

LOW-CARBON INNOVATION FUND (LCIF) 2017-18 Program Guidelines

What is the Low-Carbon Innovation Fund?

The Low-Carbon Innovation Fund (LCIF) is a discretionary, non-entitlement granting program administered by the Ministry of Research, Innovation and Science. The program focuses on emerging, innovative technologies that will play a significant role in assisting the Government of Ontario in meeting its Greenhouse Gas (GHG) reduction goals as part of Ontario's Climate Change Action Plan.

The purpose of the LCIF is to support proof-of-concept, prototyping and pilot demonstration projects that will lead to the commercialization of processes and/or products in Ontario that are globally competitive and help reduce GHG emissions. Preference is for novel technology solutions that provide the most potential to reduce GHG emissions across a range of sectors, while offering additional environmental, economic and social benefits.

The LCIF helps Ontario companies, researchers, and entrepreneurs mitigate the significant risk and technical hurdles of validating their innovative next-gen technologies prior to commercializing. By focusing on proof-of-concept, prototyping, and demonstration projects, the LCIF addresses both a financial and technical gap in the commercialization of innovative low-carbon technologies.

The LCIF supports a broad-spectrum of R&D and commercialization support as described below:

LCIF Technology Validation Stream (expected to begin accepting proposals in Fall 2017)

- The **Technology Validation stream** will support Ontario companies or eligible academic organizations¹ with proof of concept and/or prototype projects that could result in the development of revolutionary GHG reduction technologies.
- Proof-of-concept, prototyping, and feasibility studies have a maximum 2-year timeline.
- Dependent on the outcome of projects and feasibility studies, successful Technology Validation projects could apply for an additional \$2M to scale-

¹ Funding is open, on a competitive basis, to the following Ontario institutions:

- publicly assisted universities; and,
- colleges of applied arts and technology.

Consortia of the above may also apply, with one institution as lead applicant, assuming responsibility and accountability for the consortium.

up the technology solution and demonstrate in an operational environment.

- Funding and Applicant contribution levels to be announced when the Technology Validation stream launches (anticipated in Fall 2017).

LCIF Technology Demonstration Stream

- The **Technology Demonstration stream** will provide between \$250,000 and up to \$2 million (per project) to support the scale-up and commercialization of innovative low carbon technologies in a real world, operational demonstration project.
- The Province will fund up to 50% of total eligible project costs to a maximum of \$2M per project. The Applicant and/or its partners must match or exceed this funding.
- Applicants may also leverage funding from other government sources; however, a maximum stacking rule of 66% will be applied.
- Technology demonstration projects must be completed within 2 years.
- Up to \$10.8M is available for this stream; however, the ministry may increase overall funding levels dependent on program demand.

Policy Objectives of the LCIF Program

LCIF policy objectives include but are not limited to:

- Helping Ontario's efforts to encourage consumers, researchers, entrepreneurs, businesses and workers to smoothly transition to a low-carbon economy by supporting a range of innovative technologies and applications that will reduce GHG emissions in Ontario.
- Creating economic opportunities for Ontario through the development, validation, and commercialization of innovative GHG reducing technologies within Ontario.
- Assisting Ontario cleantech companies, researchers, and entrepreneurs in developing innovative products and services that will support a range of positive environmental and societal / stakeholder impacts, including solutions for vulnerable communities.

What Initiatives will LCIF Consider Supporting?

Subject to funding limits, and the discretionary nature of the program, LCIF will consider support for the development and commercialization of innovative new technologies that focus on the reduction of greenhouse gas emissions. The

project must clearly demonstrate the reduction of greenhouse gases as well as any environmental co-benefits and economic returns.

Several types of projects will be considered for the LCIF:

- First time application of a GHG reduction technology that addresses a specific need;
- The use of a proven application that has been successful in a different sector/industry, but is unproven in the proposed application;
- Projects demonstrating a significant improvement or enhancement to an existing GHG reduction technology solution; and
- Technology Validation (e.g. proof-of-concept and prototype development; expected to begin accepting proposals in Fall 2017).

As part of their project submission to the Technology Validation stream, Applicants must identify all development and commercialization partners in Ontario that are likely to host or support the proof-of-concept project or prototype development project, and demonstrate a clear path to commercialization.

Technology validation partners may include: businesses, municipalities, First Nations and Métis communities, and research, academic or not-for-profit organizations. Documentation of a partner(s) agreement to participate or help finance the Project must be provided as part of the Business Case submission.

As part of their Project submission to the Technology Demonstration stream, Applicants must identify an Ontario location and partner(s) that will host the demonstration, and identify key stakeholders that will benefit or otherwise be affected by the Project.

Demonstration partners may include: businesses, municipalities, First Nations and Métis communities, and research, academic or not-for-profit organizations. Documentation of a demonstration partner(s) agreement to participate or help finance the Project must be provided as part of the Business Case submission.

“Assistance” can be defined in many forms including but not limited to funding or providing a site for the demonstration Project etc. The partnership can last up to the point that the demonstration Project has been successfully completed or longer (assist with commercialization).

