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CIRCULAR ECONOMY INNOVATION NETWORK (CEIN)

Consultation Deck – September 2021



EXECUTIVE SUMMARY

In Canada – as is the case globally – the last few years have seen significant increases in the volume and pace of activity focused on advancing the circular economy. This is a sign that thoughtful policymakers, business leaders and innovators across the country are starting to see “circularity” as an effective and unifying approach to achieving net zero emissions, addressing pollution and biodiversity loss, enhancing competitiveness, and fostering a stronger and more resilient economy.

The good news: the Government of Canada has provided significant leadership on this issue and countless projects, and a wide variety of networks are emerging across Canada to support the transition to a circular economy.


The bad news: progress towards a vibrant and sustainable circular economy is being compromised by the lack of cross-sector and cross-jurisdictional coordination and alignment, the absence of a clear national strategy or roadmap, insufficient investment in the identification, development and scaling of circular solutions, and by the lack of a truly national multistakeholder mechanism for driving Canada’s long-term circular economy agenda.

A strategic solution – a potential legacy of Canada’s hosting of WCEF2021 – is the development of a lean but effective national platform to centrally coordinate and support a growing circular economy innovation ecosystem or ‘network of networks’ with best-in-class research, expertise, data and information platform, and financial resources that would help advance regional and national accelerators, solution labs, pilot projects, and innovation challenges. This platform would achieve synergies across multiple disciplines, with the goal of fostering the commercialization and scaling of market-tested circular solutions and business models for domestic applications and export potential.

This consultation document – and the national Circular Economy Innovation Network (CEIN) platform being proposed – is the shared vision of the leading circular economy-focused organizations who are already working together with each other and with public and private sector leaders across the country. It is a work-in-process that will evolve based on feedback from discussions with various stakeholders and leaders from industry across Canada. This will be an industry-led effort, with additional support from all levels of government, non-profits, and philanthropic foundations.

Our initial coalition of partners – (listed later in this document) acknowledge that taking this from concept to execution is going to require considerable effort and investment, but *if not now – then when? If not us – then who?* We sense that this is a unique moment in time where need and opportunity can converge through an initiative such as the one we are proposing.

We welcome the opportunity to meet with those interested in exploring this initiative with us further. To arrange a meeting, or to share feedback directly, please contact **Paul Shorthouse**, Managing Director, Circular Economy Leadership Canada, at pshorthouse@circulareconomyleaders.ca



