

**Alberta Department of Energy**

# **Carbon Capture and Storage Program**

***Full Project Proposals  
Information Package***



## **Carbon Capture and Storage Fund Full Project Proposal Process**

The purpose of the Full Project Proposal (FPP) process is to allow the evaluation team to review project proposals under the Carbon Capture and Storage Fund (CCSF) in a consistent, fair, and transparent manner in order to identify those projects that best fit with the fund's objectives.

The deadline for submission of FPPs is March 31, 2009. Submission of a FPP does not imply that the proposed project will be approved for funding under the CCSF.

This information package provides guidance on the requisite contents of a project proposal and necessary supporting documentation. Proposals will be evaluated and ranked according to the criteria outlined in this document. Failure to provide requested information may lead to the rejection of the proposal. The project proposal process is a competitive process as it is expected that more eligible projects will be submitted than there is funding available.

The decision to support specific projects from the CCSF will be announced by June 30, 2009. Such approvals will be conditional upon the execution of a grant agreement; no funding commitments are binding until a grant agreement is in place. The project approval decisions of the Alberta Department of Energy (ADOE) are final and not subject to appeal.

ADOE reserves the right to alter or cancel the currently envisaged process and deadlines at its sole discretion. Any changes will be communicated by formal addendum to this document.

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## 1. Introduction

In January 2008, the Government of Alberta (GOA) released Alberta's new Climate Change Strategy. The objective of the Strategy is to ensure that the province remains at the forefront of achieving significant reductions in greenhouse gas (GHG) emissions.

The Strategy takes action on three fronts: implementing carbon capture and storage (CCS); greening energy production; and conserving and using energy efficiently. CCS technology involves capturing carbon dioxide emissions from industrial sources and transporting them by pipeline to sites where they are injected into deep rock formations for permanent storage.

The GOA recognizes that industry's ability to undertake novel and innovative processes such as CCS is often limited by the related technical and financial risk. Given these risks, support is necessary to demonstrate large-scale CCS. On July 8, 2008, \$2 billion was allocated to the CCS Fund (CCSF) to support demonstration projects that undertake to advance the broader adoption of CCS technologies in Alberta.

## 2. Program Goal and Objectives

The ultimate goal of the CCSF is to encourage the development of three to five large scale integrated CCS facilities that will capture and permanently store up to five million tonnes of carbon dioxide per year by 2015, for a period of at least 10 years. This initiative is an important first step in the broader adoption of CCS in the province and will create the momentum for private sector investment in CCS. By encouraging CCS in Alberta, the CCSF will contribute to the solution for climate change and GHG emission reductions while maintaining Albertans' quality of life and allowing continued economic growth. In reaching this goal, GHG emissions at facilities such as coal-fired electricity plants, oil sands extraction sites, upgraders, and other large scale industrial facilities will be reduced.

The CCSF provides, in addition to the advancement of CCS, an opportunity to advance additional objectives including:

- Encouragement of new value-added projects to proceed in Alberta on the basis that they will be able to meet the province's emissions standards for large industrial facilities;
- Enabling the province to take the lead in advancing CCS technology. This leadership will allow Alberta's CCS industry to market this expertise to other jurisdictions;
- Dissemination of learnings and information developed through the projects supported by the CCSF, which will assist in moving CCS implementation on a wider scale beyond the initial 3 – 5 projects;
- Launch an integrated CCS sector in the province;

- Reduce natural gas consumption for industrial purposes to allow more for export;
- Unlock the energy from low value natural resources and waste products; and
- Achieve additional environmental benefits such as lowering water usage, reducing NOx and SOx emissions and reducing land disturbance.

The general objectives of the CCSF are aligned with the GOA's priorities plan and specifically the plan's energy-related priorities<sup>1</sup>:

- Ensure that Alberta's energy resources are developed in an environmentally sustainable way; and
- Enhance value-added activity, increase innovation, and build a skilled workforce to improve the long-run sustainability of Alberta's economy.

