



# Connecting the chain

Increasing circularity in  
upstream food systems

COIL Circulate CoLab Challenge



Circular Opportunity  
Innovation Launchpad

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Accessible formats available by contacting  
519-822-1260 extension 3671 or TTY 519-826-9771.



# What is COIL?

Circular Opportunity Innovation Launchpad (COIL) is an innovation platform and activation network fostering, proving and scaling transformative solutions to move Canada toward a sustainable, circular economy. COIL is doing this through business incubation, acceleration and collaboration programs, innovation challenges, and large-scale demonstration projects.

COIL is a circular economy initiative of the City of Guelph in collaboration with the County of Wellington and community collaborators. COIL is funded by the Federal Development Agency for Southern Ontario. Projects across southern Ontario are eligible for funding under COIL.



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Canada



# The opportunity

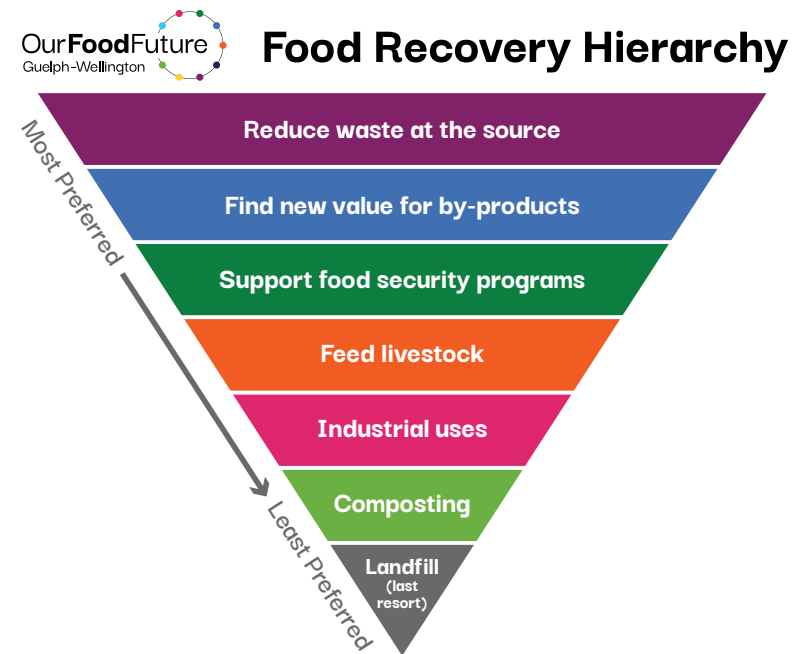
## Disrupting wasteful linear food chains with circular innovations

The food system is foundational to our society. It feeds us and provides jobs for millions of Canadians across a complex and interconnected supply chain. Food production, processing and consumption directly tie each of us to our environment, and food is a central component of our social and cultural lives.

Our current food system is predominantly designed around a linear make-take-dispose model, which relies on the constant input of virgin materials, with relatively little reuse or revalorization of materials or byproducts after their initial use. This linear system is wasteful, has negative impacts for our environment and, as the global population grows, is unsustainable.

Presently, 58 per cent<sup>1</sup> of all food produced in Canada is lost or wasted while 17 per cent<sup>2</sup> of Canadians report not always having access to enough food. The estimated value of avoidable food loss and waste in the processing and manufacturing segment alone is approximately \$21 billion annually.<sup>3</sup> Globally the food system is responsible for approximately 26 per cent<sup>4</sup> of global greenhouse-gas emissions.

<sup>1,2,3,4</sup> Nikkel, L., Maguire, M., Gooch, M., Bucknell, D., LaPlaine, D., Dent, B., Whitehead, P., Felfel, A. (2019). The Avoidable Crisis of Food Waste: Roadmap; Second Harvest and Value Chain Management International; Ontario, Canada.



While complex, the food system is also ideally structured to be redesigned around circular economy principles. When food and organic waste is diverted from landfill, innovative processes can turn those materials into energy, nutrients for agriculture, animal feed or new consumer products.

## But where does the most food loss and waste happen?

While consumers and retail generate a significant amount of food loss and waste, a recent food material flow analysis in Guelph and Wellington County found that the vast majority of food loss and waste occurs upstream during production, processing and manufacturing activities.<sup>5</sup> In Guelph and Wellington, over 31 kilotons<sup>6</sup> of food are lost during storage and packaging, and over 23 kilotons<sup>7</sup> are planned processing loss (i.e. byproducts or coproducts that typically end up in landfill).

