

Round One

Invitation for an Expression of Interest

***Clean Air and Climate Change:
Technology and Innovation Initiative
(\$155.9 million)***

**PART A:
PURPOSE, VISION, GUIDING PRINCIPLES**

**PART B:
GUIDELINES FOR SUBMISSION**

July 2008

1. Part A – Purpose, Vision, Guiding Principles

1.1 Purpose

The Government of Alberta (“GoA”) has received \$155.9 million from the federal government’s ***EcoTrust for Clean Air and Climate Change*** (EcoTrust) initiative. The funds are to be used to support initiatives that will result in direct reductions in greenhouse gas emissions and air pollutants within a reasonable timeframe. Alberta views the EcoTrust initiative as a significant extension of the Alberta Energy Research Institute (AERI) existing programs in energy as well as related climate change and environmental innovation efforts.

Alberta Environment (AENV), Alberta Energy (Energy) and AERI invite interested parties to submit Expressions of Interest (EOI) focussed on provincial projects that promote environmentally-responsible development and be well aligned with Alberta’s goals and strategies, including:

- **Climate Change Strategy:** Reduce greenhouse gas emissions by transforming the way we produce, use and conserve energy and store quantities of CO₂ in Alberta’s geological formations.
- **Clean Air Strategy:** Air will have no adverse odour, taste or visual impact and have no measurable short or long-term adverse effects on people, animals or the environment.
- **Comprehensive Energy Strategy:** Provide a clear, long-term roadmap for sustainable energy development and use, integrating non-renewable and renewable energy resources, promoting energy efficiency and conservation, promoting development of sustainable energy technologies, and ensuring quality of life.

The EOI from interested parties should conform to the guidelines in Section 2.1. and summarize their interest and preferred participation model. Respondents must provide a detailed description of the approach they will take, the effort required to complete the work and an estimate of the direct reductions in greenhouse gas emissions and/or air pollutants in Alberta.

After a formal evaluation and selection process, it is our intention to work closely with the successful respondents to finalize the project scope and encourage submission of a full application for funding, either collectively or individually.

This is the **first call** for project funding support. If the funds are not fully allocated, there will be additional calls.

1.2 Aligned Priorities

Alberta has initiated a series of efforts to accelerate the advancement of transformative technologies and unleash other innovative actions necessary to meet the government's priorities of:

1. Ensuring Alberta's energy resources are developed in an environmentally sustainable way; and
2. Enhancing value-added activity, increased innovation, and building a skilled workforce to improve the long-run sustainability of Alberta's economy.

This EOI is being put in place to complement and further lever the actions being considered under other Government of Alberta initiatives, including:

- ❖ The \$2 billion commitment to large-scale demonstration of end-to-end carbon capture and storage (CCS) that could result in storage of five million tonnes of CO₂ annually by 2015. The distinguishing feature of this program is that the CCS system will likely be based on proven technology given the timeframe for achieving the outcomes;
- ❖ The \$2 billion Green Transit Incentives Program (Green TRIP) that will promote the use of local, regional and inter-city public transit and reduce the number of vehicles on Alberta roads;
- ❖ The \$100 million committed to the Hydrocarbon Upgrading Demonstration Program that is focussed on next generation upgrading and the integration of upgrading with gasification and CO₂ capture and storage;
- ❖ The request for expressions of interest for commercial projects to utilize the bitumen royalty-in-kind and encourage investments in value-added manufacturing of products ranging from synthetic crude to transportation fuels to petrochemical and fertilizer products;
- ❖ The \$200 million committed to the Innovative Energy Technology Program (IETP) for piloting of novel conventional and unconventional oil and gas recovery projects including CO₂ enhanced oil recovery and solution to the gas-over-bitumen issue; and
- ❖ The Climate Change and Emissions Management Fund currently being finalized.

Priority is being placed on ensuring alignment of the management and allocation of funding from the complementary programs which have some common features, but also have unique strategic interest. The emphasis of this initiative is on improvements in greenhouse gas emissions and air pollutants including the **increased efficiency of existing operations, reduction of energy intensity, reduction of emissions of concern, fuel switching, renewable energy, carbon sequestration and testing of new generation processes and technologies.**

1.3 Vision

“Alberta is a leader in developing and adapting transformational technologies, processes and systems (including infrastructure) to achieve world-class environmental performance while securing maximum value for Albertans from economic activity.”

