments.</li> <li>• More complex approach given various efforts and phased activities, requiring greater level of coordination.</li> </ul>
<b>Timelines</b>	Short timeline to initiation, but long timeline to completion.
<b>Political readiness</b>	<b>Medium:</b> Federal commitment to lead and generate momentum on broad-based CE required.
<b>Stakeholders to be mobilized</b>	Relevant federal departments and agencies (e.g., ISED, NRCan, AAFC, NRC, etc.), local governments, PT governments, Indigenous and community organizations, academia, industry associations, innovation and economic development agencies.
<b>Readiness to implement</b>	<b>High:</b> Engages by design with already motivated stakeholders, leans on third parties to drive initial implementation agenda.
<b>Cost to the federal government</b>	<b>High:</b> Due to funding for ‘learning by doing’ model of bottom-up clusters and place-based initiatives.
<b>Overall impact</b>	Potential for high impact on innovation, regional job creation, GHG, and other environmental benefits as it brings together local / regional priorities with strategic sectors / materials of interest.



<b>EDI</b>	Opportunity for clusters and place-based initiatives, as well as sector / material Table initiatives, to include EDI as they are led by communities.
------------	--

## 4. Conclusions

### *Insights from the Research*

Leading jurisdictions and Canadian stakeholders identify combined economic, social, and environmental value in the CE, and its role in supporting both domestic climate targets and global SDGs.

There is no one governance model. In some models, governments drive implementation, commonly setting up an agency or department to oversee the execution of the strategy, and an external advisory body or steering committee made up of diverse stakeholders. In other models, third-party or arms-length agencies act as convenors to drive implementation and engagement.

Canadian stakeholders see an important role for the federal government in setting the ambition, establishing overarching goals and objectives, developing guiding principles, and establishing a common definition for the CE, and suggest this as a first step. Many suggest that federal engagement should not be overly prescriptive in its approach, and that it not replace the role of P/Ts in defining their own implementation mechanisms, as well as allowing room for the innovation and momentum of “bottom-up” initiatives.

While there is a sense of urgency for action amongst the Canadian stakeholders consulted for this study, there is a general recognition that the transition to a CE is a long-term game, will evolve over time, and must endure multiple political cycles. Canadian stakeholders support a phased approach to allow for maturing of a common understanding, knowledge base and experience, and broadening of constituency prior to developing a more formal CE strategy and material and/or sector targets. They suggest this start with a guiding, voluntary framework; investment in enhanced data, metrics, and analysis of opportunities; and purposeful integration into existing federal climate, economic, and innovation plans and programs.

Two approaches for the initial development of CE initiatives are illustrated in the case studies: “bottom-up” (initiated at the local / regional or non-government actors), or “top-down” (initiated by national governments, sometimes with industry associations). Over time, however, an integrated approach can evolve in response to the high degree of coordination and collaboration needed to advance the CE.

Approaches to sector and material priorities vary widely. Some jurisdictions are addressing gaps to closing material loops, while others have prioritized sectors or materials based on considerations such as waste volume, industry strength, and/or resource advantage. Canadian stakeholders appear split in terms of whether, how and when to advance and integrate sector or material-focused CE strategies into the broader approach. Advancing cross-cutting themes (e.g., enabling innovation, supportive infrastructure, access to financing, etc.) or materials (e.g., biological or technical loops) as opposed to a focus on sectors or traditional industries may help avoid siloed approaches and allow for greater innovation and synergies to come from new collaborations within and between sectors and industries.

An inclusive and extensive approach to stakeholder engagement is common across all

case studies. The definition of stakeholder is very broad – along the full value chain, as well as all levels and areas of government, businesses, academia, non-profits and civil society actors, consumers, and otherwise marginalized groups. The need for broad and diverse engagement was echoed by Canadian stakeholders.

### ***Governance Model Considerations***

The five potential governance models profiled in this scoping study provide differing approaches to advancing the CE in Canada. Each comes with its own advantages, risks, and trade-offs as presented in Section 3. Summary table 4.1 below highlights some of the important considerations around implementation, as well as potential impact.

Regardless of the approach, this scoping study has demonstrated that Canada is well-positioned for advancing a national CE approach, and that the stakeholders consulted support the need for greater action in a strategic and coordinated fashion. While efforts to advance the CE in Canada can be expanded and actions accelerated, it is clear that there is still groundwork to be done in order to raise the level of awareness and recognition for the CE's benefits and its opportunities.

