**Expression of Interest**

**Emissions Reduction Alberta**

**Advanced Materials Challenge**

1. **Proposal Information**

|  |  |
| --- | --- |
| Project Title: |  |
| Applicant Organization (Legal name): |  |
| Project Location(s): |  |
| Project Start Date: |  |
| Project Completion Date: |  |
| Total Project Budget: |  |
| Total Project Eligible Cost: |  |
| Requested ERA Funding: |  |
| Applicant Contact Name: |  |
| Applicant Contact Email: |  |

**INSTRUCTIONS**:

* **All text in red is provided for your guidance and should be deleted.**
* Complete this application form based on the instructions provided here and in the Call for Expressions of Interest document.
* All sections are mandatory.
* The document must be written entirely in English.
* Do not remove or modify any portions of the template, except where instructed.
* This document must be submitted in PDF format. The PDF document must be converted directly from the response template -- do not print and scan to PDF.
* The final converted PDF document must be no more than ten (10) pages in length, including first cover page, all graphics, tables, and embedded elements (excluding support letters). Extra pages will not be considered in the review and will be removed.

1. **Innovation Opportunity**

* Provide a description of the proposed solution (e.g. technology, practice, etc.) to be demonstrated in the project and how it works, using diagrams and photographs as appropriate.
* Provide a clear process flow diagram to demonstrate the full scope of how the solution functions and what inputs it requires, including mass and energy balances and product/material specifications as necessary.
* Describe what problem the technology solves and how it addresses a market need. Clearly justify how the proposed solution represents a potentially transformative improvement compared with current practice.
* Identify competitors or alternatives to the proposed solution and compare them to the chosen approach.
* Discuss the aspects of the solution that make it novel and innovative and how they will contribute to a sustainable competitive advantage.
* Describe the current status of the innovation (i.e. stage of development/commercialization) and how it will be advanced through the proposed project. Clearly outline how ERA investment in the project will accelerate the solution toward commercialization (i.e.: what risks and challenges will be resolved and how?)

Insert content here (text, figures, tables, etc.).

1. **Project Implementation Plan**

* Provide a description of the overall objectives, work scope, and deliverables for the proposed project.
* Clearly describe the nature of the prototype, pilot, demonstration, or first-of-kind deployment proposed, including the size/scale and the relevance to the anticipated fully-commercial system (e.g. 1:10 commercial scale).
* List the specific location(s) of project activities.
* **Provide an overview of the project work plan, indicating major project milestones and anticipated timeline for completion of each milestone. Please fill in and follow the template at the end of this document.**
* Provide a summary budget for the proposed project according to the milestones in the work plan. Clearly identify the total budget for the project.
* List the organization(s) involved in the project consortium, their roles, status (confirmed, in discussion, etc.) and the overall project execution structure.
* Identify the core team members who will carry out and/or support the project and outline their relevant expertise and experience, including those within the applicant organization and partnering organizations.
* Using the table below, identify all confirmed and anticipated financial contributors to the project, including the funding amount and the current status for each source. Add or subtract rows as necessary.
* Describe the overall plan for financing the project and the estimated timelines for securing funds. Please ensure that this description aligns with the sources of funding listed in the ERIMS.
* Summarize the line of sight from the current status to the beginning of major project activities, including any required internal approvals, budgeting, site selection, agreements, permitting, studies, and similar factors.
* Provide a brief overview of the key risks that could result in delay or failure of the project, and the plan for risk mitigation.
* Explain why ERA funding is being requested. Describe what risks and/or barriers ERA funding mitigates and justify the funding amount requested from ERA.

Insert content here (text, figures, tables, etc.).

|  |  |  |
| --- | --- | --- |
| FINANCIAL CONTRIBUTORS\* | AMOUNT | STATUS |
| ERA (Requested) | $ | Applied for |
| e.g. Alberta Innovates (Requested) | $ | e.g. Applied for |
| e.g. Applicant Organization | $ | e.g. Committed |
| e.g. Partner - Joe Financing Inc. | $ | e.g. In discussion |
| e.g. Partner - Jane Equity Ltd. | $ | e.g. Committed |
|  | $ |  |
| Total Financing | $ | |

