



BEST

CHALLENGE

Biotechnology, Electricity,
& Sustainable Transportation

ONLINE SUBMISSION:
www.eraadmin.ca

DEADLINE:
September 13, 2018
5 p.m. MDT

Call for Expressions of Interest

GUIDELINES

EMISSIONS
REDUCTION
ALBERTA 

Investing in technologies
for a lower carbon future.

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Legal Notice

Emissions Reduction Alberta is a registered tradename of the Climate Change and Emissions Management (CCEMC) Corporation and is referred to as ERA throughout this document. By submitting an Expression of Interest (“EOI”), you confirm that you have read, understand and accept the information contained in this Call for Expressions of Interest and, that each of you, the applicant (the “Proponent”), and any project partners agree as follows:

- a) ERA may at any time suspend, terminate, cancel, withdraw, amend or alter all or any portion of this request for proposals (“RFP”) EOI stage (“EOI Stage”), including but not limited to the EOI requirements, the EOI selection and review process and the EOI eligibility criteria.
- b) ERA reserves the unqualified right to accept or reject any or all EOIs for any reason. ERA is not required to accept the highest ranked EOI nor is it required to accept any EOI recommended for advancement to the full project proposal (“Full Project Proposal”) stage (“FPP Stage”) by the applicable ERA evaluators.
- c) The final decision with respect to the projects to be included in the EOI short-list rests solely with ERA Board of Directors (“Board of Directors”). The Board of Directors’ evaluation of EOIs may be based on, but is not in any way limited to, the criteria set out in this RFP. The Board of Directors may consider any criteria determined by the Board of Directors to be relevant to ERA’s mandate, regardless of whether such additional criteria have been disclosed to the Proponent.
- d) EOIs that do not comply with the requirements described in this RFP may be rejected in whole or in part or not considered by ERA. ERA reserves the unqualified right to accept or reject a non-compliant EOI.
- e) This EOI Stage is an invitation for EOIs only. It is not an offer and the submission of an EOI does not create a contract or agreement of any kind between ERA and the Proponent.
- f) No conduct, act or omission of CCEMC, CCEMC operating as ERA, or its directors, officers, consultants, project advisors, agents, servants and their respective successors and assigns (collectively the “ERA Parties”) other than a written notice to the Proponent in writing signed by an authorized person for ERA, will constitute an acceptance of an EOI.
- g) Acceptance of an EOI does not create any binding contract between ERA and the Proponent. ERA shall not be obligated in any matter whatsoever to any Proponent until a written contribution agreement (“Contribution Agreement”) between CCEMC operating as ERA and the Proponent has been duly executed relating to an approved FPP.
- h) As between the parties, the EOI and all documents and materials you submit to ERA in connection with the EOI Stage and all intellectual property in and to the foregoing are the exclusive property of ERA immediately upon delivery to ERA. For clarity, this refers to the materials themselves, not to any technology or innovations disclosed or discussed in them. Intellectual property developed during the course of the project will be addressed through the Contribution Agreement and will normally be owned by the Proponent.

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- i) You, the Proponent and any project partners will keep this EOI Stage confidential and will not use, reproduce or distribute it, any portion of it, or any data, information, drawings, or specifications included in or provided with it except as necessary to prepare an FPP as requested by ERA.
 - j) Neither ERA nor any of ERA Parties will have any liability whatsoever to you, the Proponent or any project partners, or any of them, in connection with this EOI Stage or any EOI prepared in response to it.
 - k) You, the Proponent and any project partners will not make a claim against CCEMC, CCEMC operating as ERA or ERA Parties for any reason whatsoever or howsoever relating to this EOI Stage. You are undertaking the expenditures required to prepare and submit an EOI entirely at your own risk, and you waive any right and release ERA and ERA Parties from any demands, liability, claim or recovery for costs, expenses, or damages incurred whatsoever or howsoever arising out of or relating to this EOI Stage or any EOI prepared in response to it, whether such right or claim arises in contract, negligence or otherwise.
 - l) ERA takes no responsibility for the accuracy of the information supplied during this EOI Stage process by ERA or ERA Parties.

1 Introduction

1.1 ERA

Emissions Reduction Alberta (“ERA”) is a registered tradename of the Climate Change and Emissions Management (CCEMC) Corporation. ERA was established as a key partner of the government of Alberta to address Alberta’s Climate Leadership priorities. ERA has a mandate to identify and accelerate innovative solutions that secure Alberta’s success in a lower carbon economy. By supporting the next generation of clean technology, ERA helps Alberta build an open, sustainable and increasingly diversified economy that attracts investment, facilitates diversification, expands market access and delivers improved environmental outcomes.