Efforts must be made to establish a framework with all of the enabling factors that will allow the CE activities to flourish - including harmonized and standardized definitions, access to better data and information, investments in critical infrastructure, and supportive policy. The suite of activities chosen - whether policy, regulatory instruments, incentives, education, research, or informational tools - must consider both demand and supply side factors and be directed at systems change, in order for Canada to realize the greatest benefits.

The federal government and other Canadian stakeholders can continue to demonstrate leadership on advancing the CE, building on preliminary efforts and existing momentum - in many cases rising amongst the ranks of Canada's G7 and OECD peers and major trading partners who are also embracing the CE, its principles, practices, policies, and business strategies. Indeed, a coherent Canadian approach to the CE will better position Canada to engage with these international partners, reduce the risk of conflicting messages or policy positions, and advance opportunities for global trade while enhancing competitiveness.

These efforts, in turn, will enable Canada to seize new economic, social, and environmental benefits. As quoted in the CCA's *Turning Point* report on CE: "the transition towards a circular economy will help Canada meet its existing policy goals and support Canada's climate agenda, while also enabling economic productivity through more informed and efficient ways of design, production, and consumption."

**Table 4.1: Summary of governance model options**

	<b>Model 1: Mainstreaming Circularity</b>	<b>Model 2: Collaborative National Policy Framework</b>	<b>Model 3: Bottom-up Innovation Agenda</b>	<b>Model 4: Public-Private Sector-Based Transition Agendas</b>	<b>Model 5: Phased Hybrid Approach</b>
<b>Description</b>	No stand-alone CE strategy is developed at the federal level. However, CE approaches are integrated into existing federal tools, policies, and strategies in a larger way than presently, where they support existing policy goals.	Federal, provincial, and territorial governments, with input from major local government partners, collaboratively set a national vision and ambition for the CE, which is then implemented and interpreted within each jurisdiction's powers, with joint efforts to harmonize wherever possible.	The federal government establishes a high-level framework that brings guidance for the CE and enables innovation sourced from various clusters and/or place-based activities (e.g., community-based projects and initiatives).	Federally-supported, industry-led collaborative tables, including a F/P/T, as well as local / regional government, and civil society perspectives, develop sector or material CE 'strategies' and/or 'roadmaps'.	A longer-term, staged approach which phases the bottom-up innovation agenda (model 3) and the public-private sector-based transition (model 4) to gradually build the common understanding, knowledge, experience, and capacity to advance a national CE approach along a deliberate learning pathway.
<b>Implementation Considerations</b>	CE is largely outside frames of reference of existing strategy / policy stakeholders. As such, the integration into existing strategies and policy frameworks could be slow and cumbersome.	CE vision / ambition is primarily set by governments, limiting potential input and influence from other stakeholders. Time may be long to get on the F/P/T agenda amid other priorities, with action on CE being delayed until after agreements are reached.	Engages with already motivated stakeholders, while leaning on third-parties to drive the implementation agenda. Efforts can be advanced in a flexible, timely, and ever-evolving manner.	Opportunities to advance CE efforts vary widely by sector or material. As such, timelines to initiation will vary from short to medium based on their level of maturity.	Engages with already motivated stakeholders, and leans on third-parties to drive initial implementation agenda. As such, it provides a short timeline to initiation, but a longer timeline to broad scale implementation via tables.
<b>Overall Impact</b>	Defined by mandate of existing strategies / policy frameworks, which may be narrower than full CE potential.	Potential for high impact if full F/P/T alignment on agenda, but potential for limited impact if critical mass of jurisdictions is not on board.	Potential for high impact on innovation, regional job creation, and environmental benefits but (dependent on foci) success and replicability of initiatives may be limited and disparate with duplication of efforts unless accompanied by a high-level of coordination and knowledge sharing.	Potential for high impact on innovation, regional job creation, GHG, and other environmental benefits, but dependent on influence and follow through on sector-specific priorities.	Potential for high impact on innovation, regional job creation, GHG, and other environmental benefits as it brings together local / regional priorities with strategic sectors / materials of interest.

## Appendix A: Methodology

CELC, in collaboration with SPI, were commissioned by ECCC to develop a scoping paper that assesses options Canada may wish to consider in developing a national circular economy approach. This work has included building on CELC and SPI's collective work to date to undertake a scan of international CE strategies and approaches (largely within the EU to date), as well as a select number of Canadian plans practices (CE and non-CE). The research activities carried out as part of this scoping study are summarized below.