These objectives will be advanced by encouraging a large scale integrated CCS network through the development of successful CCS projects within Alberta. The GOA desires the CCSF to support CCS projects from more than one sector. Alberta has a vast coal, oil sands and conventional hydrocarbon resource base; the GHG challenge is an issue for all of these sectors.

### 3. Description of the Program

This program has the following features:

- All projects must be located in Alberta. Any portion of a project outside the boundaries of Alberta will be ineligible under the program.
- Program administration is in two parts: (1) Submission of a full project proposal for consideration and (2) entering into a grant agreement in a form acceptable to ADOE.
- Financial support for projects is constrained by total program funding, the time limit for the program's results, and project selection criteria.
- The evaluation team comprised of individuals from the Departments of Energy, Environment, Finance and Enterprise, Advanced Education and Technology (AERI), Sustainable Resource Development and Treasury Board, will review the FPPs and advise on the merits of the projects in the context of the project selection criteria. External experts may be consulted on specific aspects of the submitted proposal (technical, financial, etc.) on a confidential basis.
- The Minister of Energy will make the final decision on which projects will receive funding under this program and the level of support that will be available to each.

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<sup>1</sup> Government of Alberta, Strategic Business Plan 2008 – 2011  
<http://www.finance.alberta.ca/publications/budget/budget2008/govbp.pdf>

- Only the incremental CCS costs directly related to the approved project will be eligible under the program. Any costs not directly related to the CCS component of the project will be the sole responsibility of the project proponents. Only those costs specifically approved and detailed in the grant agreement will be eligible under the program, to a maximum funding cap set out in the grant agreement.
- A Fairness Auditor will oversee the full project proposal evaluation phase. The Fairness Auditor will provide a final report to the Minister of Energy before the announcement of successful applicants.

## 4. Confidentiality and Knowledge Transfer

The ADOE will exercise reasonable efforts to keep the disclosure of information confidential. However, the ADOE is subject to the provisions of the *Freedom of Information and Protection of Privacy Act* (FOIP Act). Information held within ADOE's custody or control may be requested under the access provisions (Part I) of the FOIP Act. All access requests submitted to the ADOE must be acknowledged and evaluated against specific exceptions to disclosure outlined in the legislation. One such exception prohibits ADOE from disclosing certain information supplied explicitly or implicitly in confidence where disclosure could reasonably be expected to, among other things, harm significantly the project proponent's competitive position or would be an unreasonable invasion of your personal privacy (FOIP Act, sections 16 and 17 respectively). If, in response to a request under the FOIP Act, ADOE is considering disclosing a document that may contain information that affects the project proponent's interests under section 16 or may be an unreasonable invasion of privacy under section 17, the ADOE is required to notify the proponent in advance and provide an opportunity to object. All decisions in relation to a FOIP Access request are reviewable by the Alberta Office of the Information and Privacy Commissioner, upon request of the third party or the applicant.

Nevertheless, knowledge transfer will be a condition of approval under the program, interim and final technical reports and presentations must be submitted to ADOE and will be made available to the public. You may claim confidentiality for such reports for a period of two years from the date the report is required by ADOE, subject to the above noted FOIP requirements.

ADOE requires that technology supported with funding from this program will be widely available. To meet this objective, terms related to intellectual property will be included in the grant agreement.

## 5. Project Approval

Once projects have been selected for funding, a Letter of Intent, offered by the Minister of Energy and formally accepted by the proponents, will be required prior

to the announcement by the Minister of Energy of the successful projects. The Letter of Intent will not constitute a legally binding funding commitment, but will provide the basis for a grant agreement. The grant agreement must be signed before any funds can be released. Failure of the proponent to enter into a grant agreement in a form acceptable to ADOE by December 31, 2009 will result in the cancellation of the project approval.