1. **GHG Benefits**

* Describe how the proposed solution results in direct or indirect greenhouse gas (GHG) benefits, including GHG reductions, displacement of higher-GHG products, GHG removals, carbon sequestration, or carbon sink enhancement. Please also describe how the proposed solution may contribute to any enabled GHG reductions.
* Provide a quantitative estimate of the annual GHG reductions in Alberta that would result directly from the proposed project (i.e. not after subsequent market adoption or further commercialization activities) on an annual and cumulative basis.
* Estimate the annual GHG reduction potential that could be achieved by market implementation of the solution by 2030 and 2050, and indicate any assumptions made for market penetration rate. Indicate what portion of market GHG benefits are expected within Alberta.
* Discuss how the solution may contribute to achieving net-zero GHG emissions in the sector(s) to which it applies. In particular, highlight the planned or expected role of the solution in corporate net-zero plans/commitments.

Insert content here (text, figures, tables, etc.).

1. **Non-GHG Benefits**

* Describe any non-GHG environmental benefits associated with the technology and project, including air, water, land use, remediation, waste reduction, etc.
* Discuss the economic benefits associated with the project and potential technology commercialization, including attraction of investment capital, improving cost competitiveness, economic diversification, etc., using quantitative factors where possible.
* Quantify the direct employment that will be supported by implementation of the project, including creation of new temporary and permanent jobs, retention of workforce, and support of contractors. Clearly indicate which jobs will be located in Alberta and outside of Alberta.
* Describe any potential negative impacts of the solution relative to current practice (e.g.: increased water consumption, air quality, public safety, chemical handling, etc.).
* Describe any socioeconomic benefits associated with adoption of the proposed solution, including health benefits, improved safety, local social benefits, capacity building, interactions with post-secondary/research institutions, and attraction/training of highly-skilled personnel.

Insert content here (text, figures, tables, etc.)

1. **Market and Value Proposition**

* Describe the target market for commercialization of the solution in Alberta, including potential customers or clients.
* Discuss the overall market potential in Alberta (e.g. number of sites, scale of installations, installed capacity, etc.). Market assessments should consider both the market for deploying the proposed solution (e.g..: number of sites) AND the market for any outputs of the technology (e.g.: tonnes of product sold).
* Where applicable, quantify and discuss the potential for the solution to be exported beyond Alberta, i.e., the market potential elsewhere in Canada and internationally.
* Briefly discuss the applicability or adaptability of the solution to other sectors beyond the initial target market(s).
* Provide a brief overview of the economics for the proposed solution at commercial scale in terms of capital cost, operating cost, and return on investment.
* Briefly outline the pathway to commercial implementation of the technology in Alberta including next steps following the completion of the proposed project.
* Describe the challenges, barriers, and risks to the commercialization pathway, including policies required for successful commercialization.
* Briefly discuss the plan for distribution and sharing of results from the proposed project. Elements to consider include workshops, papers/reports, presentations, IP sharing, etc. Identify the extent to which outcomes, data, and learnings will be shared (e.g.: with industry members, researchers, regulators, and the public).

Insert content here (text, figures, tables, etc.).

**Required Attachment: Milestone Summary Table**

* Please fill in the table below with as much detail as possible and to the best of your knowledge.
* This milestone table will NOT count towards the 10-page EOI limit.
* Please refrain from appending additional information or attachments as these will be removed and not considered as part of the review.
* Do not modify the format of this template. Modifications may result in this portion of the proposal being disqualified from a review.

|  |  |
| --- | --- |
| **Milestone Summary Table** (add milestones as necessary, instructions in red should be deleted) | |
| **Milestone 1** | |
| Start Date |  |
| Completion Date |  |
| Milestone Costs | Total milestone cost: [Insert dollar value in CAD]  ERA contribution: [Insert dollar value in CAD] |
| Milestone tasks and completion deliverables | Describe the key activities and tasks to be completed during the milestone and the deliverables/outcomes that signal the completion of the milestone. Identify the specific location of key tasks and what project partner(s) will be involved, where applicable.  Enter text here. |
| **Milestone 2** | |
| Start Date |  |
| Completion Date |  |
| Milestone Costs | Total milestone cost:  ERA contribution: |
| Milestone tasks and completion deliverables | Describe the key activities and tasks to be completed during the milestone and the deliverables/outcomes that signal the completion of the milestone. Identify the specific location of key tasks and what project partner(s) will be involved, where applicable.  Enter text here. |