### *Case studies*

A total of eight case studies were reviewed for this report. Five of which are international examples of circular economy strategies from the European Union (EU), Finland, the Netherlands, Scotland, and Germany. Quebec's preliminary work to develop a circular economy strategy was also explored.

Two other case studies that are not focused on the circular economy, but instead on similarly governed, wide reaching frameworks were examined to diversify the models and approaches being examined. These two case studies were the 'Pan-Canadian Framework on Clean Growth and Climate Change'<sup>15</sup> and the 'Building a Nation of Innovators'<sup>16</sup>.

### *Key informant interviews*

The research team interviewed 20 key stakeholders and sector experts currently leading in Canada's circular economy from across the country, including businesses, entrepreneurs, sector leaders, non-profit and academic think-tanks, governments, and community organizations. The conversations focused on what factors would be critical to consider in the design of a national strategy for CE and what could help organizations advance the broader CE and Climate change agendas.

### *Workshops*

The first workshop was conducted in-person, on the sidelines of the Zero Waste Conference (ZWC) hosted in Vancouver on September 29, 2022. This workshop included approximately 50 people, who are relatively familiar with the relevant CE concepts and were able to provide their thoughts and feedback on the need and benefits of developing a CE strategy for Canada.

The second workshop, hosted virtually on November 23, 2022 (see Appendix D for a summary) and attended by more than 120 stakeholders from Canada, was designed to gather feedback on key questions as they relate to exploring the need and benefits of a circular economy strategy for Canada. The main objective of the virtual workshop was to collect input from a larger diversity of stakeholders in Canada as it related to the potential design of circular economy approaches or a strategic framework for Canada. This workshop also explored 'success' factors for Canada, including governance model considerations, and identified important next steps and key partnerships that could help to advance a national circular economy strategy.

---

<sup>15</sup> <https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework.html>

<sup>16</sup> <https://ised-isde.canada.ca/site/innovation-better-canada/en/building-nation-innovators>

## Appendix B: Leading Jurisdictional Profiles / Case Studies

The detailed case studies from 6 leading jurisdictions are included in a separate, stand-alone document. The case studies included profiles of the circular economy strategic approaches in:

- The European Union
- Finland
- Germany
- The Netherlands
- Scotland
- Quebec (Canada)

A summary table (Table B1) is provided on the following page. In addition, the research team profiled two Canadian strategic policy frameworks focused on advancing the climate and innovation agendas in Canada, respectively. These are (1) the [Pan-Canadian Framework on Clean Growth and Climate Change](#) and (2) [Building a Nation of Innovators](#). While these strategies are not focused on circular economy specifically, they provide insights and lessons learned for advancing the circular economy approach in Canada given their broad and cross-sectoral nature, as well as their focus on environmental and economic / innovation agendas.