1.2 Document Scope

This Call for Expressions of Interest (“Call”) is inviting project proposals to be evaluated in a competitive funding process (see Section 4.1 below). These instructions provide information about the Expression of Interest (“EOI”) stage only. Information specific to the Full Project Proposal (“FPP”) stage will be available when FPP invitations are made, which will address preparation and evaluation of FPPs for applicants who are successful at the EOI stage.

2 Call for Proposals Scope

2.1 Focus Area

Alberta’s electricity, transportation, and biological industries (including forestry, agriculture, and waste management) have a significant impact on the economy and standard of living and account for more than 40 per cent of the province’s annual GHG emissions¹. Global technology trends—such as decentralization, digitization, electrification, and implementation of sustainable practices—are accelerating opportunities for emissions reductions and economic growth while deepening the integration between these strategic focus areas; Alberta has the opportunity to take a leadership role in advancing *the best* technology solutions to enhance sustainability and global competitiveness. Investments in innovation for these areas can be a key driver in diversifying the economy, strengthening existing industries, and ultimately establishing Alberta as a leader in the low carbon economy of the future. ERA’s investments will result in benefits to the province of

¹ *National Inventory Report 1990-2015: Greenhouse Gas Sources and Sinks in Canada* (2015 data)

Alberta, the public, technology developers, and industry by accelerating the demonstration and implementation of novel technologies to help meet this challenge.

This Call is seeking innovative technology solutions for reducing GHG emissions and securing Alberta's success in a lower-carbon economy in the following focus areas:

- Biological resource optimization and biotechnology;
- Low-carbon electricity; and
- Sustainable transportation.

These focus areas share similarities in terms of global trends, market barriers, and the need for validation and deployment of emerging technological solutions. Significant opportunities exist in each area and at the intersections between them. ERA is inviting proposals that involve one or more of these focus areas, and expects to select a diverse portfolio of opportunities for funding.

Note: The size of opportunity and potential for widespread GHG and economic benefits will be taken into consideration during ERA's project selection. ERA reserves the right to consider optimal portfolio balance and strategic mandate alignment when selecting proposals for funding.

The following examples are provided as potential opportunities in the focus areas targeted under this Call. Please note that these are provided as examples only; any technology solution that achieves the desired outcomes of this Call in one or more of the focus areas may be applicable:

- Novel low- or non-emitting electricity generation technologies;
- Innovation to reduce the cost and increase the effectiveness of renewable electricity generation;
- Electricity system innovation related to optimization of distribution, transmission or utilization;
- Technologies to enable high proportions of intermittent and variable renewable electricity on the grid and to create a zero-emissions electricity system for the future;
- Innovation for low- or non-emitting mobility and transportation solutions in commercial, industrial, freight, rail, and aviation applications;
- Novel low-emissions propulsion technologies, including innovative opportunities related to hydrogen use, electrification, and alternative fuels;
- Next-generation innovative bioenergy and biofuel opportunities, including novel waste-to-energy and renewable natural gas technologies;
- Low-carbon biomaterials, biochemicals, and bioproducts including use of agriculture, forestry, and municipal wastes for value added products and processes;
- Optimization of agriculture and forestry operations to reduce GHG emissions or to enhance natural GHG sinks;
- Other cross-sectoral solutions such as digital optimization, data analytics, automation, "smart" systems, novel systems integration tools, and low-carbon heat.

ERA's *BEST Challenge* is designed to align with Alberta's Climate Leadership Plan, which commits to supporting the development and deployment of technologies to reduce Greenhouse Gas (GHG) emissions to secure Alberta's prosperity in a low carbon future. It is also designed to align with the [Climate Change Innovation and Technology Framework \(CCITF\)](#), the [Carbon Competitiveness Incentive Regulation \(CCIR\)](#), and other Government of Alberta initiatives.

Note: Applicants who have questions about the EOI process or who wish to discuss their potential submission with ERA are invited to email applications@eralberta.ca. Inquiries will be directed to appropriate personnel within ERA to address their questions.