## 6. Funding Principles

In order to manage the Crown's risk, and to ensure that the program objectives are achieved, the following principles with respect to grant commitments and the disbursement of funds under this program will apply:

- The percentage of total CCS related costs supported by the program will be limited to a maximum of up to 75% of total incremental CCS costs. The actual percentage of incremental costs that the ADOE is willing to support in respect of a particular proposal under the program will be determined during the review of the proposal.
- The initial approved incremental CCS costs and the percentage of costs approved to be supported by the program will determine the maximum total dollar funding for a particular project.
- Increases in costs from the initially established amount will not be eligible for funding under the program.
- Funds disbursed prior to commencement of operations will be limited to a maximum of up to 40% of the total approved funding for the project and will be paid on specific project milestones, as specified in the grant agreement. These funds will only be disbursed when the ADOE is satisfied with the progress of the project's milestones. Prior to completion of construction, any funds disbursed will be in the form of a conditional grant that will be fully repayable if construction is not completed by a date specified in the grant agreement. The amount of the conditional grant will be backed either an on-sight letter of credit or by providing credit assurances deemed to be acceptable by the Crown. If the Crown is not satisfied with the credit assurances provided then the default option is the on-sight letter of credit.
- A maximum of up to 20% of the total approved funding for the project will be paid on commencement of operations.
- The remaining percentage of approved funding (at least 40%) will be disbursed as CO<sub>2</sub> is captured and disposed, over a maximum of 10 years. The calculation of funds to be disbursed will be based on each project's remaining grant contribution, divided by the expected CO<sub>2</sub> capture volumes (defined in the grant agreement) over a ten year period, and will be disbursed as volumes of CO<sub>2</sub> stored are confirmed by the GOA.
- Total incremental CCS costs upon which funding is determined will be reviewed in the event that other government grants are received to support the project.

- After all incremental CCS costs, plus a mutually accepted rate of return have been recovered by the proponent, revenue from the sale of emissions credits, CO<sub>2</sub> for EOR, and other revenue streams generated by the capture, transport and storage of CO<sub>2</sub> will reduce allowable costs upon which the grant is based.

## 7. General Conditions Applying to Approved Projects

The following general conditions will apply to all approvals under the program:

- The project proponents must submit annual reports for the duration of the project and as long as injection of CO<sub>2</sub> is continuing. Additionally, ADOE has the right to make specific (reasonable) requests for information outside these annual reports. The reports must be written according to professional standards and acceptable to ADOE and include information on progress relative to milestones, construction costs, operational experience and environmental impacts and monitoring, measurement and verification of CO<sub>2</sub> storage by the project.
- A final report will also be required at the end of the payment period or at the end of 10 years of CO<sub>2</sub> injection.
- The project proponents must provide annual presentations on project construction and operations to ADOE.
- ADOE will be given timely notification of all senior level technical and management meetings related to the project and ADOE or its representatives will have the right to attend these meetings.
- A steering committee including representation from ADOE or its representatives must be set up to oversee the project. .
- ADOE will have the right to visit and inspect all project sites upon providing reasonable notice to the project proponents.
- ADOE will have the right to audit records and documents of all approved projects upon the provision of reasonable notice to the project proponents.
- Each grant agreement will include an indemnification for any claims against the Crown arising from an approved project.

## 8. Evaluation Process

### 8.1 Full Project Proposal Submission & Evaluation Process

The following is the process for FPP submission and evaluation:

1. FPPs must be received by ADOE by 4:30 p.m. (MST), March 31, 2009, to be considered for evaluation.
2. The Evaluation Team (see 8.2 below) will review the FPPs in the context of the project selection criteria described below. There will be an initial screening (see 8.4 below) followed by an in-depth review.
3. The Evaluation Team provides advice to the Governance Committee (see 8.3 below) on the merits of the proposals.
4. The highest ranked projects from the evaluation criteria may not be accepted given that the Fund's objective is to support 3 – 5 projects

with the \$2 billion committed. These features of the Fund require some flexibility with respect to the amount that may be committed to any one project. Prior to the final selection, ADOE will negotiate funding amounts with the top ranking projects. If agreement cannot be reached that will allow the objective of 3 – 5 projects within the total Fund limit, the ADOE will move to the next ranked project to attempt to reach a funding agreement.

