

## **LOW-CARBON INNOVATION FUND (LCIF) 2017-18 Submission Guidelines**

The Low-Carbon Innovation Fund (LCIF) is a grant program administered by the Ministry of Research, Innovation and Science that 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 the Climate Change Action Plan.

For more details on LCIF including program objectives and eligibility, please refer to the LCIF Program Guidelines.

### **Submission Process**

For 2017-2018, to be considered for a **Technology Validation Stream** grant, Applicants must:

- Complete an online Eligibility Assessment (EA) to confirm their eligibility and readiness for the LCIF program for Ministry review;
- If approved for eligibility by the Ministry, submit a Technology Validation Stream Business Case through the online system;

To be considered for a **Technology Demonstration Stream** grant, Applicants must:

- Complete an online Self-Assessment (SA) to confirm their eligibility and readiness for the LCIF program;
- Submit a completed online Technology Demonstration Stream Expression of Interest (EOI);
- If invited after EOIs have been evaluated, submit a Technology Demonstration Stream Business Case through the online system;

If invited after Business Case evaluations, Applicants from both Streams will enter into a funding agreement (grant) with the Ministry. The funding agreement will require a commitment to provide quarterly progress reports during the timeline of the project, as well as performance information relating to commercialization results achieved for up to three years following project completion.

The following provides an overview of the LCIF application and evaluation process, and Progress / Performance Reporting indicating the nature of the information that will be required.

## Technology Validation Stream: Application Details

### 1. Online Eligibility Assessment

Technology Validation Stream Applicants must complete an online Eligibility-Assessment (EA) to confirm that their application will meet program eligibility requirements (see Program Guidelines for details on eligibility requirements). EAs must be approved by the Ministry in order for the Applicant to proceed to the Business Case stage. The Ministry will endeavour to notify all Applicants whether they have been approved to proceed to a Business Case within three (3) business days following submission of the EA.

The Eligibility Assessment covers the following topics:

**Mandatory Requirements:** These are requirements that must be met before a LCIF Business Case may be submitted. Applicants are required to assert that if invited to submit a Business Case after EA review, they will be able to meet these requirements. These requirements are specified in the Program Guidelines.

**Identification, Contact and Segmentation Information:** This part identifies the project and the Applicant, collects contact information, as well as information about the organization type, technology, application(s) of the technology, and funding sought from the LCIF program.

**Project Information:** This part collects summary information about the project, project plan and timeline, project costs, project financing, and anticipated GHG reductions to be achieved over the project timeline

**Technology Information:** This part collects summary information about the technology to be validated or demonstrated in the project, the anticipated role of the project technology in helping Ontario achieve GHG reduction goals, development and IP status, and quantitative information about potential GHG reductions and costs and revenues related to the solution.

**Market and Commercialization Information:** This part collects information about future sales prospects for the solution. Detailed information collected in this part is used to generate high-level models that calculate cumulative GHG reductions during the project and following commercialization. This is based on quantitative estimates of annual GHG reductions for a typical deployment of the technologies at commercial scale (per unit or installation), and roll-out or replication scenarios for the technologies. The models will also estimate ROI based on provided data relating to acquisition costs to adopters, annual operating costs, and anticipated financial benefits to adopters (revenues or cost-savings).

**Applicant Perspectives on Decision Criteria:** Applicants will be able to view the decision criteria that will be used to assess the EOIs, and self-evaluate their prospective submission relative to those criteria..

## **2. Online Business Case**

The Technology Validation Stream online Business Case will be opened directly to Applicants who were Ministry approved through the Eligibility Assessment process.

Note that the onus is on the Applicant to provide key information to support the process to assess the validity of GHG claims, to determine if the proposed technology and project are viable, and to evaluate the Applicant's financial and organizational capacity to commercialize the technology.

The Validation Stream online Business Case will require the following information:

**Mandatory Requirements:** Technology Validation Stream Business Cases will be reviewed to ensure that Applicants are meeting all mandatory requirements. These requirements are specified in the Program Guidelines.

**Identification, Contact and Segmentation Information:** This part identifies the project and the Applicant, collects contact information, as well as information about the organization type, technology, application(s) of the technology, and funding sought from the LCIF program.

**Project Information:** This part requires detailed data on the project plan, information on key project personnel, commitment letters from strategic partners, detailed cost and funding analysis, and an indication of the performance metrics that will be used to evaluate progress throughout the project timeline to ensure it is on track and anticipated GHG reductions and other benefits / impacts are being achieved.