2.2 Project Structure

Funding made available through this process is provided for completion of projects with well-defined objectives, milestones, deliverables, and timelines. Applicants must clearly delineate the scope of the project for which ERA funding is being requested and the GHG reduction potential associated with that scope of work. Any related work outside the scope of the project (e.g. before the project term or in parallel with the project) may be discussed in the proposal but should be clearly indicated as such.

2.3 Stage of Development

This Call is limited to projects that involve advancing transformative innovation toward commercialization in Alberta for the areas of electricity, biological processes, and sustainable transportation. EOIs are invited for projects at the stages of field piloting, commercial demonstration, or first-of-kind commercial implementation, as described below.

- **Field Pilot:** At this stage the technology or innovation is ready to be field tested in an operational environment. Projects in this category include scale up of prototypes to representative pilot scale and subsequent in-field testing of pilot units.
- **Commercial Demonstration:** At this stage of development, the technology or innovation is approaching the final commercial product and representative systems have been built. Projects in this category include demonstration of near- or fully-commercial scale systems in an operational environment.
- **First-of-Kind Commercial Implementation:** At this stage, the technology is ready for first-of-kind commercial deployment. Projects in this category will involve design, construction, and operation of the technology in its final commercial form, with the intent to operate the technology for its full commercial life.

Note: Applicants must demonstrate how the proposed technology or application thereof is an innovative solution for emissions reductions in Alberta. This may include aspects such as first-of-kind demonstration of novel technological solutions, or innovative adaptation of solutions that have been implemented elsewhere but have not been deployed in Alberta. ERA funding will not be provided to address only a financial barrier or for projects that involve the implementation of business-as-usual technology.

2.4 Project Location

All projects supported through this Call must demonstrate a clear and justified value proposition for reducing GHG emissions in Alberta. Technology solutions can originate from anywhere globally, but must be piloted, demonstrated, or implemented in Alberta. Projects that involve demonstration or implementation at multiple sites are eligible for funding under this Call.

2.5 Eligible Applicants

This Call is open to all categories of lead applicant, including technology developers, industry, industrial associations, small and medium-sized enterprises, research and development (R&D) organizations, post-secondary institutions, municipalities, not-for-profit organizations, government research labs, and individuals. Applicants are not required to be based in Alberta, but must demonstrate a clear value proposition for the province.

Collaboration between multiple organizations is eligible and encouraged for this opportunity. Collaboration between partners can often represent a strong value proposition by demonstrating opportunities for technology validation, commercialization, and sharing of results.

Applicants are encouraged to engage and include Alberta's post-secondary and research institutions in the project consortium where appropriate. It is desirable for projects to attract and train highly qualified personnel who can increase Alberta's innovation capacity in the areas of focus for this Call.

There are no restrictions on the number of EOIs that can be submitted by any applicant. However, applicants are encouraged to be selective and bring forward only the most promising and highest quality applications.

Projects or portions thereof that have received funding or funding approval from ERA/CCEMC are not eligible to receive further ERA funding. However, applicants may request support for a new phase of development or demonstration that builds on and sufficiently advances a previously-funded project.

3 Terms of Funding

3.1 Total Funds Available

The total funding available for projects supported through this Call is up to **\$70 million** Canadian Dollars (CAD), subject to the discretion of ERA and the availability of funds.

3.2 Cost Sharing

The maximum funding request to ERA for any one project is **\$10 million** CAD. ERA will only match contributions toward eligible expenses on a maximum one-to-one (1:1) basis. As such, the

maximum ERA contribution to a single project will be no more than **50%** of the project's eligible expenses.

ERA will only match unencumbered cash contributions to the project for eligible expenses. ERA will not match other government funds provided directly for the proposed project (provincial, federal, or international), or future revenue associated with the outcomes of the project such as offset credits, Canadian SR&ED credits, or sales revenue from the project's end-products. However, the presence of these revenue sources does not disqualify a project from eligibility and may be noted in the EOI, as the merits of these contributions will be taken into consideration during the evaluation.

For information about eligible expenses and costs, please refer to the ERA *Eligible Expenses and Cost Instructions* document available on <http://eralberta.ca/apply-for-funding>.

Note: Applicants must justify the amount of funding requested. ERA may choose at its sole discretion to award project funding for less than the requested amount.

3.3 Project Term

The maximum length for projects funded under this Call is **three (3) years**.