5. The Minister of Energy will make a decision on projects to approve as well as the specific terms and conditions of approval.
6. The applicant will be advised, in writing, of the decision.
7. A Letter of Intent (LOI) including the details of the terms of the funding commitment, project scheduling, as well as the performance objectives will be offered by the Minister of Energy and accepted by the proponent.
8. The Government of Alberta will announce the successful projects that will receive funding (subject to entering into a grant agreement) by June 30, 2009.
9. A grant agreement is entered into by December 31, 2009. In any event, no funds can be disbursed before a contract has been signed. Failure to sign an agreement by December 31, 2009 will result in the expiration of the LOI and the cancellation of any Government of Alberta commitment to the project.

During the evaluation process, the project proponents may be asked to provide additional information, to respond to questions about the project proposal, or to be available for meetings.

All project proponents who get through the initial screening may be asked to make a presentation to the Evaluation Team. The presentation will be scheduled subsequent to the FPP submission deadline and is intended to provide clarification to questions that the Evaluation Team might have.

A proponent may withdraw its proposal at any stage of the evaluation process.

All communication in relation to this FPP process, including the evaluation process, with the Government of Alberta must be in writing, addressed to Mr. David Breakwell (see section 13 for the address). **Any breach of this requirement may result in the disqualification of your proposal.**

## 8.2 Evaluation Team

An Evaluation Team will be composed of representatives from the Departments of Energy, Advanced Education and Technology (AERI), Environment, Sustainable Resource Development, Treasury Board and Finance and Enterprise. The Evaluation Team may request independent external experts to provide expert evaluation and advice on a confidential basis. The Evaluation Team will review all FPPs in detail, meet with project proponents as necessary, and prepare recommendations to the Governance Committee.

### 8.3 Governance Committee

Program oversight and support to the Minister of Energy will be provided by a Cross-Ministry Governance Committee chaired by the Deputy Minister of Energy with the Deputy Ministers of Environment, Sustainable Resource Development, Treasury Board, Finance and Enterprise, and Advanced Education and Technology participating. This Committee will oversee the evaluation process to ensure that it occurs in a consistent, fair and transparent manner, and will make the final recommendation of projects to be selected for funding to the Minister of Energy. This Committee will also oversee the ongoing, post-selection phase of the program.

### 8.4 Initial Screening Criteria

To be considered for evaluation, the project must meet the following mandatory criteria:

1. All integrated components must be located in Alberta;
2. Be sufficiently advanced for CCS to be operational by 2015;
3. Be of sufficient size to contribute significantly to the objective of 5Mt annually of CO<sub>2</sub> stored by 2015; and
4. Be a fully integrated capture to storage process.

### 8.5 Evaluation Criteria and Project Ranking

The FPPs will be evaluated using ten evaluation criteria by the Evaluation Team (see Sections 9 and 11 below).

Each FPP must provide information demonstrating how the proposal fits each particular criterion. Each reviewer on the Evaluation Team will assess the proposal against the same performance criterion. The Evaluation Team's assessment scores will then be used to rank the proposals.

Each criterion consists of four performance levels: D (criterion not met), C (criterion partially met), B (criterion met) and A (criterion exceeded). Each level has an associated allotted weight relative to the maximum score of each of the ten desired criteria. These weights are;

A	80	– 100% of the points available for that criterion.
B	65	– 79% of the points available for that criterion.
C	50	– 64% of the points available for that criterion.
D	0	– 49% of the points available for that criterion.

### 8.6 Process Amendments

The Minister of Energy reserves the right to alter or cancel the currently envisaged process and deadlines at his sole discretion. The Minister of Energy may, at any time prior to March 31, 2009 amend this FPP by issuing one or more addenda.