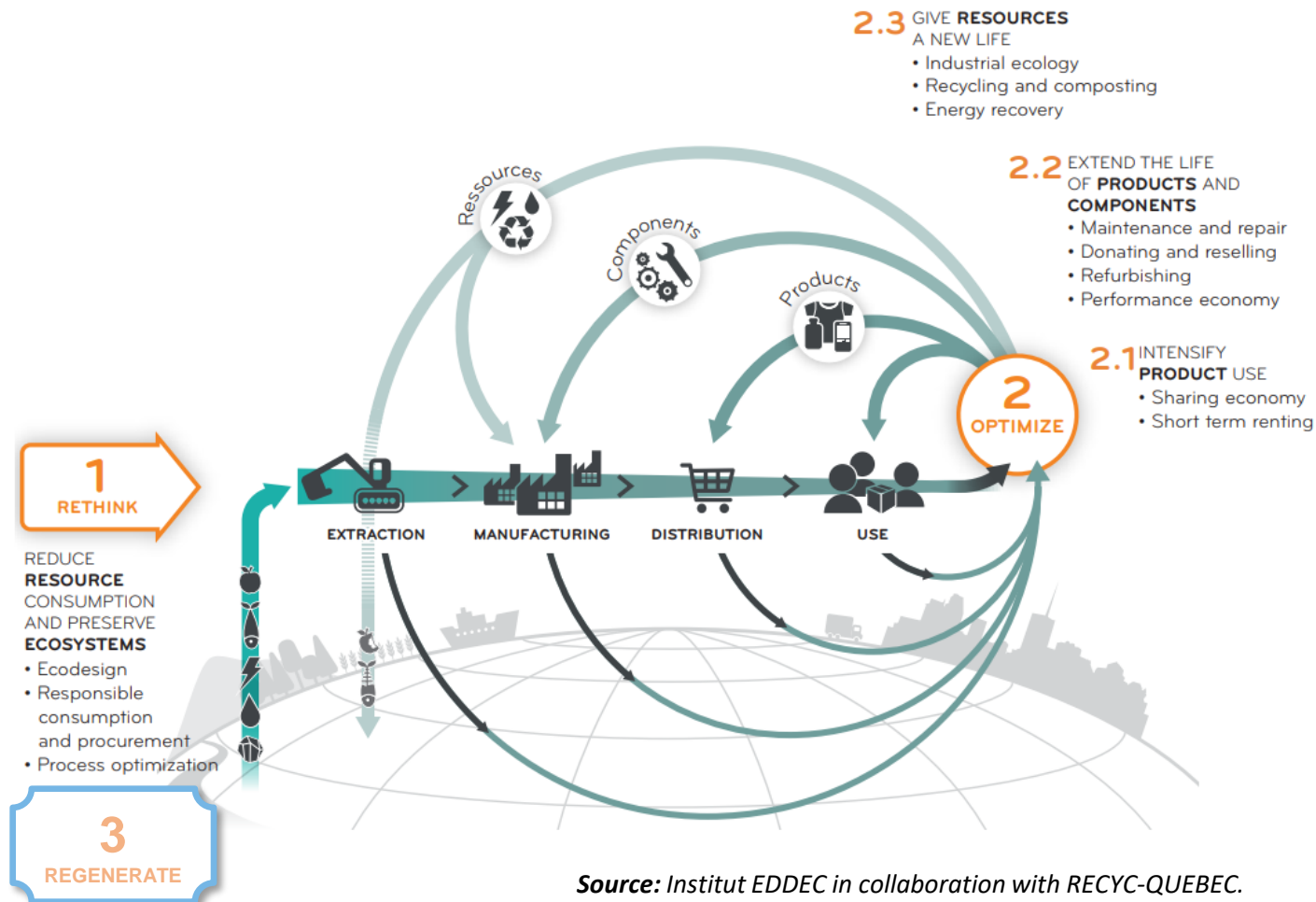
OUR CURRENT MODEL IS NOT SUSTAINABLE

We are facing 3 global environmental crises:

1. Global warming & climate change
2. Ecosystem & biodiversity loss
3. Environmental pollution

- Current linear 'take-make-dispose' economic model resulting in climate, biodiversity, pollution, and related global equity crises.
- 90% of biodiversity loss and water stress come from resource extraction.
- In 2019, over 92 billion tonnes of materials were extracted and processed, contributing to about half of global CO2 emissions.
- Global use of material resources is projected to double between now and 2050.
- Less than 9% of extracted resources are cycled back into the economy (61% are landfilled or leaked as pollution).

CIRCULAR ECONOMY MODEL PRESENTS THE SOLUTION



3 KEY PRINCIPLES:

1. RETHINK — Reducing resource consumption and designing out waste, harmful chemicals, and pollution from products and services.

2. OPTIMIZE — Keeping products and components at their highest value and in use for as long as possible while minimizing material losses (including design for durability, reuse, and repairability).

3. REGENERATE — Preserving ecosystems and regenerating natural capital.

THE CIRCULAR ECONOMY: A TRILLION-DOLLAR OPPORTUNITY

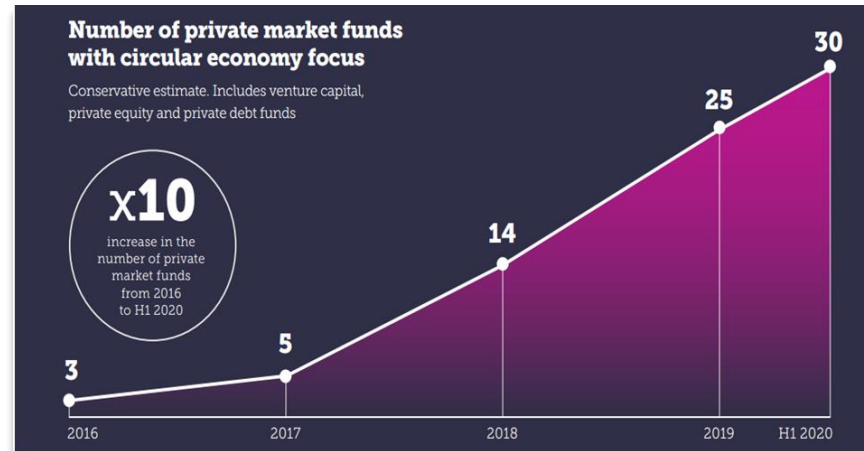
**\$4.5
Trillion
by 2030**

- Accenture

“Circular business models provide a competitive edge because they create more value from each unit of resource than the traditional linear ‘take-make-dispose’ model.”