3.4 Project Initiation

Projects may commence after notification of ERA funding approval. However, no disbursements will be made prior to execution of a Contribution Agreement with ERA. ERA will only contribute toward project costs incurred after the date of ERA funding approval. Project-related costs incurred prior to ERA funding approval will be considered out of scope, will not be considered eligible project costs, and are not eligible for fund matching from ERA. Furthermore, any project costs incurred prior to execution of a Contribution Agreement will not be reimbursed by ERA in the event that an agreement is not executed.

3.5 Contribution Agreement and Outcomes Tracking

Successful applicants will be required to enter into a Contribution Agreement ("Contribution Agreement") with ERA. The Contribution Agreement will address, without limitation, project scope, work plan, milestones, deliverables, performance targets, payment schedule, reporting requirements, and terms of funding.

Recipients will be required to report on project progress, achievements, and project outcomes, including actual and expected GHG reductions, job creation, and other environmental, economic and social benefits.

4 Submission Details

4.1 Submission Process

ERA is committed to a consistent, fair, and transparent process to evaluate and select projects that best fit the objectives of ERA and the BEST Challenge. ERA uses a Call process that is divided into two stages, the Expression of Interest (EOI) stage and the Full Project Proposal (FPP) stage, followed by Contribution Agreement development and project execution. A detailed description of ERA's funding process can be found on the ERA website at: <http://eralberta.ca/apply-for-funding/#era-funding-process>.

Note: Applicants who have questions about the EOI process or who wish to discuss their potential submission with ERA are invited to email applications@eralberta.ca. Inquiries will be directed to appropriate personnel within ERA to address their questions.

4.2 Submission Deadline

The deadline for submission of EOIs in response to this Call is **Thursday, September 13, 2018 at 5:00 PM Mountain Daylight Time (UTC-6h)**. Late submissions will **not** be accepted. Applicants are encouraged to complete their submissions well in advance of the deadline. Furthermore, ERA will not accept partial or incomplete submissions. All required content must be uploaded and inserted into ERA's Emissions Reduction Information Management System ("ERIMS") at www.eraadmin.ca, and the submission must be finalized by completing all necessary online steps for the EOI to be considered complete. Applicants will receive an automatically-generated email confirming receipt of the EOI upon submission.

4.3 Application Process Schedule

The following timelines are anticipated for the full application process. Note that ERA reserves the right to alter these timelines or cancel the Call.

Action	By Whom	Timing
EOI Submission Deadline	Applicants	September 13, 2018
EOI Shortlist Notification	ERA	October 26, 2018
FPP Submission Deadline	Applicants	December 20, 2018
FPP Oral Presentation	Applicants	Week of January 28, 2019
Funding Decision Notification	ERA	March 1, 2019

4.4 Submission Content

EOIs must be submitted using the ERIMS at www.eraadmin.ca. Users must create an account and complete all mandatory forms to submit an application. Each submission must consist of the following:

- **Expression of Interest Document:** This document will form the basis of ERA’s evaluation, and must fully address each of the evaluation criteria.
- **Letters of Support (Optional):** Letters of support from funding sources, site hosts, or other partnering organizations may be uploaded as an appendix to the EOI document.
- **Online Information:** In addition to the documents outlined above, applicants are also required to enter general information about the project into the ERIMS online system.

Note: Only the required documents and information described above will be reviewed. Any additional attachments, materials, or information appended to the required documents will not be considered during the evaluation.

4.5 Submission Standards

A response template for the EOI document will be made available for applicants on the ERIMS during the application process. The response template will be located in “Section 4 – EOI Guidance and Templates” of the EOI submission area of the IMS system.

The final EOI document must be uploaded in PDF format and may be no more than ten (10) letter-sized (8.5” x 11”) pages in length, including all text, graphics, and tables. **Any extra pages beyond the limit will be removed from the document and will not be considered by the evaluators.** The document must use Calibri (or Arial) 11-point font with a minimum of 1.0 line spacing. Margins must be no smaller than 2.54 cm (1”). Only one document may be uploaded per submission.

Note: The page limit does not include optional letters of support.

4.6 Trusted Partner Funding Leverage

ERA is working in partnership with other funding organizations in Alberta and across Canada. In some cases, there may be an opportunity for ERA to share applicants’ proposals with trusted partners and explore the possibility to leverage funding available from these organizations. During the submission process, applicants will have the opportunity to allow their submissions to be shared with ERA’s trusted partners. Please note that ERA will only share these applications for the purposes of exploring further funding leverage and with partners where ERA has a non-disclosure agreement in place. An applicant’s preference regarding whether to allow sharing of their application will not influence ERA’s assessment of their proposal.