**Technology Information:** This part will require detailed information for the purpose of validating Business Case claims.

**Market and Commercialization Information:** This part will require some additional detailed information for the purpose of validating Business Case claims.

**Quantification of Outcomes including Estimated GHG Reductions and ROI:** Detailed information collected in this part is used to generate high-level models that calculate cumulative GHG reductions during the project and following commercialization. This is based on quantitative estimates of annual GHG

reductions for a typical deployment of the technologies at commercial scale (per unit or installation), and roll-out or replication scenarios for the technologies. The models will also estimate ROI based on provided data relating to acquisition costs to adopters, annual operating costs, and anticipated financial benefits to adopters (revenues or cost-savings).

**Applicant Perspectives on Decision Criteria:** Applicants will need to provide a self-evaluation based on the evaluation framework provided. This self-evaluation data should be accompanied by a rationale in the text box provided, and will be reviewed as part of the Business Case evaluation process.

**Document uploads:** A number of uploads in PDF format will be required in support of the Business Case submission. This information will include: the project schedule; a project timeline chart; the project budget; financial statements; management team CVs; confirmation of agreements with strategic partners; and technical drawings of the proposed technology for review if possible.

### 3. Evaluation of Business Cases

Technology Validation Stream Business Case submissions will be evaluated by a multi-ministry team consisting of experts with relevant knowledge and experience, and external experts (technical and financial). The evaluation process will rank the Business Cases relative to the LCIF mandatory requirements, decision criteria, the level of claimed GHG reductions taking into consideration requested Project funding, and other LCIF policy objectives.

Expert reviewers will use the following criteria for evaluating the Technology Validation Stream Business Cases. Based on this evaluation, final decisions will be made by the Minister of Research, Innovation and Science. Please note some of these categories may have more than one underlying question to support the decision process:

A. Project	B. Technology	C. Market and Commercialization	D. Outcomes
A1: Need for Project	B1: Technology potential to reduce Ontario GHG	C1: Market potential	D1: Short-term GHG reductions (by 2020)
A2: Project plan	B2: Technology readiness for development/ or deployment	C2: Commercialization strategy and competitive advantage	D2: Medium / longer-term GHG reductions

A3: Organization capacity to complete Project	B3: Technology uniqueness and differentiation	C3: Organization and financial capacity for successful commercialization	D3: Other environmental impacts
A4: Financial capacity to complete Project	B4: Technology scale-up risk and risk management	C4: Market and commercialization risk and risk management	D4: Societal / stakeholder impacts
A5: Strategic partner(s)			D5: Economic impacts
A6: Project risk and risk management			D6: Employment impacts

## 4. Contracting and Final Approvals

Selected Applicants will be invited to participate in discussions leading to a funding agreement. Subject to any required verification or due diligence procedures, discussions will take place with successful Business Case Applicants to agree on funding terms and conditions. Successful Business Case Applicants will enter into contract negotiations with the Ministry and agree on funding terms, conditions and reporting obligations as set out by the Ministry. Upon satisfactory conclusion of these discussions initial round results will be publically announced.

## 5. Project and Medium / longer-term Performance Monitoring

Successful Applicants will be required to participate in an ongoing performance monitoring process involving quarterly online submissions that will enable tracking project performance against the claims and estimates made in the Business Case submission for a period of up to three (3) years. In addition, funded Applicants will be obligated to provide annual summary information on commercialization progress and related GHG reductions and other benefits / impacts.

## Technology Demonstration Stream: Application Details

### 1. Online Self-Assessment

The LCIF Technology Demonstration Stream online Self-Assessment (SA) is designed to help potential Applicants determine their eligibility and readiness for

the LCIF program. Information provided in an Applicant's SA will not be available to nor will it be reviewed by Ministry staff, and is used solely to generate feedback to potential Applicants in the form of a SA Report.

The Self-Assessment covers the following topics:

**Mandatory Requirements:** These are requirements that must be met before a LCIF Business Case may be submitted. Applicants are required to assert that if invited to submit a Business Case after EOI review, they will be able to meet these requirements. These requirements are specified in the Program Guidelines.

**Segmentation Information:** Information about the organization type, technology, application(s) of the technology, and funding that will be requested if the Applicant carries on to the EOI phase.

**Project Information:** Project data relating to costs, funding, and potential benefits.

**Market and Commercialization Information:** Estimates relating to future potential GHG reductions and other social, economic and employment benefits that could be achieved following commercialization.