1.4 Strategic Investment Areas

Funding support will be applied to projects that have strong potential to reduce greenhouse gas and air emissions as well as contribute to the broad energy and technology development objectives, consistent with the Alberta strategies described above, and covering the following four strategic areas:

- **Clean air and energy efficiency:**
 - *Management of cumulative emissions in urban areas as well as other non-point and point source emissions;*
 - *Energy development that contributes to clean air;*
 - *Provincial and regional air monitoring infrastructure and management programs;*
 - *Eco-industrial efficiency and effectiveness approaches; and*
 - *Distributed energy generation.*
- **Clean carbon:**
 - *Gasification with CO₂ capture;*
 - *Upgrading of bitumen with CO₂ capture;*
 - *Enhanced coal bed methane; and*
 - *Underground coal gasification.*
- **CO₂ capture, transport and sequestration:**
 - *CO₂ capture technologies;*
 - *Transportation networks;*
 - *Large-scale storage demonstrations; and*
 - *Geological and engineering evaluation of capacity or performance.*
- **Renewable energy:**
 - *Advancement of alternative energy forms and sources;*
 - *Polygeneration of value-added products from biomass (such as, mountain pine beetle affected forests and municipal waste to heat, electricity and biofuels); and*
 - *Integrated emissions offset from energy production through deep geothermal power.*

Eligible projects under these funding areas include applied research, technology development, pilot operations and technology demonstrations that are pre-commercial in nature.

1.5 Government Investments

Costs for individual projects from all government sources under this initiative will be limited to a maximum of 50% of the project's eligible costs up to a maximum of \$25 million. It is expected that the applicant's contribution will be in cash.

1.6 GoA Stakeholders

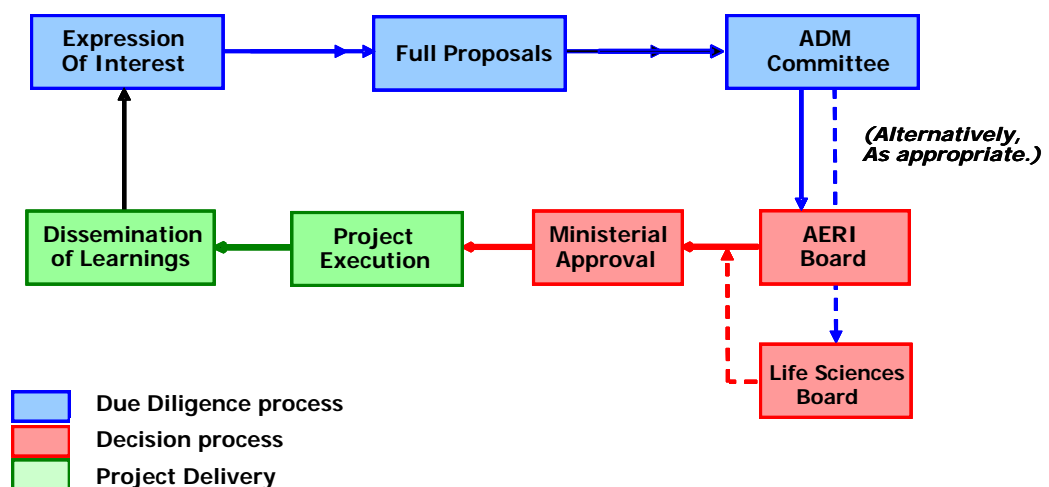
- **Alberta Environment:** Alberta Environment is a partner in protecting and enhancing Alberta's natural environment, to ensure the continued enjoyment of a clean and healthy environment by all. The Department has staff in more than 120 communities throughout Alberta.
(<http://www.environment.alberta.ca/8.html>).
- **Alberta Energy Research Institute:** AERI promotes energy research, technology evaluation and technology transfer in areas including oil and gas, heavy oil and oil sands, coal, electricity, and renewable energy. AERI promotes consortia and builds networks by integrating knowledge, skills and investment potential of industry players, federal and provincial governments, research providers and universities. AERI advises the Minister of Advanced Education and Technology and the Alberta government on energy research policy and promotes and invests with the energy industry in applied research and innovation and in technology development and demonstration that secures the future sustainability of Alberta's energy industry.
(http://www.aeri.ab.ca/sec/abo/abo_001_1.cfm).
- **Alberta Energy:** The Department manages the development of provincially owned energy and mineral resources by industry and the assessment and collection of non-renewable resource revenues in the form of royalties, freehold mineral taxes, rentals and bonuses. It promotes development of Alberta's energy and mineral resources, recommends and implements energy and mineral related policy, grants rights for exploration and development to industry and establishes and administers fiscal regimes and royalty systems. The Department's resource portfolio includes natural gas, conventional oil, oil sands, petrochemicals, electricity, coal and minerals, renewable energy (wind, bio-energy, solar, hydro, geothermal, etc.) and energy efficiency and conservation
(<http://www.energy.alberta.ca/AboutUs.asp>).
- **Alberta Life Sciences Institute:** ALSI focuses on life sciences opportunities at the convergence of the traditional sectors of health, agriculture, energy and forestry. The institute works collaboratively with other government departments, industry, stakeholders and research institutions to enhance and expand Alberta's life sciences capacity.