- World Economic Forum

GLOBAL MOMENTUM IS BUILDING



BlackRock



Eric & Wendy Schmidt Fund for STRATEGIC INNOVATION



NYC Mayor's Office of Sustainability



PHILIPS

GROUPE RENAULT

H&M Group



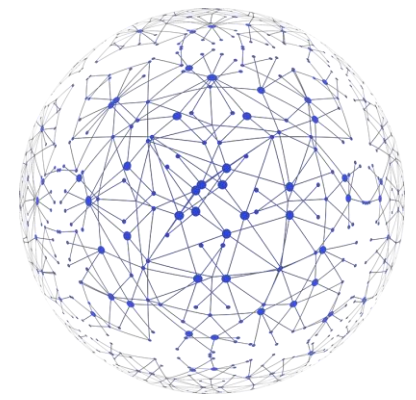
INTESA SANPAOLO



SUN Institute
Environment & Sustainability
Initiated by Deutsche Post Foundation



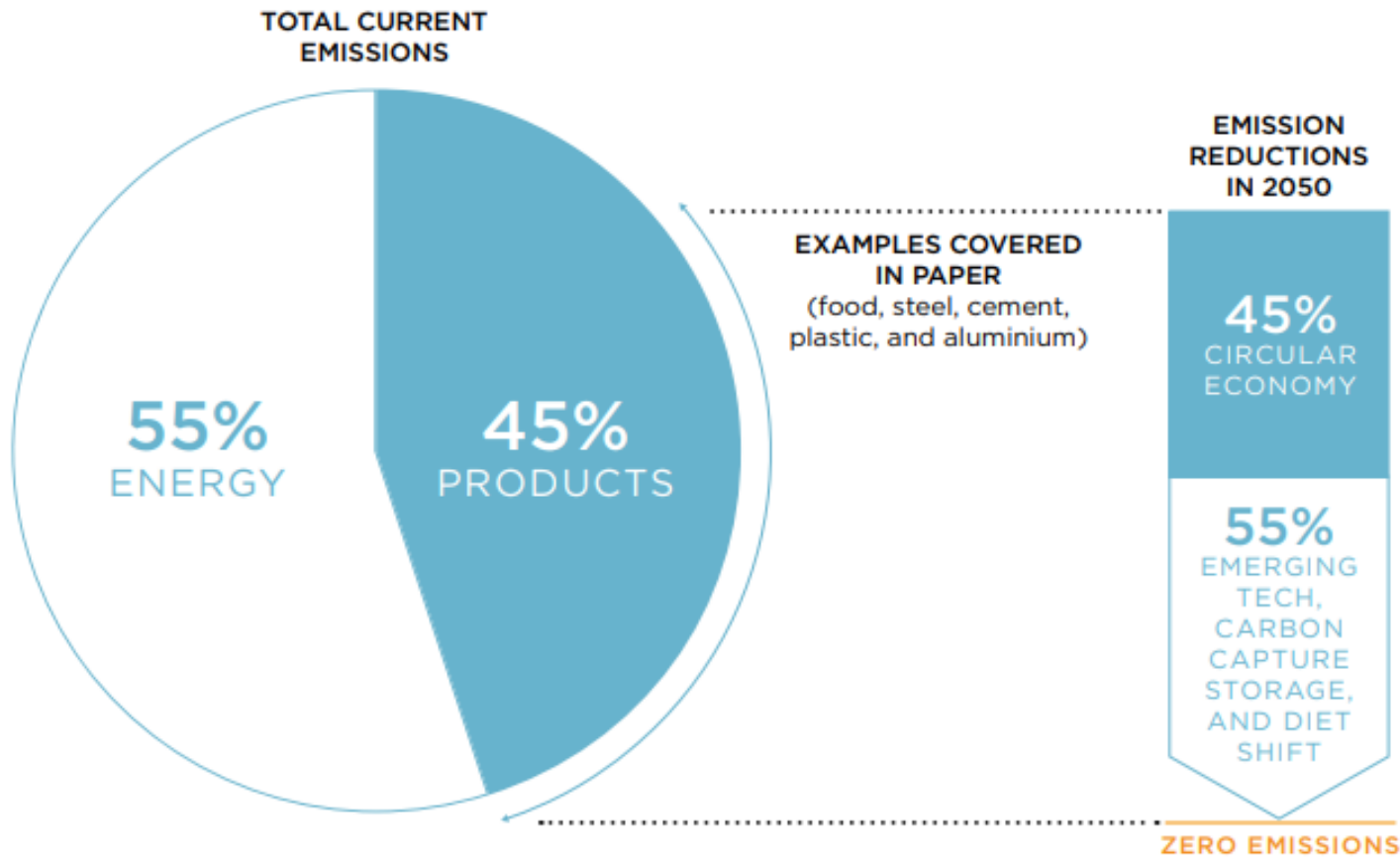
- Global groundswell of collaboration between corporates, NGOs, and governments recognizing CE as a collective response to global crises – including interconnected issues of inequity, food security, resource depletion and waste.
- Global companies are making circular economy commitments to action their net zero targets - Google, Walmart, IKEA, Philips, Unilever, Apple, and Blackrock.
- European Commission's Horizon 2020 - €1 billion into research innovation and financing of circular economy projects and initiatives with an aim to becoming global leaders in technology, regulatory, social and business model innovation.
- China's new 5-Year Plan (2021-25) includes a focus on CE and resource utilization efficiency. Under The Law to Promote the Circular Economy the Government of China has invested US \$468 billion to complete a circular economy transition of its industrial parks.