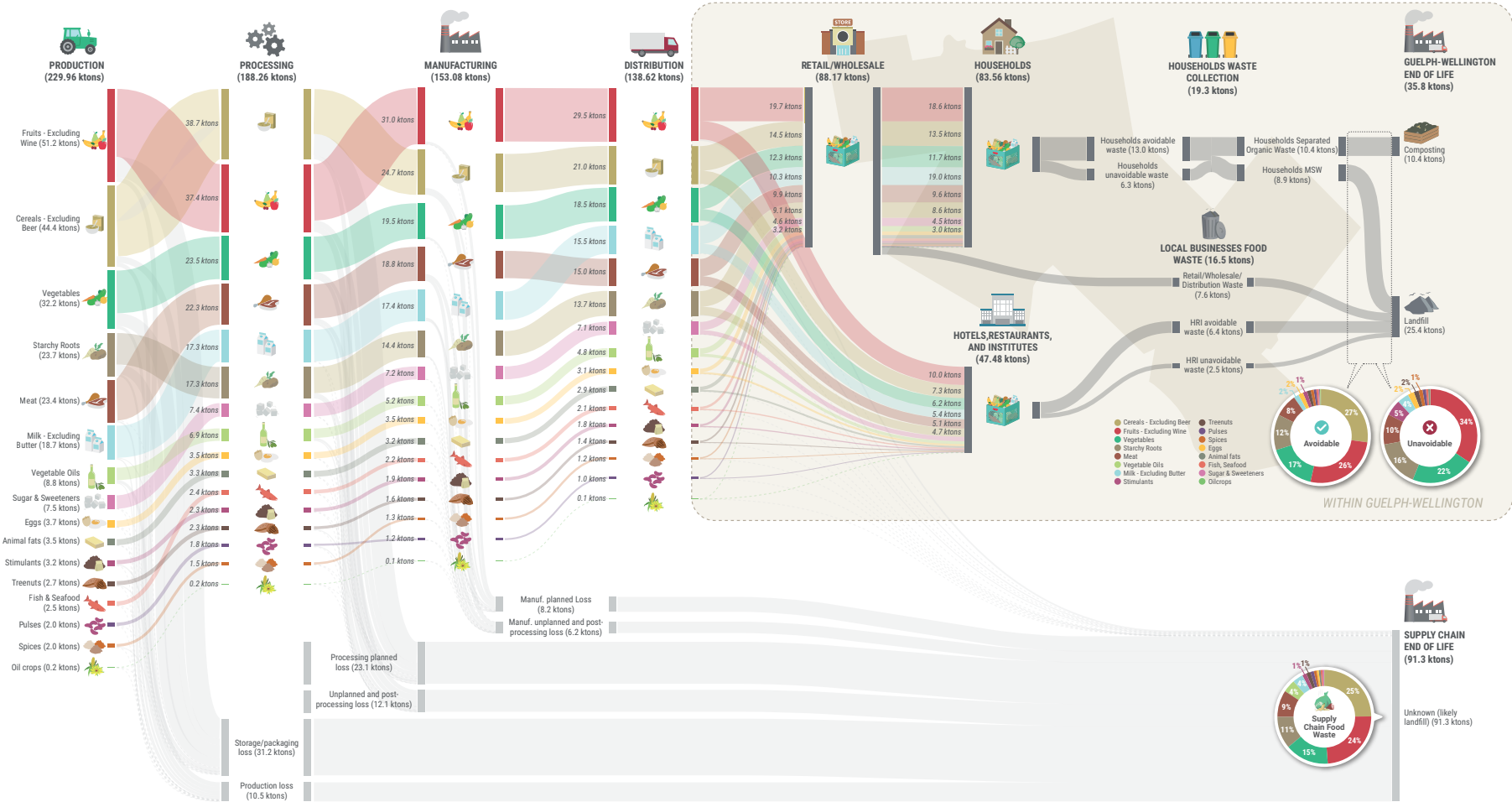
Food loss and waste is a systems issue. Ingrained economic incentives and cultural attitudes across the supply and consumption chains have created the current, wasteful status quo. To change this, we need system-level solutions that disrupt linear practices and make the business case for why the future economy needs to be circular.

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<sup>5,6,7</sup> [Food and Food Waste Flow Study](#); Dillon Consulting and Metabolic, 2021.



# Food Material Flow Analysis



## COIL Circulate CoLab Challenge

By 2024, COIL will fund five industrial-scale circular economy demonstration projects in the food and environment sectors. We're looking for projects that create new circular collaborations between organizations and that test, prove and scale innovative, circular supply chain models capable of transforming an industry, or even creating new ones.

To find projects capable of disrupting the status quo, COIL is holding three Circulate CoLab innovation challenges. Each challenge will focus on a different segment of the supply chain in either the food or environment sectors.

We are looking for teams of three to seven companies or organizations to propose ideas for how they would work together to reduce waste and emissions, increase productivity and shift a typically linear business model toward a circular approach that's environmentally and financially sustainable over the long term.