1.7 Funding Allocation Principles

- **Aligned with GoA strategic priorities** including delivery of Alberta's strategies on climate change; air management, energy policy and research & technology development.
- **Efficient and transparent** process applying existing Alberta government experience and implementation mechanisms to minimize administration costs and in keeping with one-time allocation of federal funds under the EcoTrust.
- **Minimize duplication** by complementing existing research/technology development priorities and decisions.
- **Collaborative approach** to ensure interdepartmental alignment and mutual support.
- **Cost sharing approach** between government-industry for each project.

1.8 Funding Allocation Process

- **Open and transparent selection process** for allocating funding based on an open invitation for EOIs in the above strategic areas.
- **Inter-departmental evaluation panel** led by AERI program directors and including staff from Alberta Environment, Alberta Energy, and Advanced Education and Technology, to evaluate projects and assess alignment with the funding areas and allocation guidelines. AERI will be responsible subsequently for managing the contractual agreements, monitoring project progress and performance and [disseminating the learnings](#).
- **External experts** may be asked to provide expert analysis when necessary.
- **Steering Committee will review recommendations** made by the evaluation panel. The SC will be composed of Assistant Deputy Ministers representing the above departments.
- **Ministerial approval** will be sought on project allocations based on recommendation made by the AERI Board (or alternate, such as the Alberta Life Sciences Institute Board as deemed appropriate). The Minister of Environment is accountable for this Program and will be making the final decision.



1.9 Intellectual Property (IP) Principles

- The intent of the Government of Alberta is to make the project results publically available after a confidential period typically two years following the end of the project.
- Background IP remains with its original owner(s).
- Project technology developed as part of the co-funded activities (“new IP”) would be owned by the applicant, with an obligation to protect the technology within a period specified in the contract. The timeframe for protection will typically be within 2 years, although a longer period may be negotiated if there is a legitimate reason to do so.
- If the technology is not commercialized within a specified period, the new IP will be made available by GoA to other Alberta users, under normal commercial licensing terms.

1.10 Confidentiality

The inter-departmental team is committed to keeping application details confidential. However, as government entities, they are subject to the protection and disclosure provisions of the Freedom of Information and Protection of Privacy (FOIP) Act. Applicants’ rights as a third party are protected under the provisions of the protection of privacy sections of this Act. The Government of Alberta is prohibited from disclosing personal or business information where disclosure would be harmful to an applicant’s business interests or would be an unreasonable invasion of personal privacy [*FOIP Act s. 15 and s. 16*].

Government of Alberta employees are required to take an oath that limits them from discussing any information gained during their employment with government. In addition, the Government of Alberta Employee Code of Ethics stresses that any information an employee receives in the course of their employment must remain confidential.

External experts that are asked to review a proposal sign a confidentiality form.