BENEFITS OF THE CIRCULAR ECONOMY

- **Maximize the value from resources** and increase resource security
- **Generate new revenues** and cost savings
- **Create resilient jobs** and workforce skills
- **Spur innovation** and attract investment
- **Reduce pollution, GHG emissions** and mitigate climate change
- **Restore and regenerate** biodiversity and natural ecosystems

GO DEEPER ON GHG EMISSIONS...




Source: Ellen MacArthur Foundation & Material Economics (2019)

Circular Economy is Key to Closing the Gap on Climate Targets

Circular strategies enable deeper GHG emission reductions by focusing on 45% of global emissions linked to productions of materials, products, food and management of land.

Reduces emissions across value chains, retains embodied energy in products, and sequesters carbon in soil and products.

Potential to reduce GHG emissions by an additional 22-44% in Canada (sector/region dependent).

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CANADA NEEDS A COORDINATED INNOVATION NETWORK...

*To accelerate a value-driven social and economic recovery, to maintain
industry competitiveness, and to lead on the global stage*

INTRODUCING... CIRCULAR ECONOMY INNOVATION NETWORK (CEIN)

The Circular Economy is *the* economic model for achieving a globally sustainable, inclusive, low-carbon society



Collaboration across all actors is key to driving the innovation and systemic change required for a circular economy



Innovation: product - business model - supply chain - policy -
technological - social



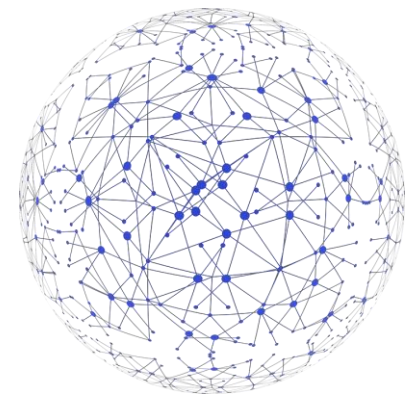
Multi-stakeholder Organizing Platform (CEIN) is needed to coordinate and scale the circular economy innovation opportunities in Canada



Outcomes: greater emission reductions - less pollution & waste -
enhanced economic competitiveness & prosperity

Purpose Statement:

CEIN's purpose is to serve as a 'network of networks' that will bring Canada's circular economy ecosystem of stakeholders together to build tools and capacity in order to implement and accelerate circular economy solutions across businesses, industry sectors, supply chains, and communities.



CEIN: VISION & OUTCOMES

VISION

- Circular economy is seen as a non-partisan model for achieving economic, social, and environmental prosperity over the long-term – alignment exists around the opportunities with broad awareness of the benefits.