From the applications received, three teams will be invited to participate in the Circulate CoLab (CoLab), a twelve week process that gives each team access to up to \$20,000 in funding to research, test and prototype their idea along with support from mentors and circular economy experts across COIL's urban-rural testbed.

At the end of the twelve week process, teams will pitch their tested idea to our evaluation board for the potential to receive up to \$100,000 in additional project funding to scale their solution as one of five industrial-scale demonstration projects.

We're looking for teams of companies that want to be Canadian circular economy leaders. Beyond project funding and mentorship, participants in the Circulate CoLab will be promoted across the COIL and Our Food Future networks, including at national and international forums. Lessons learned from each CoLab prototype and demonstration project will be documented and shared to help expand Canada's circular economy.

# COIL Circulate CoLab Challenge #1: Circularity in the food processing and manufacturing chain

This challenge focuses on the components of the food system between production and consumption: processing and manufacturing, distribution and foodservice, grocery and hospitality. Sixty-one per cent<sup>8</sup> of the food produced in Canada is lost or wasted along these three segments.



We want to know if you have a:

- Waste-reduction idea that will improve the current Canadian food system,
- Food-loss prevention innovation that will provide a long-term benefit,
- New use for the excess, lost or wasted organic material along your supply chain,
- Better way to connect those who have food waste with those who can use it,
- New process to make recyclable packaging using organic matter that would otherwise go to waste, and/or
- New process or technology that improves food use predictability in large institutions.

How can your team work with new technologies, partners, business models or processes to reduce avoidable food waste and/or generate new value or products from organic materials (i.e. unavoidable food waste, byproducts/co-products) that would otherwise be end-of-life?

<sup>8</sup> Nikkel, L., Maguire, M., Gooch, M., Bucknell, D., LaPlain, D., Dent, B., Whitehead, P., Felfel, A. (2019). [The Avoidable Crisis of Food Waste: Roadmap](#); Second Harvest and Value Chain Management International; Ontario, Canada.

# Challenge process and application

## Step 1: Determine eligibility

Our food-system challenge is open to all Canadian entrepreneurs and organizations (for-profit or not-for-profit). It doesn't matter if your current work is focused within the food system or not. Ideas can be inspired from any industry, sector or system.

All demonstration projects that receive funding must be located in southern Ontario.<sup>9</sup>

We strongly encourage and value submissions from businesses owned by women, visible minorities, Indigenous peoples and people with disabilities.

## Step 2: Apply

All applications must be submitted through [COIL's central application portal](#).

You will be asked to provide:

- a high-level outline of the problem the project team is trying to solve,
- the proposed solution,
- the anticipated impacts of the solution (e.g. volume of waste diverted, carbon emissions avoided, jobs created, etc.),
- how the solution could be tested and prototyped within a twelve-week window and anticipated impacts of the prototype,
- a pathway for how a validated prototype approach could be scaled at least five times if selected as a full demonstration project,
- background details and experience of the collaborators,
- proposed matching contribution from project team at the prototype/demonstration project phases (cash and in-kind), and
- any additional areas of consideration (e.g., partnerships with post-secondary institutions, anticipated intellectual property or jobs created, social impacts, etc.).

Applications must be received by Friday, October 15, 2021.

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<sup>9</sup> Note: Non-Canadian organizations are eligible to participate as members of CoLab project teams; however, per FedDev Ontario funding guidelines, all project funding must be primarily directed towards Canadian enterprises. While some project elements could be located elsewhere, project elements receiving funding must be primarily located in southern Ontario.

### Step 3: Evaluation

Each submission will be evaluated by an experienced review panel based on a range of criteria aimed at identifying projects that can have a significant and long-term impact on the food system.

Evaluation criteria:

- Proposal Innovation: novelty of the approach, use of technology, outside-the-box collaborations
- Suitability for the CoLab Challenge Process: project feasibility within allotted time/budget, experience, fiscal and innovation capacity of project proponents
- Potential Economic Impact: realistic immediate pathway to scaling to demonstration project, potential for new jobs, products or intellectual property
- Potential Impact on the Industry: increased productivity, sustainability of business model, scalability/replicability of approach, potential to influence systems change
- Potential Environmental Impacts: impact of waste and/or emissions reduction or prevention
- Potential Social Impacts: potential for social benefits; diversity and inclusion opportunities

### Step 4: Circular Innovation CoLab (prototyping)

Three teams will be selected to participate in an twelve-week Circular Innovation CoLab where they will:

- Receive \$20,000 in project funding to expand and prototype their solution,
- Have access to mentoring, circular economy training and networking,
- Receive support and connections from across COIL's Urban-Rural Test-Bed Network, and
- Prepare a pitch-presentation to compete for up to \$100,000 in additional funding.