**Table B1. Summary of international and domestic case studies.**

	The European Union (EU)	Finland	The Netherlands	Scotland	Germany	Quebec
<b>Strategy Leads</b>	<ul style="list-style-type: none"> <li>European Commission</li> <li>EU Environment Commissioner</li> </ul>	<ul style="list-style-type: none"> <li>Finnish Innovation Fund Sitra</li> <li>Ministries of Environment; Agriculture and Forestry; Economic Affairs and Employment; and Transport and Communication</li> </ul>	<ul style="list-style-type: none"> <li>Ministries of Environment, Agriculture, Nature and Food Quality, Economic Affairs and Climate Policy, and Infrastructure and Waste Management</li> </ul>	<ul style="list-style-type: none"> <li>Zero Waste Scotland</li> <li>Environment and Forestry Directorate</li> <li>Economic Development Directorate</li> </ul>	<ul style="list-style-type: none"> <li>Circular Economy Initiative Deutschland (CEID)</li> <li>Ministry of Education and Research</li> <li>Wuppertal Institute for Climate, Environment and Energy</li> </ul>	<ul style="list-style-type: none"> <li>Quebec Ministry of Environment and Fight Against Climate Change (MELCC)</li> <li>RECYC QUEBEC</li> </ul>
<b>Governance</b>	<ul style="list-style-type: none"> <li>Collaborative, inter-jurisdictional framework</li> </ul>	<ul style="list-style-type: none"> <li>Public-private sector-based transition agenda (third-party led)</li> </ul>	<ul style="list-style-type: none"> <li>Top-down strategy</li> </ul>	<ul style="list-style-type: none"> <li>Bottom-up and top-down innovation agenda (hybrid model)</li> </ul>	<ul style="list-style-type: none"> <li>Public-private sector-based transition agenda (third-party led)</li> </ul>	<ul style="list-style-type: none"> <li>Bottom-up innovation agenda</li> </ul>
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>A strongly federated supra-national body working within a common market of diverse jurisdictions</li> <li>Coordination role leading on policy harmonization, regional economic competitiveness, and innovation agenda</li> </ul>	<ul style="list-style-type: none"> <li>Led by a non-governmental entity (i.e., Sitra Innovation Fund)</li> <li>Broad education and sector engagement focused on systems change</li> </ul>	<ul style="list-style-type: none"> <li>Strong bioeconomy and biobased innovation</li> <li>Strong collaboration between federal and local governments</li> </ul>	<ul style="list-style-type: none"> <li>Cities and Regions Programme</li> <li>Strong emphasis on connecting circular economy strategies to climate and net zero goals, including its Carbon Metric tool</li> <li>The Circular Economy Business Support Service funds and supports SMEs to develop circular business models</li> </ul>	<ul style="list-style-type: none"> <li>Focus on competitiveness and decreasing reliance on material imports</li> <li>Emphasis on industrial and manufacturing powerhouse</li> </ul>	<ul style="list-style-type: none"> <li>Le Pôle Québécois de Concertation sur l'Économie Circulaire, led by higher education institutions and designed to inform policy and strategy for the province.</li> </ul>

<b>Focus Areas</b>	<ul style="list-style-type: none"> <li>• Make sustainable products the norm</li> <li>• Empower consumers</li> <li>• Focus on sectors with high potential</li> <li>• Ensure less waste</li> </ul> <p>(from 2020 CEAP)</p>	<ul style="list-style-type: none"> <li>• Sustainable Food Systems</li> <li>• Forest-Based Loops</li> <li>• Technical Loops</li> <li>• Transport and Logistics</li> <li>• Joint Actions</li> </ul>	<ul style="list-style-type: none"> <li>• Plastics</li> <li>• Consumer Goods</li> <li>• Manufacturing</li> <li>• Construction</li> <li>• Biomass and Food</li> </ul>	<ul style="list-style-type: none"> <li>• Food and Drink, and the Broader Bioeconomy</li> <li>• Remanufacturing</li> <li>• Construction and the Built Environment</li> <li>• Energy Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Circular business models</li> <li>• Packaging</li> <li>• Batteries</li> </ul>	<ul style="list-style-type: none"> <li>• Agri-Food</li> <li>• Energy</li> <li>• Construction</li> <li>• Metal Products</li> </ul>
<b>Cross Cutting Topics</b>	<ul style="list-style-type: none"> <li>• Climate</li> <li>• Getting economics right</li> <li>• Research, innovation and digitalization</li> </ul> <p>(from 2020 CEAP)</p>	<ul style="list-style-type: none"> <li>• Decoupling lifestyles</li> <li>• Climate</li> <li>• Biodiversity</li> <li>• Digitalization</li> <li>• Just transition</li> </ul>	<ul style="list-style-type: none"> <li>• Climate</li> <li>• Equity / diversity</li> </ul>	<ul style="list-style-type: none"> <li>• Climate</li> <li>• Just Transition</li> </ul>	<ul style="list-style-type: none"> <li>• Decoupling economic growth from resource consumption</li> <li>• Climate</li> <li>• Fair prosperity</li> </ul>	<ul style="list-style-type: none"> <li>• Climate</li> </ul>



## Appendix C: Interview Summaries

A total of 20 key informant interviews were completed as part of this scoping study. Interviews were conducted with the individuals and organizations listed below. Note that interview summaries were submitted to ECCC as separate, stand-alone documents.