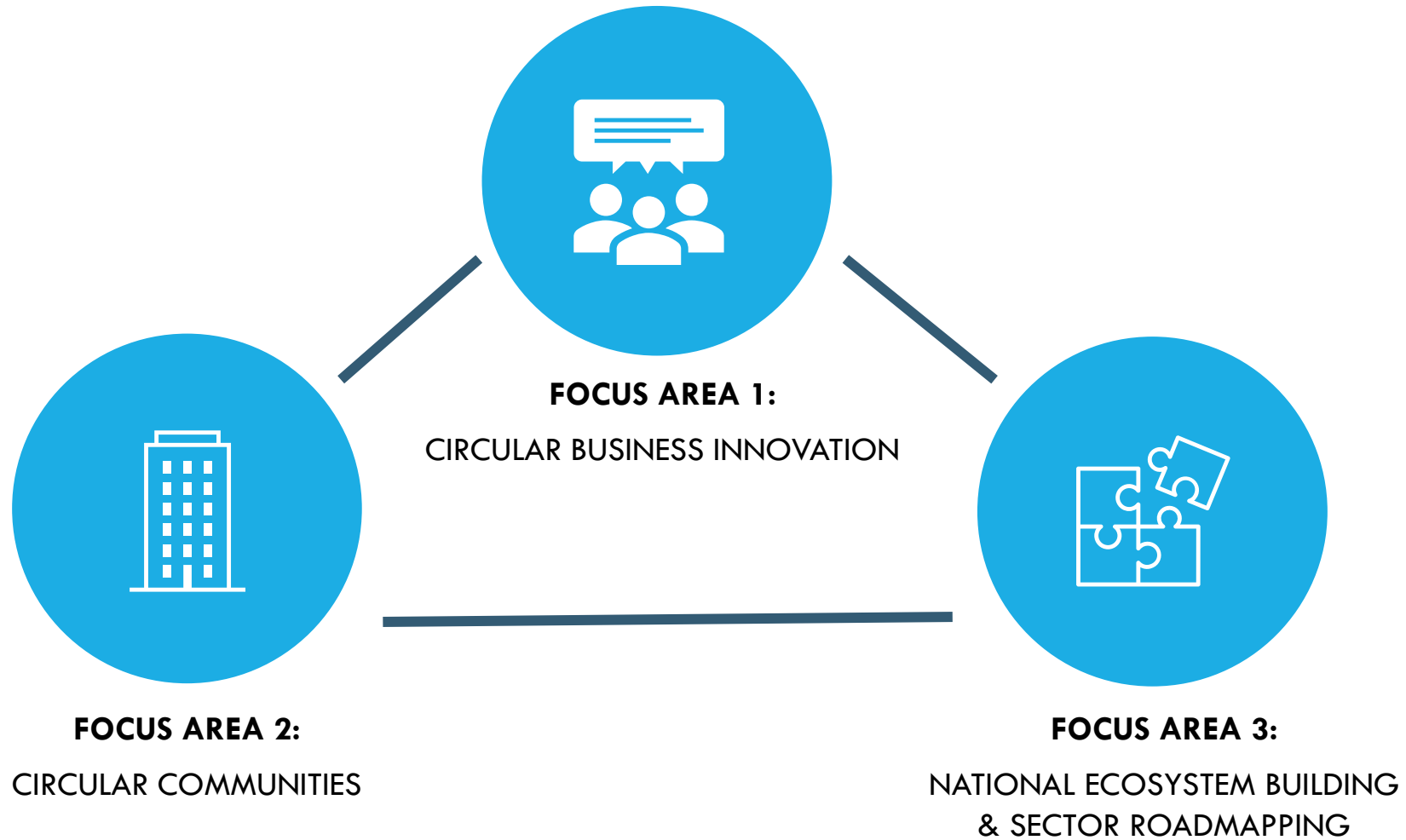
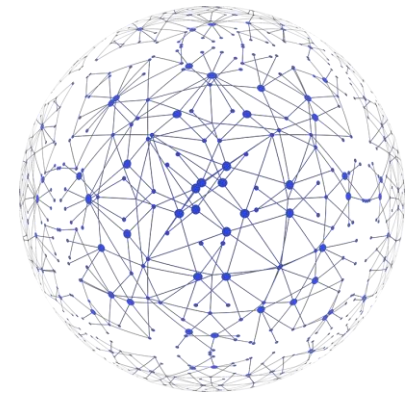
OUTCOMES

- Canada's climate goals have been achieved while advancing a strong, inclusive, diversified, and resilient economy that does not compromise livelihoods.
- Canada is seen as a circular economy leader, with our industries becoming more innovative and competitive, capable of using our materials and resources in regenerative ways to produce the highest value possible on a sustained basis (i.e., the basis for Canada's industrial and economic competitiveness strategy).
- A national circular economy roadmap and sector transition pathways provide both policy direction and key signals to industry and investors.

OUTPUTS

- CEIN serves as a central information sharing, collaboration, and coordinating platform supporting sector-specific transitions within a national roadmap framework and implementation plan.

CEIN: PROGRAMMING & FOCUS AREAS



FOCUS AREA 1: CIRCULAR BUSINESS INNOVATION

Partnerships to develop the circular economy policies, technologies, and tools to solve place-based and scalable community challenges.



**National Mission-Based
Challenge Program**



**Circular Economy Impact
Funding & Financing Program**



**National Circular
Innovation Incubators, Labs,
Accelerators Program**



**National Material
Marketplace Program**

- **National Mission-Based Challenge Programs:** Convening of national and regional innovation challenges on CE opportunities, designed with input from across the network and with solutions commercialized through regional accelerators/test beds.
- **National Circular Innovation Incubators, Labs, Accelerators Program:** Building on established CE labs and accelerators across Canada to create 8 sector-focused accelerators and 10 business model incubators for SMEs to develop new technologies and approaches to CE innovation.
- **National Materials Marketplace Program:** Enhanced B2B resources (including for industrial symbiosis programs and a coordinated online material marketplace platform) to help surface end-of-life products that can be captured and revalorized, turning waste streams into value streams through the development of new cross industry collaborations and IP creation.
- **Establish Circular Economy Impact Funding & Financing Program:** Network of small and larger financial institutions committed to financing/investing in innovative CE businesses, social enterprises, technologies, and projects – linked to shared KPI framework for measuring impact. Target available capital pool of \$25-50 million.

FOCUS AREA 2: CIRCULAR COMMUNITIES

Partnerships to develop the circular economy policies, technologies, and tools to solve place-based and scalable community challenges.