During the CoLab process, each team will work with COIL advisors who will provide guidance and contacts to help the team increase the impact of their project and better position it for the final pitch.

Those accepted to participate in our Circulate CoLab will be notified no later than end of business on Friday, October 29, 2021.

### Step 5: Final pitch

Following the twelve-week CoLab process, teams will pitch their solution and prototype to an expert evaluation committee. At least one team will be selected to receive up to \$100,000 in additional project funding to expand their solution into an industrial-scale demonstration project.

Projects not selected as full demonstration projects may still have the opportunity for additional project funding under COIL on a case-by-case basis depending on the success of the prototype and specific requirements of the project.

### Step 6: Demonstration project (project scaling)

Over the next 12 months, the winning team will work with COIL to embed their refined solution into their broader supply chain, showcasing how it will positively and practically affect long-term change through a demonstration project.

All funded demonstration projects are intended to showcase the real-world business potential of the circular economy. Funding recipients will be expected to support a reasonable range of communications activities to highlight the project and promote the circular economy.

# Timeline

	2021					2022												2023	
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
<b>Call for Submissions</b> August 25 to October 15, 2021																			
<b>Semi-finalists announced</b> October 29, 2021																			
<b>Circulate CoLab</b> November 08, 2021 to January 21, 2022																			
<b>Pitch week</b> January 24 to 28, 2022																			
<b>Finalist announced</b> January 28, 2022																			
<b>Demonstration project</b> February 07, 2022 to February 03, 2023																			

## For more information

[coil.eco/colab](https://coil.eco/colab)

[info@coil.eco](mailto:info@coil.eco)

# Frequently asked questions

## **I have a great idea but I haven't found two other partners who want to participate. Can I still submit an application?**

To develop projects capable of reaching industrial scale, we require between three to seven businesses or not-for-profit organizations. If you have an idea, but are unable to find collaborators, please contact our COIL team ([info@coil.eco](mailto:info@coil.eco)) to see if we can help.

## **What if I operate a closed-loop supply chain already?**

If you have a highly closed-loop supply chain that you want to innovate, please email us to discuss your project idea. Exceptions may be possible if there is strong potential for an interesting project with potential to scale. We may also be able to connect you with potential partners.

## **How do you define "industrial-scale" demonstration projects? Is this just aimed at large businesses or can groups of small businesses apply?**

We are looking to help create solutions or business models that can scale to transform an industry or supply chain. We have loosely defined "industrial-scale" to mean projects that are able to realistically achieve at least five times the impact at scale they

were able to demonstrate through the CoLab prototype. We hope and anticipate teams will include a mix of large, medium and small enterprises and/or not-for-profits. Teams of only small businesses can absolutely apply; however, small enterprises, like all participants, will need to demonstrate a realistic pathway to scale the impact of their CoLab prototype at least five times.

## **What is the expected time commitment for organizations participating in the CoLab process?**

Time commitments will depend on the nature of each project and structure of the project team and collaborators. Our CoLab will kick off with a one-day onboarding session which will establish the workplan for each team, including timelines for developing a project budget. Beyond the onboarding, COIL will coordinate regular one-hour calls with each team over the twelve-week process.

## **How can the innovation challenge and demonstration project funds be used?**

Prototype (\$20,000) and demonstration project (up to \$100,000) funds can be used only for eligible activities and costs, such as research, hiring consultants or experts, product creation and design, development or implementation of new technologies, purchasing of new equipment, labour, and many

other categories. Each team will work with a COIL advisor to review their proposed expenditures and ensure they meet our eligibility criteria at the start of the process.

### **Are there requirements for matching contributions from project team members?**

Participating organizations are not required to provide matching contributions. However, COIL aims to develop solutions that can be scaled and make a significant impact, and matching contributions can help broaden that impact. Therefore, our application form and final CoLab pitches ask for details on participant company contributions (cash and/or in kind), which may factor in project selection.

### **Can multinational companies participate or is this only for Canadian-owned companies?**

Multinational companies can participate in project teams; however, project funding must be primarily directed to Canadian-owned firms. Please contact our COIL team ([info@coil.eco](mailto:info@coil.eco)) if you have a specific scenario you'd like to discuss.

### **Do projects or all project components need to be located in southern Ontario?**

Projects must be primarily located in southern Ontario. While some project elements/collaborators across a supply chain may be located outside of Ontario, all project funding must be primarily spent for components in southern Ontario. Please contact our COIL team ([info@coil.eco](mailto:info@coil.eco)) if you have a specific scenario you would like to discuss.

### **Who will own project intellectual property?**

Participating businesses will own all IP coming out of COIL CoLab prototypes and demonstration projects. As these projects will be collaborations between multiple businesses, it will be the responsibility of those businesses to agree on which IP elements belong to each project participant.