- Kimi Walker, Canadian Tire
- Richard Farthing-Nichol, Centre for Indigenous Environmental Resource
- Felix Bock, Chop Value
- Gildas Poissonier, Desjardins Group
- Daniel Normandin, École de technologie supérieure (ETS)
- Dany Drouin, Environment and Climate Change Canada
- Ryan Parmenter, Environment and Climate Change Canada
- Nuha Siddiqui, erthos
- Frances Edmonds, HP Canada
- Phil Gass, International Institute for Sustainable Development (IISD)
- Tima Bansal, Ivey Business School
- Jury Gualandris, Ivey Business School
- John Knubley, Clear Strategy
- Ian Gordon, Loblaw
- Greg Zilberbrant, McMaster University
- Joanne Gauci, National Zero Waste Council / Circular Cities and Regions Initiative
- Greg Rampley, Natural Resources Canada
- Sarah Marshall, NOVA Chemicals
- Lyndsey Boyle, Circular Citizen / One Earth
- Sophie Langlois-Blouin, RECYC-QUEBEC

## Appendix D: Virtual Workshop Summary

As part of this scoping study, Circular Economy Leadership Canada (CELC) and Smart Prosperity Institute (SPI) co-hosted a virtual stakeholder workshop on November 23, 2022, entitled 'Exploring a Circular Economy Strategy for Canada'. The workshop objectives included:

1. Sharing preliminary findings from current research on national circular economy approaches from around the world.
2. Collecting input from a diversity of key stakeholders on the design of a possible circular economy strategy or framework for Canada.
3. Exploring 'success' factors for Canada, including governance model considerations.
4. Identifying important next steps and key partnerships that could help to advance a 'made-in-Canada' approach to the circular economy.

The event had more than 120 people participate and share insights as part of the facilitated breakout discussions. A recording of the plenary discussions from the workshop can be found [here](#).

The high-level agenda for the virtual workshop is included below, along with a summary of the key take-aways from the breakout discussions, and a list of participating organizations.

### **AGENDA**

Time (ET)	
12:30pm (10 mins)	<b>Welcome &amp; Opening Remarks</b>
12:40pm (25 mins)	<b>Context-setting Presentations</b> <ul style="list-style-type: none"><li>● <b>Geoff McCarney</b>, Director of Research, Smart Prosperity Institute</li><li>● <b>Paul Shorthouse</b>, Managing Director, Circular Economy Leadership Canada</li></ul>
1:05pm (70 mins)	<b>Breakout Group Discussions</b>
2:15pm (15 mins)	<b>Report Back &amp; Wrap-up</b>
2:30pm	<b>Session Ends</b>

## **SUMMARY OF BREAKOUT DISCUSSIONS**

The virtual workshop had 9 breakout groups of between 10-12 people each, plus a facilitator and note-taker. Participants were randomly assigned to a breakout group and discussions focused on four key questions - the key take-aways from which are summarized below.

### **Question 1: What benefits or value-add could a nationally coordinated approach to the circular economy bring to Canada and/or the work you do more specifically?**

- **Provide a vision, establish priorities, generate momentum, and set direction** to enable alignment across multiple dimensions (e.g., across sectors, different levels of government, etc.).
- **Raise awareness for and the profile of the circular economy** and its opportunities, including providing a communication platform and supporting tools.
- **Harmonize approaches** to avoid complexities of jurisdictional disconnects by convening dialogues between the efforts and policies underway at all levels.
- **Align regulatory structures and policies** with circular economy goals.
- **Develop common metrics, terminologies, and definitions** for the circular economy.
- **Improve data collection, inform new standards, and enhance the measurement** of circularity, including material flow accounting.
- **Support collaboration between industries** and avoid the duplication of efforts.
- **Guide investments into innovation and critical infrastructure** and address gaps in a coordinated fashion.
- **Align supply chains** which cross borders and scale markets for secondary materials.
- **Bring additional funding and incentive programs** to scale place-based models.
- **Future-proof the Canadian economy** around combined imperatives of low-carbon economy and opportunity to reduce social, economic, and ecological liabilities while increasing the resilience of materials and manufacturing sectors.

### **Question 2: If Canada were to develop a national circular economy plan or strategy, what should be considered in terms of its design?**

- **A national CE plan or strategy is not just federal** – it can lay out shared goals, identify the role for federal government (e.g., procurement), and identify high-level objectives/guidance for provinces/territories and municipalities (as done with CCME’s plan on EPR).
- **Consider starting with CE guidelines rather than a strategy** – give people a sense of what we should be looking to do, rather than prescribing or dictating. Acknowledge strong role of provinces. Maybe a strategy will make sense down the road - any strategy needs to have commitments rather than just aspirational goals; this will trigger response from industry.
- **A strategy vs. a plan (or roadmap).** Strategy: clarity on what we will actually do, while being careful not to cripple innovation and reducing cost-competitiveness of Canada vs. rest of the world.