Canadian Circular Communities
Network & Capacity Building



Circular Opportunities
Innovation Launchpads - CE Testbeds

- **Canadian Circular Communities Network & Capacity Building:** Scale up of the *Circular Cities and Regions Initiative* pilot for supporting local governments and communities to develop CE strategies, including:
 - ◀ **Collaborative Civic Innovation Strategy:** Includes the joint development/procurement of tools and technologies that can help municipalities reduce environmental impacts from services (e.g., solid/liquid waste, building standards, transportation, etc.);
 - ◀ **Community Impact Collaborations:** Pilot interventions with NFPs/Social Enterprises that use CE innovations to solve persistent community issues (e.g., food access, affordable housing, employment); and
 - ◀ **Indigenous Communities and Elders:** Acknowledging that CE practices have always been central to Indigenous world view - support CE approaches as identified by Indigenous communities and facilitate indigenous / settler knowledge sharing.
- **Circular Opportunities Innovation Launchpads (COIL) as Regional Place-based Living Labs:** National call for small to regional place-based circular communities demonstration projects that bring technology and innovation into real-world community test beds through collaboration with industry partners.

FOCUS AREA 3: NATIONAL ECOSYSTEM & ROADMAP DEVELOPMENT

Ecosystem supports to facilitate knowledge transfer, cross-sector partnerships, and technology and policy innovation