5 Evaluation

5.1 Evaluation Criteria

EOIs will be evaluated based on the following criteria. Each of the evaluation criteria is assigned a relative weighting. Applicants are encouraged to place more emphasis on the higher-weighted criteria.

Criterion	Description	Weight
Technology and Innovation	In this category, EOIs will be evaluated based on the strength of the proposed technology, the novelty and innovation of the technology or application of the technology, the competitive advantages relative to existing and nascent technologies, and the expected advancement over the course of the project.	25
GHG Benefits	In this category, EOIs will be evaluated based on the potential for significant and sustainable GHG reductions, including benefits related to enabling Alberta to be sustainable and competitive in an increasingly low-GHG global economy.	35
Non-GHG Benefits	In this category, EOIs will be evaluated based on the potential for non-GHG benefits, including economic diversification, job creation, export opportunities, environmental improvements, and other societal benefits.	15
Market and Commercial Implementation	In this category, EOIs will be evaluated based on the opportunity for accelerated commercialization and widespread market adoption of the technology in Alberta, including the alignment with market needs, the plan for knowledge sharing, and the expected pathway toward commercial deployment.	15
Project Implementation Plan	In this category, EOIs will be evaluated based on the strength of the project implementation plan, including achievability of the work plan, the plan to obtain financing for the project, the capacity of the project team, and the strength of support from project partners, where applicable.	10

5.2 Screening Criteria

In addition to the evaluation criteria described above, projects may be screened out based on one or more of the following factors:

- Insufficient GHG reduction potential;
- Demonstration or deployment does not occur in Alberta;
- Risk of detrimental side effects (e.g. environmental impacts);
- Insufficient information provided;
- EOI not written in English;

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- EOI not sufficiently readable or comprehensible;
 - EOI does not conform to the submission standards;
 - Proposed project is inconsistent with the intent or scope of this Call;
 - Proposed development is assessed to be business as usual.

5.3 Next Steps

Applicants whose EOIs are best aligned with ERA's mandate, the goals of the Call, and the evaluation criteria will be invited to submit a detailed FPP. Further information regarding FPP submission will be made available at the time FPP invitations are made.

All applicants who submit an EOI through this Call will be notified of ERA's decision when the EOI review process is complete. Applicants whose proposals are not accepted may arrange a short debrief phone call with ERA to receive feedback. Information about arranging a debrief phone call will be provided in the notification letter.

5.4 Note on Proposal Quality

This is a highly competitive process, and not all projects will be shortlisted. Success at the EOI stage depends on the quality of the EOI submitted. Only the highest quality EOIs will be invited to submit FPPs. In this regard, "quality" means both the quality of the proposed project relative to the evaluation criteria and the quality of the written proposal (clarity, completeness, etc.).

6 Intellectual Property

Intellectual property ("IP") will be addressed through a Contribution Agreement between ERA and each successful applicant, and will be specific to the circumstances of each project. However, a few general principles apply:

- Background IP (patents, copyright, software) and third-party technology remains with its original owner(s).
- ERA retains rights to project results, including without limitation the technical data, reports, analysis, and discussion.
- Project outcomes, results, and learnings will normally be made publicly available at the conclusion of the project.
- Project technology developed as a part of the co-funded activities will be owned by the successful applicant and its partners, in accordance with the IP arrangement between project partners. However, successful applicants will be expected to commercialize and/or make the technology available through reasonable commercial terms for the benefit of Alberta.

7 Confidentiality

ERA is subject to the *Freedom of Information and Protection of Privacy Act*, RSA 2000, c.F-25 in the course of performing duties and functions and exercising powers delegated to it. All data and records in the custody or under the control of ERA that are required in the performance of duties or functions or the exercise of powers delegated to ERA are subject to the *Records Management Regulation*, Alberta Regulation 244/2001.

Subject to the requirements described above, ERA is governed by a comprehensive Privacy, Data Security and Confidentiality Policy (the “Policy”). The Policy requires that any and all information concerning the business affairs of ERA and its directors, officers, employees and applicants is to be kept private, secure and confidential. Confidential information that is collected, used, or disclosed by ERA will be handled in a manner that recognizes both the right of the individual to have his or her confidential information protected and the need of ERA to collect, use and disclose such information for purposes that are reasonable.

To read the entire Policy, visit <http://eralberta.ca/privacy>.