## 8.7 Communications

To manage communications with the project proponents, the Department of Energy has established a share point site. A share point site is a browser-based collaborative tool/workspace and document-management platform that will allow project proponents to view documents. The Department of Energy will provide project proponents with a link and user name. Alberta Energy's Communication Office will provide the passwords separately (via fax or telephone) to ensure security is maintained. Proponents are encouraged to check the Share Point site regularly for updates. For information regarding this site please contact:

Karen Karbashewski  
Public Affairs Officer, Communications  
Alberta Energy  
Office: 780-644-1773  
Fax: 780-422-0698

## 9. Evaluation Criteria/Weightings

Proposals for integrated CCS projects will first be evaluated using the following mandatory criteria:

Mandatory Criteria	Yes	No
The project is sufficiently advanced for CO <sub>2</sub> disposal to occur by 2015		
The project is of sufficient size to contribute significantly to the objective of 5Mt of CO <sub>2</sub> stored annually, beginning with 2015		
The project involves a fully integrated capture to storage process.		

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

No.	Desired Criteria	Score
1	Project partners	10
2	Base facility	10
3	Capture facility	10
4	Proponent's capability and capacity	20
5	Project plan	20
6	Financial structure and risks	30
7	Cost sharing structure	15
8	Efficiency	15
9	Ancillary benefits and synergies	10
10	Portfolio contribution	15
	<b>Total Score (Maximum 155)</b>	<b>155</b>

## 10. Project Overview

This section contains requirements for specific project information. The proponents are required to fill out the project overview form and attach additional supporting information with the FPP.

### **Confidentiality**

**Please note that the proponents' names, organizations, project title, non-confidential overview, expected benefits and amount awarded will be public information if the proposal is successful.**

1. Project Title	
2. Project proponent(s) (legal names of companies)	
3. Project Location: (attach relevant maps) a. Capture plant b. Pipeline c. Storage area	
4. Storage zone (attach relevant maps)	
5. Abstract: (max. ½ page)	
6. Non-Confidential Overview: (max 1 page)	
7. Expected Benefits to Alberta: (max. ½ page)	
8. Key Words: (prioritized, max. 15)	
9. Total Incremental CCS Project Cost:	
10. Funding amount Requested from the CCS Fund:	
11. Anticipated start of CO <sub>2</sub> capture.	

12. Project Start Date: (year/month/day)	13. Project Completion Date: (year/month/day)
14. Has this proposal been submitted to other funding organizations? (Y/N), if Y, please list their names and contact information)	
ADOE may contact the other funders listed. If you do not want the ADOE to contact these other organizations, please give your reasoning below:	

**Information supplied on this page may be used in public summaries and abstracts of CCSF sponsored activities. Do not provide confidential information.**

**Title** (*Maximum ten words*)

**Abstract** (*Maximum 100 words*)

**Confidentiality**

**Any confidential or proprietary information contained in the project proposal should be specifically identified. Information provided will be subject to the access and privacy provisions of the *Freedom of Information and Protection of Privacy Act (FOIP)*.**

## 11. Detailed Evaluation

Proponents must address all items in these criteria, providing supporting documentation for all assertions.

### 11.1 Project Partners

This section of the FPP outlines the requirement of the program that the proposed CCS project be a fully integrated capture, transportation and storage project, and the project includes qualified partners for the different aspects of the project. Documentation of all third party agreements governing these relationships must be provided.

The project proposal has:

- D. ...not identified partners and is not a fully integrated CCS project.
- C. ...identified partners but agreements do not exist for all levels of the integrated project.
- B. ...demonstrated that the project is fully integrated, MOUs satisfactory to the ADOE are in place among all levels of the integrated project; and each partner has demonstrated a capability of fulfilling its obligation.
- A. ...demonstrated that the project is fully integrated and formal contracts acceptable to ADOE between the partners are in place.