## **KEY CONSIDERATIONS**

- Needs to be integrated into existing policies / programs, but also needs to be its own thing to provide overall guidance.
- Ecosystems are not yet mature enough to fully operationalize CE in Canada. There is a need to enable these as a first step, which will evolve at their own pace by region, material / sector / industry, etc.
- There is risk involved with being too prescriptive right out of the gate. Setting targets too quickly creates risk / added cost for business and consumers (for retooling equipment, supply chains, etc.).

- Strategy should focus on addressing barriers and the risk reduction role for government to help drive investment.
- Need to shape through engagement (market / industry has to be ready / prepared for these shifts) and start with a 'guiding' framework, then establish more targets in a phased-in / sequenced approach. Voluntary / awareness building and the bring into regulation over time.

#### MODELS (in order from most mentioned to least mentioned)

- **Model A: Plan from above, but let place-based come up from below** – build on genuine relationships...shape through engagement; risk in being too prescriptive right out of the gate. A learning curve and should be considered as evolving. Bottom-up approach is better suited to size and diversity in Canada, could build on commonalities between sector specific regional initiatives already underway – how & \$\$ to help regional ecosystems grow. Facilitator of regional emergence of circularity rather than top-down plan. Importance of supporting local / neighbourhood scale. What sort of programs can feds provide to local communities (e.g., Smart Cities program example that served as catalyst).
- **Model B: Focus on creating multi-faceted end markets / driving market demand / market acceptance for secondary materials** (co-located to markets to reduce transport needs) – organize not by current 'sectors' but by **specific materials** which are significant waste streams. Opportunities/challenges are widely different by material. What would be best CE practices and technologies for each stream, and what is needed to enable that?
  - This would include standards for eg. recycled recyclable, etc.
  - Include innovation strategy with hubs across the country
- **Model C: Integrate into other policy plans** (Climate, Biodiversity, Agriculture) which have momentum (note, this is already happening to some extent) – or at least align with these...essential to link CE as "climate smart" policy...but also needs its own thing to provide overall guidance (e.g., Model E further below).
- **Model D: CE specific strategy structured by sectors** – coordinated with what is underway in provinces – hybrid between government and business – work with business on strategy and key targets - include advisory committees with people from every province and main activity sectors. Committees to help Canada exchange practices...share good practices and help implement in every province. "QC experience: sector-based strategy is the best way to bring stakeholders together". Multiple suggestions of a central body to facilitate, coordinate, convene this—" a coalition of stakeholders, governed by a central governing body but collaborative rather than strictly top-down" ... But counter perspective that "very difficult to do sector specific federally – from a local govt perspective it is very cross cutting and also very different between small and large communities – look for the commonalities across sectors and scales."
- **Model E: CE needs a strategy of its own** as ecosystems are not built yet (data, institutes to help develop solutions and scale / commercialize opportunities, setting goals, establishing literacy).
- **Model F:** focus on approaches and supporting business models and discreet activities (e.g., product design for recycling).

#### OTHER IMPORTANT CONSIDERATIONS

- Similar broad, cross-sectoral level of effort (e.g., as with broad adoption of digital technologies)
- Framework needs to have sticks (regulation, penalties) as well as carrots (incentives).
- Can't try to achieve circularity across all domains, materials, and spaces – we need to be strategic rather than trying to do it all at once
- Don't focus on what we have been historically good at, but also on what is emerging – inclusive of future opportunities – not focused simply on resource extraction – needs to be inclusive and open and focused on desired state
- Ensure that decisions and programs are informed and guided by holistic LCAs to avoid unintended

consequences for GHGs and other environmental impacts

- Make it collaborative across industries and sectors – be deliberately multi-sectoral – learn from each other's issues and solutions. Many topics are overarching (e.g., procurement, facility waste management, etc.)
- Plan should work to address barriers: Why is CE not happening today, why not investments in Canada, why no access to recycled materials? How to create the investment certainty? Requires data/analysis.
- Establish common definitions for key terms (Look to CSA Group, ISO, and other standards work).
- Establish a common set of metrics
- Better data is a key success factor; also supports transparency of reporting on performance over time (e.g., company and sector waste profiles, linkages to GHG emissions, etc.)
- Embed equity considerations / approaches – hold space at table for equity perspectives as being done in Guelph-Wellington, Toronto, Montreal. Consider the sharing economy dimension.
- Ensure new generations are being brought into the work.
- Very important to involve community (e.g., what is the impact in northern and remote communities of waste management approaches– lens can't only be sectoral) ...more rural and urban potentially?
- Need to engage with Indigenous communities. How do we decolonize the economy we are in right now and integrate reconciliation in our CE?
- When talking about the economic value of CE, consider who is benefitting from that value (further concentration of wealth?). Consider equity, reducing consumption. Scotland's focus on a just transition is important
- Include research into human side / behaviour change – Sitra does good work on this.