National Circular Economy
Leadership Platform



National Roadmap &
Sectoral Pathway



Networks & Sector
Hubs Animation



National Data Hub



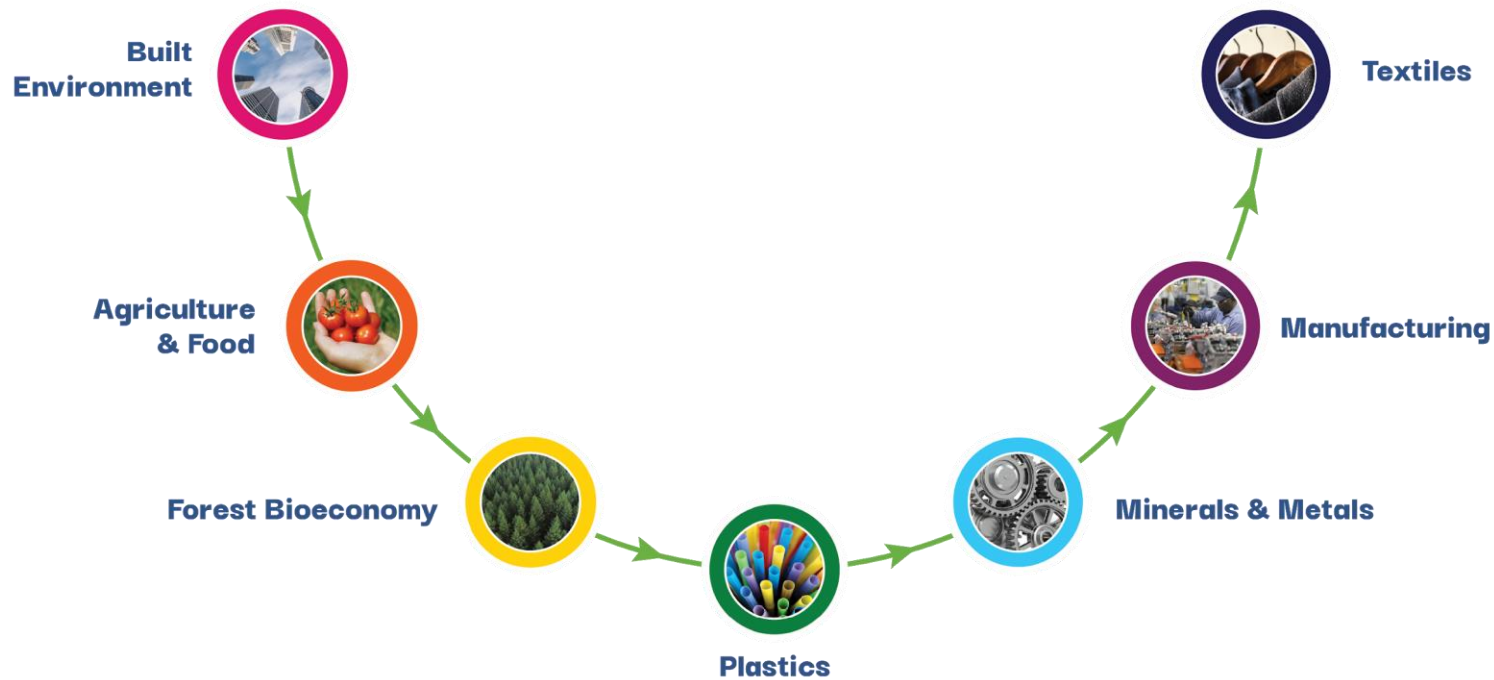
CE Research &
Capacity Building



CE Policy, Procurement &
Supply Chain Innovation

- **National Roadmap & Sectoral Pathways Development:** Development of national roadmap framework and sector transition pathways / roadmap.
- **Knowledge Sharing & Collaboration:** Development of online information portal / hub to grow awareness, showcase tools, case studies, initiatives, innovations, and leaders in the circular economy.
- **National CE Data Hub, Modelling, and Methodology:** Sector-based circularity gap reporting, material flow, and LCA / GHG emissions analysis and national open data hub.
- **Coordinated Policy & Applied Research Initiatives:** Supply chain industrial research projects, pilots, and public policy labs.
- **Procurement Tools & Policies:** Public and private sector procurement tools, processes, and best practice policies that support circularity.
- **Education & Skills Training:** Development, delivery, and promotion of CE education and skills training curricula (post-secondary and professional).