Project Stakeholders may include potential purchasers of the technology being demonstrated, other participants in the supply chain and sector, and people or organizations directly benefitting from or affected by the Project.

What Amount of Support Would LCIF Provide?

For the Technology Demonstration stream, LCIF provides grants covering up to a maximum of 50% of eligible costs for approved projects. The funding available under this LCIF stream ranges from a minimum of \$250,000 to a maximum of \$2,000,000 per Project. Applicants may also leverage funding from other government sources; however, a maximum stacking rule of 66% will be applied. Funding and Applicant contribution levels for the Technology Validation stream will be announced when this stream launches (anticipated in Fall 2017).

To maintain maximum flexibility, the Ministry reserves the right to limit individual awards to an amount below the company's request, depending on the quantity and quality of proposals received.

What is the LCIF Process?

LCIF operates on a competitive, call for proposal basis. The program is a discretionary, non-entitlement granting program administered by the Ministry of Research, Innovation and Science that includes the following stages:

1. LCIF Self-Assessment/Report

Potential LCIF Applicants must complete an online LCIF Self-Assessment. Upon completion of a Self-Assessment, Applicants will be able to view a report that summarizes their inputs and provides feedback on eligibility and readiness to participate in the LCIF program. The self-assessment and generated report will not be available to Ministry staff and is solely for the benefit of prospective Applicants to help them decide whether or not to proceed to the Expression of Interest stage.

2. LCIF Expression of Interest

Beginning on August 11, 2017, Applicants may submit an online LCIF Expression of Interest (EOI).

The LCIF EOI gathers additional information about the applicant, project, technology, market and commercialization strategy, prospective sector and other environmental, societal / stakeholder, economic, and employment benefits and impacts. The EOI balances high level data collection (i.e. drop-down menus, data ranges etc.) with more in-depth information required to assess the potential of the proposed project and determine if an invitation to submit a full proposal (Business Case) is warranted.

Submitted EOIs will be evaluated relative to the LCIF mandatory requirements, decision criteria, the level of claimed GHG reductions and requested project funding. EOIs of merit that demonstrate sufficient potential to assist in meeting

Ontario's GHG reduction goals will be invited to proceed to the Business Case stage.

3. LCIF Business Case

Beginning on October 6, 2017, selected Applicants will be invited to submit an online LCIF Business Case. The Business Case submission will carry forward information submitted in the EOI and will require supplementary information on financial and technical aspects of the project. The Business Case will also require more detailed information on the scale, scope, and timing of anticipated future GHG reductions that result from technology commercialization, as well as the potential environmental, societal, economic, and employment impacts in Ontario.

Business Case submissions will be subjected to an in-depth assessment by OPS and third party experts relative to the LCIF mandatory requirements, decision criteria, the level of claimed GHG reductions, requested Project funding, and other LCIF policy objectives. On the basis of these assessments, the Minister will approve a portfolio of Projects for funding.

4. Contracting and Final Approvals

Subject to any required verification or due diligence procedures, successful Business Case Applicants will enter into contract negotiations with the Ministry. Successful Business Case Applicants will be required to agree on funding terms and conditions set out by the Ministry. Upon execution of funding agreements, funding will be flowed to Recipients and initial round results will be announced.

5. Project and Medium / longer-term Performance Monitoring

LCIF Recipients will be required to participate in an ongoing performance monitoring process for a period of three (3) years. Online submissions, as required by a signed funding agreement with the province, will enable tracking project performance against the claims and estimates made in the EOI and Business Case submissions.

In addition, LCIF Recipients will be obligated to provide annual summary information on commercialization progress and related GHG reductions and other benefits / impacts. LCIF Recipients will also be required to submit audited annual financial statements to the Ministry.

LCIF Eligibility Requirements

General LCIF Eligibility Requirements	
✓ The project must have the potential to play a significant role in assisting the Government of Ontario to meet its Greenhouse Gas (GHG) reduction goals as part of Ontario's Climate Change Action Plan. ✓ Applicant must be a company incorporated in Ontario or Canada with permanent establishment in Ontario or an eligible Ontario academic organization. ✓ The proposed project must be carried out in Ontario. ✓ Applicant must demonstrate appropriate funding commitments from sources other than the Government of Ontario at the time of Business Case submission. ✓ Applicant must have the rights, or demonstrate the ability to obtain the rights to commercialize the technology solution, including rights to IP or IP ownership if applicable. Such rights must include all of Ontario and preferably would extend beyond that. ✓ The timeline for completion of the Project must be less than 2 years. ✓ The EOI or Business Case must be complete, submitted by an authorized officer of the company or academic organization², must be submitted before the prescribed due date and time and must otherwise conform to the submission requirements specified in the detailed Submission Guidelines.	
Technology Validation Stream Additional Requirements (Accepting applications in Fall 2017)	Technology Demonstration Stream Additional Requirements
✓ Project must at a minimum meet the criteria for Technology Readiness Level 3 or 4 (see table below). ✓ Applicant must at a minimum meet the criteria for Commercialization Readiness Level 1 (see table below). ✓ Funding and Applicant contribution levels to be announced as part of the Technology Validation launch (anticipated in Fall 2017).	✓ The Project must at a minimum meet the criteria for Technology Readiness Level 5 (see table below). ✓ Applicant must at a minimum meet the criteria for Commercialization Readiness Level 3 (see table below). ✓ Seeking Provincial contribution between a minimum of \$250,000 and maximum of \$2,000,000. ✓ Funding Commitment: at least 50% of eligible project costs for projects up to a project total of \$4M (a stacking limit of 66% from all government sources will be applied). ✓ Agreements with any strategic partners that are necessary to enable the project to proceed must be in place. ✓ Any safety and/or regulatory approvals necessary to deploy the technologies in the Project must be in place and proof must be provided.