## **2. Self-Assessment Report**

On completion of a LCIF Self-Assessment, Technology Demonstration Stream 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. This report will not be available to Ministry staff and is solely for the benefit of prospective Applicants to help them decide whether to proceed to the EOI stage.

To assist the Ministry in its operation and evaluation of the program, some selected data from Parts 2, 3 and 4 will be summarized in anonymized, aggregate form to provide insights into the number of potential EOIs that may be submitted, the related technologies, applications, and potential funding requests, as well as potential future GHG reductions.

## **3. Online Expression of Interest**

After participating in the LCIF Online Self-Assessment, Technology Demonstration Stream Applicants may, at their discretion, choose to proceed to the EOI stage.

The LCIF Technology Demonstration Stream EOI gathers high-level information about the Applicant, project, technology, market and commercialization strategy, prospective sector and other environmental, societal / stakeholder, economic,

and employment benefits and impacts as outlined below. While the EOI gathers similar information to the Business Case, much of this data will be high-level (i.e. drop-down menus, data ranges etc.), allowing for a thorough but expedited submission process.

The Technology Demonstration Stream online EOI will require the following information:

**Mandatory Requirements:** These are requirements that must be met before a LCIF Business Case may be submitted. Applicants are required to assert that if invited to submit a Business Case after EOI review, they will be able to meet these requirements. These requirements are specified in the Program Guidelines.

**Identification, Contact and Segmentation Information:** This part identifies the project and the Applicant, collects contact information, as well as information about the organization type, technology, application(s) of the technology, and funding sought from the LCIF program.

**Project Information:** This part collects information about the project, project plan and timeline, project team, demonstration partner(s), project costs, project financing, project risks, anticipated GHG reductions to be achieved over the project timeline, and other potential societal / stakeholder, economic, and employment benefits.

**Technology Information:** This part collects information about the technology to be validated or demonstrated in the project, the anticipated role of the project technology in helping Ontario achieve GHG reduction goals, development and IP status, uniqueness of the technology, complexity of scale-up to commercial deployment, and technology-related risks.

**Market and Commercialization Information:** This part collects information about the market and market segments, competitors, the commercialization strategy for achieving competitive advantage, resources required to achieve commercialization goals, and summary information about GHG reductions as well as information about other environmental benefits, societal / stakeholder benefits, and economic and employment impacts.

**Applicant Perspectives on Decision Criteria:** Applicants will be able to view the decision criteria that will be used to assess the EOIs, and self-evaluate their prospective submission relative to those criteria. This self-evaluation data and related rationale will be reviewed as part of the EOI evaluation process.

#### **4. Evaluation of EOIs**

Demonstration stream EOI submissions will be evaluated by a team consisting of Ministry staff and other external experts with relevant knowledge and experience. The evaluation process will rank the EOIs relative to the LCIF mandatory requirements, decision criteria, the level of claimed GHG reductions taking into consideration requested project funding, and other LCIF policy objectives. Based on this evaluation, selected Applicants will be invited to participate in the Business Case stage.

Expert reviewers for both the EOI and Business case will use the following criteria for evaluating the LCIF EOIs and Business Cases. Please note, at the Business Case stage, some of these categories may have more than one underlying question to support the decision process:

<b>A. Project</b>	<b>B. Technology</b>	<b>C. Market and Commercialization</b>	<b>D. Outcomes</b>
A1: Need for Project	B1: Technology potential to reduce Ontario GHG	C1: Market potential	D1: Short-term GHG reductions (by 2020)
A2: Project plan	B2: Technology readiness for development/ or deployment	C2: Commercialization strategy and competitive advantage	D2: Medium / longer-term GHG reductions
A3: Organization capacity to complete Project	B3: Technology uniqueness and differentiation	C3: Organization and financial capacity for successful commercialization	D3: Other environmental impacts
A4: Financial capacity to complete Project	B4: Technology scale-up risk and risk management	C4: Market and commercialization risk and risk management	D4: Societal / stakeholder impacts
A5: Strategic partner(s)			D5: Economic impacts
A6: Project risk and risk management			D6: Employment impacts

## 5. LCIF Online Business Case



The Technology Demonstration Stream Business Case builds on the information submitted in the EOI stage, but requires the upload of additional supplementary information (see description below). Information will be carried forward from the EOI online template to the Business Case online template so that Applicants will not need to re-enter previously submitted information and can focus on refining existing data and developing new information.

Note that the onus is on the Applicant to provide key information to support the process to assess the validity of GHG claims, to determine if the proposed technology and project are viable, and to evaluate the Applicant's financial and organizational capacity to commercialize the technology.