SECTOR TRANSITION ROADMAPS



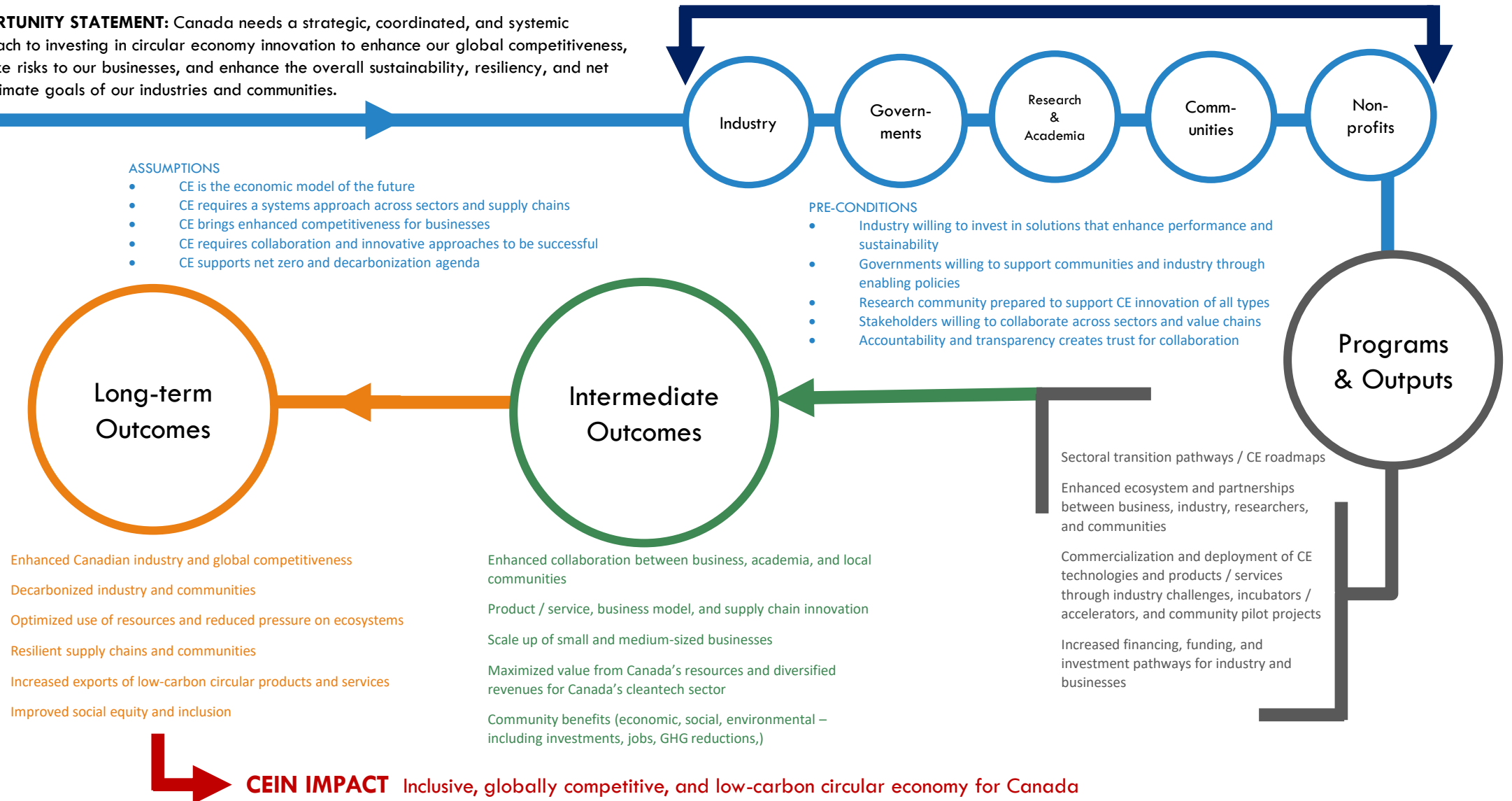
Linked to Sector Hubs

**Industry & Supply Chain
Collaboration**

**Real-world Test Beds &
Living Labs**

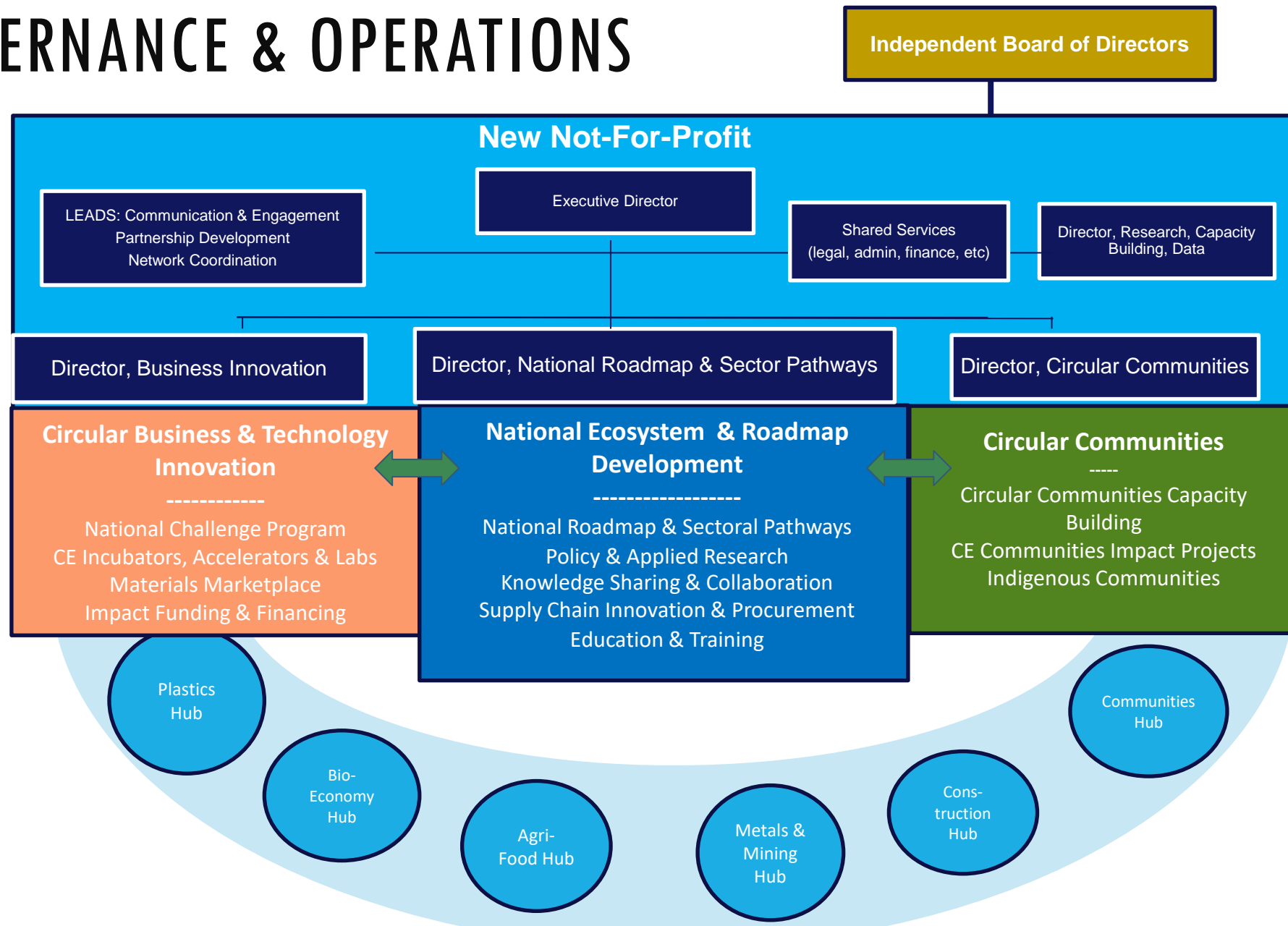
CEIN: THEORY OF CHANGE

OPPORTUNITY STATEMENT: Canada needs a strategic, coordinated, and systemic approach to investing in circular economy innovation to enhance our global competitiveness, minimize risks to our businesses, and enhance the overall sustainability, resiliency, and net zero climate goals of our industries and communities.



CROSS-CUTTING THEMES
Collaborative & Adaptive Learning – Decarbonization – Social Equity & Inclusion

GOVERNANCE & OPERATIONS



CURRENT PARTNERS



SAMPLE OF SUPPORTING ORGANIZATIONS



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