2. Part B - Guidelines for Submission of Expressions of Interest

Expressions of interest are invited from operating companies, process developers and licensors and other organizations wishing to share the risks of developing and demonstrating new and improved technologies that result in direct reductions in greenhouse gas emissions (“GHG”) and air pollutants and promote environmentally-responsible resource development and support GoA goals and strategies. The program could be of particular interest to companies planning future expansions and wishing to be leaders in the early adoption of new GHG and other air pollutant emission reduction technologies.

The following steps and deadlines are envisioned:

- Expressions of Interest, using the guidelines in Section 2.1: Due on **October 3, 2008**.
- Review of Expressions of Interest and follow up discussions with prospective applicants: Completed by **October 24, 2008**.
- Request for submission of full project proposal¹: Sent to applicants by **October 31, 2008**.
- Submission of full project proposals: Due by **December 19, 2008**.
- Due diligence evaluation process, decision and informing applicants on funding decision: **March 1, 2009**.

Successful applicants will be required to negotiate and sign an agreement for carrying out the work with the Government of Alberta.

The Government of Alberta reserves the right to alter or cancel the currently envisaged process and deadlines based upon the outcome of this EOI or at its sole discretion.

¹ The full project proposal would provide greater detail on the project, confirm that the proponents have the capacity and capability to undertake the project and formally confirm their financial commitment to the project. The criteria for evaluation of the full proposals will be provided at a later date.

2.1 Guidelines for Submission of Expressions of Interest

- **Length:** There is no length restriction but the initial Expressions of Interest are generally not expected to exceed *five (5) pages in length*. More details can be provided as appendices, if required.
- **Format:** Submissions are to be made electronically as a word document or PDF format and followed with two signed originals. All materials and copies must be received by AERI by 4:30 pm, Alberta Time, October 3, 2008.

The **headings and topics** listed below provide a general guideline for the preparation of the EOI and represent the main criteria that will be used to evaluate the submissions.

- **Title of the proposed project:**
- **Name, Address and Affiliation of the Principal Applicant(s):**
- **Contact Information of Project Leader and key team members:**
- **Funding Sources:**
- **Contribution to Climate Change and Environmental Goals:**
The extent to which the proposed project would lead to significant and direct reductions in GHG and air pollutant emissions within a reasonable timeframe.
- **Technology Advancement:**
The description of the technology that could result in a significant technology advance or breakthrough. There is a full understanding of the science/technology and the competing approaches.
- **Team Leadership, Capacity and Capability:**
The key personnel have the right expertise, experience and credibility, their responsibilities and time commitments are clearly shown and the applicant has the required facilities and other resources.
- **Quality of Proposal:**
The applicant has provided sufficient details about the project, so that the evaluation committee can judge the quality of the project plan, milestones, deliverables, budget and schedule. A schedule for technical and progress reports and presentations is provided.
- **Leverage and Financial Structure:**
Industry consortia and involvement of several interested parties are preferred and the project budget is sufficiently detailed and realistic; other funders have made cash commitments to the project.
- **Commercialization Potential:**
The applicant demonstrates the capacity for moving the technology to the next stage of development.
- **Impacts and Benefits:**
The proposal has quantified the impact of the project in terms of economic and environmental benefits, contribution to GoA goals and strategies and the development of highly skilled personnel for the Alberta economy.

2.2 Evaluation Criteria

Expressions of interest will first be evaluated using the following mandatory administrative criteria:

Mandatory Administrative Criteria	Yes	No
Will it result in significant and direct reductions in GHGs and air pollutants?		
Is it aligned with Government of Alberta's Goals and Strategies?		
Does the proposal align with one of the 4 outlined funding areas under s. 1.3.?		

Those Expressions of Interest that meet all of the mandatory criteria listed above will then be evaluated using the following criteria:

No.	Desired Criteria	Max Score
1	Contribution to Climate Change & Environmental Goals	15
2	Contribution to Technology Advancement	15
3.	Team Leadership, Capacity & Capability	15
4.	Quality of Proposal	20
5.	Leverage & Financial Structure	15
6.	Commercialization Potential	10
7	Deliverables, in terms of Impacts and Benefits	10
	Total Score (Maximum 100)	100

Applicants receiving the highest scores may be invited to submit a full application.

Please submit letters of expression of interest to:

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