### **Question 3: What should be the role of the federal government in advancing the circular economy in Canada?**

Challenge of a federated nation – it will be critical to be realistic about what are the federal levers vs. other levels of jurisdiction. Provinces /territories have many of the jurisdictional levers. Engaging Indigenous communities brings an added layer of complexity. CCME could be a useful tool for driving guidelines and convening stakeholders if it was stronger. We need dialogue and alignment, starting with GoC as a broker.

Within federal government, it is important to place this at a 'whole of government' level within an interdepartmental / collective agency or PM office level - it can't land at NRCan or ECCC alone or will likely fail by falling short of its value-add and full potential.

- Facilitator role and convening power -supporting networks/knowledge exchange platforms for partnerships, collaboration, shared learning and action.
- National Coordinator supplementing provincial efforts and helping to coordinate them. Clarity of intent, federal standards, mechanisms for harmonization, set a gold standard approach.
- Leadership - raising ambition and vision -communicate economic opportunity - Framing out the gate as economic initiative - perceptions, perspectives, and vernacular – waste not valued.
- Broad awareness building and literacy building; establish common language/ taxonomy; help align and develop standards, especially around product design.
- Capital now for long-term gain - Funding for test beds, living labs, pre-commercial innovation spaces, other 3<sup>rd</sup> party organizations that do R&D to support private industry, start-ups
- De-risking investments in innovative service, business, technology to unlock private capital in areas where uncertainty limits investment potential (akin to tax credits for green energy). Clear identification of where fed investments into recycling infrastructure are forthcoming so companies know where to target
- Investing in skills/training for a CE economy
- Eye on trade considerations and export opportunities.

- Sharing of lessons learned, success stories, best practices within sectors, across the country and from other jurisdictions. Creating communities of practice to build social fabric and share emergent learning. Commitment to sharing and transparency is super important.
- Identifying opportunities -working up and down the value chain – no one part of the chain has awareness or incentive to approach as CE and identify opportunities.
- Establish baseline, and support measurement, data, physical flow accounting. Data aggregation and access to data. Develop assessment tools and methodologies
- Leadership within areas of federal regulation (e.g., toxics, interjurisdictional)
- Policy review of unintended obstacles / revisions to regulations (e.g., CFIA) to enable use of secondary materials; reduce barriers to moving “waste” / secondary materials across provincial and national boundaries- help sectors navigate the complexity of regulatory space.
- Leading by example – circular strategy in government’s own activities – spur demand and incentivize investment via green procurement
- Establish ‘right to reuse and right to repair’ as core economic principle

**Question 4: Is there sufficient momentum for advancing a circular economy strategy in Canada at the moment? If not, why not?**

- CE is misunderstood and there is a general lack of awareness – Hitch on to existing trends with momentum (climate, biodiversity) rather than compete. But not all about carbon emissions – need to be clear about the value of CE and the goals. There is a lack of basic understanding which presents a major barrier - the concept is often too abstract.
- Many businesses have difficulty accessing resources. A good moment to think about CE nationally because we do need to think about supply – strategic metals (imports)
- Momentum needs more real-life examples / case studies.
- EPR is a great start to providing momentum – EPR momentum in the United States will drive uptake of EPR and circular production in Canada.
- Diversion of construction material is top priority in many municipalities.
- Need greater emphasis to help shape and define what the CE means to Canadians and our resource-based economy. Current framing of CE concept as minimizing extraction of resources limits our momentum in these sectors.
- From an investment view, there are constraints around how to measure circularity that stifle any momentum. Also, difficult to promote circularity when the cost of secondary material is higher than primary.
- Consumers are ready – but difficult to identify what they want – and how to communicate this clearly and directly. What is the metric they care about and how do we articulate given complexities of the CE model?
- Need to incorporate EDI and Truth and Reconciliation considerations; how to do this at the conceptual and implementation stage, as well as how to encourage this on multiple levels for example in investing, etc.