² Approved by VP(s) of Research, or any other approvals as required by the Applicant.

Further to the above eligibility requirements, Applicants at the Self-Assessment and EOI stages must confirm that if invited to proceed to the Business Case stage, all eligibility requirements can be met prior to submitting the Business Case. At the Business Case stage, all eligibility requirements must be met prior to Business Case submission.

Technology Readiness Levels (TRLs):

1	2	3	4	5	6	7	8	9
Basic Principles of concept are observed and reported	Technology concept and/or application formulated	Analytical and experimental critical function and/or proof of concept	Component and/or validation in a laboratory environment	Component and/or validation in a simulated environment	System/subsystem model or prototype demonstration in a simulated environment	Prototype ready for demonstration in an appropriate operational environment	Actual technology completed and qualified through tests and demonstrations	Actual technology proven through successful deployment in an operational setting

Commercialization Readiness Levels (CRLs):

1	2	3	4	5	6	7	8	9
Startup	Bootstrap operational business scaling up with initial customers but not financed or cash positive	Operational business with adequate financing to continue scale-up	Operational business has achieved sufficient revenues from initial customers to be cash positive	Has made initial inroads in local/niche markets and is seeking strategic partners to enhance market reach	Business has established position in local or niche markets and has secured national distribution arrangements	Business has established position beyond initial markets and has secured continental distribution arrangements	Business has established position in continental markets and has secured global distribution arrangements	Mature business has established global market position and is exploring diversified potential

How to Apply?

Applicants are referred to the LCIF online platform for detailed step-by-step instructions on how to register and apply for the LCIF Self-Assessment. These instructions can be found at the following URL:

English/ Anglais: https://secure.futureinnovate.net/docs/LCIF/sa-instructions_en.html

or

French/ Français: https://secure.futureinnovate.net/docs/LCIF/sa-instructions_fr.html

Once an EOI or Business Case has been submitted, all communications between the Applicant or its agent and the Government of Ontario in respect of the EOI/Business Case shall be conducted solely with the designated officials of the Ministry of Research, Innovation and Science, Scale-Up Services Branch.

What Types of Costs are Eligible?

Certain costs integral to implementing the demonstration project are potentially eligible for funding. Eligible costs are those that are incurred and paid by the applicant after the date of the Approval by Ministry. These eligible costs could include:

- ✓ Overhead costs (up to a maximum of 15% of total project costs for the Technology Validation Stream only);
- ✓ IP protection and support;
- ✓ Equipment purchase, installation and retrofitting costs;
- ✓ Materials required for the completion of the project;
- ✓ Direct labour costs for personnel involved in the project;³ Professional services in support of project deliverables;
- ✓ Maintenance costs;
- ✓ Costs associated with training of skilled resources; and
- ✓ Performance Monitoring, third party validation and evaluation costs.

Costs that are not eligible include, but are not limited to the following:

- ⊗ Land;
- ⊗ Business case preparation, success fees, third party government relations consulting services;
- ⊗ Vehicles and off site equipment;
- ⊗ Travel, meals, and hospitality;

³ This may include salaries and benefits claimed in proportion to the time spent working on the project.

- ⊗ General working capital requirements not directly attributable to the approved Project including debt service costs, Federal or Provincial income taxes, surtaxes or special expenses;
- ⊗ Remuneration to Shareholders; and
- ⊗ Costs incurred that are reimbursed by a third party or other government or agency.

Costs are actual cash outlays that must be documented through invoices and receipts and are subject to verification by an independent audit.

Applicants should be aware that the province **will not** reimburse costs associated with the application if the application for funding is not approved.

If Applicants have any questions as to what qualifies as Eligible Costs it is recommended that they contact Ministry staff for clarification.

If approved, the Province may provide grants to support eligible Project costs in accordance with the aforementioned matching and stacking rules.

Successful Applicants will be required to provide evidence, satisfactory to the province, that all necessary funding and partnerships are in place prior to the submission of a Business Case.

Tranches of funding, as described in an executed funding agreement, will be released upon the successful completion of project milestones.

For further assistance regarding the LCIF please contact the Ministry of Research, Innovation and Science.

CONTACT

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