**Mandatory Requirements:** These are requirements that must be met before a LCIF Business Case may be submitted. Applicants are required to assert that they meet these requirements prior to Business Case submission. These requirements are specified in the Program Guidelines.

**Identification, Contact and Segmentation Information:** Information in this part is identical to the EOI stage and can be updated by the Applicant as required. This part identifies the project and the Applicant, collects contact information, as well as information about the organization type, technology, application(s) of the technology, and funding sought from the LCIF program.

**Project Information:** Information in this part includes all information previously submitted in the EOI stage and can be updated by the Applicant as required. The Business Case requires additional detailed data on the project plan, resumes of key project personnel, commitment letters from strategic partners, detailed cost and funding analysis, and an indication of the performance metrics that will be used to evaluate progress throughout the project timeline to ensure it is on track and anticipated GHG reductions and other benefits / impacts are being achieved.

**Technology Information:** Information in this part includes all information previously submitted in the EOI stage and can be updated by the Applicant as required. The Business Case will require some additional detailed information for the purpose of validating Business Case claims.

**Market and Commercialization Information:** Information in this part includes all information previously submitted in the EOI stage and can be updated by the Applicant as required. The Business Case will require some additional detailed information for the purpose of validating Business Case claims.

**Quantification of Outcomes including Estimated GHG Reductions and ROI:** Detailed information collected in this part is used to generate high-level models that calculate cumulative GHG reductions during the project and following commercialization. This is based on quantitative estimates of annual GHG reductions for a typical deployment of the technologies at commercial scale (per

unit or installation), and roll-out or replication scenarios for the technologies. The models will also estimate return on investment based on provided data relating to acquisition costs to adopters, annual operating costs, and anticipated financial benefits to adopters (revenues or cost-savings).

**Applicant Perspectives on Decision Criteria:** Applicants will be able to update their self-evaluation data and rationales as provided in the EOI. This self-evaluation data and related rationale will be reviewed as part of the Business Case evaluation process.

**Document uploads:** A number of uploads in PDF format will be required in support of the Business Case submission. This information will include: the project schedule; a project timeline chart; the project budget; financial statements; management team CVs; confirmation of agreements with strategic partners; and technical drawings of the proposed technology for review if possible.

## **6. Evaluation of LCIF Business Cases**

Business Case submissions will be evaluated by a multi-ministry team with relevant knowledge and experience, and external experts (technical and financial). The evaluation process will rank the Business Cases relative to the LCIF mandatory requirements, decision criteria, the level of claimed GHG reductions taking into consideration requested project funding, and other LCIF policy objectives.

Based on this evaluation, with final decisions resting with the Minister of Research, Innovation and Science, selected Applicants will be invited to participate in discussions leading to a funding agreement.

## **7. Contracting and Final Approvals**

Subject to any required verification or due diligence procedures, discussions will take place with successful Business Case Applicants to agree on funding terms and conditions. Upon satisfactory conclusion of these discussions initial round results will be publically announced.

## **8. Project and Medium / longer-term Performance Monitoring**

Successful Applicants will be required to participate in an ongoing performance monitoring process involving quarterly online submissions that will enable tracking project performance against the claims and estimates made in the EOI and Business Case submissions for a period of up to three (3) years. In addition, funded Applicants will be obligated to provide annual summary information on commercialization progress and related GHG reductions and other benefits / impacts.

## **CONFIDENTIALITY**

Please note that the Ministry of Research, Innovation and Science is subject to the Freedom of Information and Protection of Privacy Act. Any information submitted in confidence should be clearly marked. Third party information that meets the test set out in Section 17 of the Act will not be disclosed without notice to the Company. The following excerpt outlines the requirements:

### **Third party information - Section 17.1:**

A head shall refuse to disclose a record that reveals a trade secret or scientific, technical, commercial, financial or labour relations information, supplied in confidence implicitly or explicitly, where the disclosure could reasonably be expected to:

- (a) prejudice significantly the competitive position or interfere significantly with the contractual or other negotiations of a person, group of persons, or organization;
- (b) result in similar information no longer being supplied to the institution where it is in the public interest that similar information continue to be so supplied;
- (c) result in undue loss or gain to any person, group, committee or financial institution or agency; or
- (d) reveal information supplied to or the report of a conciliation officer, mediator, labour relations officer or other person appointed to resolve a labour relations dispute. R.S.O. 1990, c. F.31, s. 17 (1); 2002, c. 18, Sched. K, s. 6.

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

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