## **LIST OF ORGANIZATIONS REGISTERED FOR THE VIRTUAL WORKSHOP**

7 Leagues Leather  
A&W Food Services of Canada Inc.  
ABC3D  
ACEC-Ontario  
Advanced BioCarbon 3D  
Agriculture and Agri-food Canada  
Alberta Beverage Container Recycling Corporation  
Alberta Industrial Heartland Association  
Anthesis Provision  
Apical Ethical Cannabis Collective  
Arc'teryx Equipment  
ArcelorMittal  
Atlantic Healthy Oceans Initiative  
Automotive Recyclers of Canada  
BASF Canada  
BC Government  
BCIT Institute Sustainability and Centre for Ecocities  
BinBreeze  
Biological Carbon Canada  
Bizbiz Global Inc  
BOMA Canada  
Buff Canada Ltd  
Calmura Natural Walls Inc.  
Cambium Inc.  
Canada Plastics Pact  
Canada Post  
Canadian Agri-food Policy Institute  
Canadian Beverage Container Recycling Association  
Canadian Biosphere Reserves Association  
Canadian Coalition for Green Health Care  
Canadian Critical Minerals & Materials Alliance (C2M2A)  
Canadian Tire Corporation  
Canadian Wood Council  
Cardwell Grove Inc.  
Carton Council Canada  
Cascades Recovery +  
CASE  
Chemistry Industry Association of Canada  
CIBC  
Circular Citizen Consulting  
Circular Economy Leadership Canada  
Circular Innovation Council  
Circular Innovation Fund  
City of Coquitlam  
City of Edmonton  
City of Guelph  
City of Hamilton  
City of Kamloops  
City of St. Thomas  
City of Toronto  
City of Vancouver  
Clear Strategy Inc.  
BC Climate Action Secretariat  
Commission for Environmental Cooperation  
Concordia University  
County of Wellington  
CSA Group  
Dalhousie University  
DEC-CED  
Deciem  
Dutch Canadian Circular Alliance  
Éco Entreprises Québec  
Efficiency Canada  
Enviro-Stewards Inc.  
Environment and Climate Change Canada (ECCC)  
Fluor Canada Ltd.  
Food Systems Lab, Simon Fraser University  
FoodMesh  
Foresight Canada  
Forestry Innovation Investment  
Global Affairs Canada  
Global Infrastructure Hub  
Gowling WLG (Canada) LLP  
GS1 Canada  
HSBC Bank Canada  
Hyon Software Inc  
Innovation, Science and Economic Development (ISED)  
Ivanhoe Cambridge  
Ivey Business School  
Keurig Dr Pepper Canada  
Light House  
Loblaw Companies Limited  
Lower Columbia Initiatives Corporation  
Lucent BioSciences Inc.  
Materials Efficiency Research Group  
Max Bell Foundation  
McMaster University  
Memorial University of Newfoundland  
Metro Vancouver  
Mind Your Plastic  
Mining Association of Canada  
MJ Waste Solutions Inc.  
Mount Royal University  
Northern Alberta Institute of Technology (NAIT)  
National Zero Waste Council  
Natural Resources Canada  
NEI Investments  
NorEEco  
Nutrienvivus Technologies Inc  
Ocean Wise  
Office of the Auditor General of Canada  
Ontario Good Roads Association  
Passive House Canada  
PepsiCo Beverages Canada  
PLAEX Building Systems Inc.  
Prairies Economic Development Canada  
Priopta  
Purpose Building  
Pyrowave  
Quebec Government  
RCC  
Reclay StewardEdge  
RECYC-QUEBEC  
Recycling Council of Alberta  
Region of Peel  
Regional Municipality of Durham  
Renewable Cities, SFU  
Retail Council of Canada  
Reusables.com  
Riverside Natural Foods  
Saskatchewan Government  
Scotiabank  
Smart Cities (Guelph-Wellington)  
Smart Prosperity Institute  
Standards Council of Canada (SCC)  
Statistics Canada  
Susgrainable  
TBS - Centre for Greening Government  
TD Bank  
The Conference Board of Canada  
The Natural Step Canada  
Toronto and Region Conservation Authority (TRCA)  
Unwrapit  
Vancouver Economic Commission

Ville de Montréal  
Walmart Canada  
weRcircular  
Wonderflux  
Wrangellia Consulting  
York Region