## 11.2 Base Facility

This section of the FPP describes the process and technology of the base facility. If the base facility is in place, technology risks related to adding capture facilities should be described. The description of the operational impact of adding capture to existing facilities should be described along with potential costs, components timelines and risk mitigation provided. For new base facilities, a description of its technical challenges, its uniqueness and risks should be described. The selection criteria used to decide on the base technology should be provided. If the technology selected was preferred because of reduced CO<sub>2</sub> production or other emissions, documentation supporting these assertions should be provided. Feedstock required should be described, as well as the security of supply. Energy requirements to run the base facility should be provided and properly documented. If the base facility includes new power generation capacity, a description of necessary transmission capacity should be included.

The base facility:

D. ...

- i) is at a conceptual design phase and or there is no assurance that the project will be operational by 2015;
- ii) will be based on commercially unproven technology;
- iii) technical challenges and construction/operational risks are not described;
- iv) has not secured a reliable source of feedstock; and
- v) the proposal does not include a description of the operational impact of incorporating the carbon capture technology into the base facility.

C. ...

- i) is not expected to be operational until 2016;
- ii) technology has been proven at a pilot stage but has yet to be proven at an industrial scale;
- iii) has technical challenges and construction/operational risks which are described at a high level;
- iv) regulatory approvals have not been submitted ;
- v) has identified but not yet secured a reliable source of feedstock ; and
- vi) the proposal includes an incomplete description of the operational impact of incorporating the carbon capture technology into the base facility.

B. ...

- i) is expected to be operational by 2015;
- ii) is based on commercially proven technology;
- iii) technical challenges and construction/operational risks are fully described and matched with appropriate mitigation strategies;
- iv) has obtained regulatory approvals or a plan is in place to manage the regulatory process;
- v) has a secure source of feedstock to sustain CO<sub>2</sub> capture levels; and

- vi) the project plan includes an extensive description of the operational impact of incorporating the carbon capture technology into the base facility.
- A. ...
- i) and, the base facility will be built and operational in advance of 2015.

### 11.3 Capture Facility

This section of the proposal describes the process and technology of the capture facility. It includes an overview of capture technology options with strengths and weaknesses, as well as the rationale used for selecting the proposed technology. It also includes a description of its technical construction challenges; its uniqueness and risks are described. Additional energy requirements to run capture and compression are discussed, with a description of the source. The proponent specifies whether or not the technology has been proven at the pilot stage and presents any operational data deemed necessary to understand and evaluate the capture technology. The proponent also specifies the percentage of CO<sub>2</sub> captured from the gas stream.

The capture facility:

- D. ...
  - i) has not been selected or has been selected but the technology has not been tested in a pilot project;
  - ii) additional energy requirements and source have not been discussed; and
  - iii) the capture process from the gas stream has not been described.
  
- C. ...
  - i) has been tested at the pilot stage but substantial technical hurdles have yet to be resolved;
  - ii) additional energy requirements and source have been partially discussed;
  - iii) the rationale for technology selection has not been thoroughly explained; and
  - iv) the capture process from the gas stream, including purity levels, has been partially described.
  
- B. ...
  - i) has been proven at the pilot stage;
  - ii) additional energy requirements and source have been fully discussed;
  - iii) the rationale for technology selection has been thoroughly explained;
  - iv) the proponent has submitted a competitive analysis of the capture options currently available and risk mitigation strategies are fully identified; and
  - v) the capture process from the gas stream, including purity levels, has been fully described.
  
- A. ... and, the chosen capture technology has been proven at an industrial scale.

## 11.4 Proponent's Capability and Capacity

This section of the proposal outlines the proponent's competency and experience in dealing with the capture and compression, pipelines, and injection processes, assessing reservoir suitability for storage, using CO<sub>2</sub> for enhanced oil recovery (EOR) and any other ability deemed critical for the successful implementation and operation of in an integrated CCS project.

The proponents have:

- D. ...limited competency in the areas listed above; the proponents have not demonstrated experience with projects of this scale;
- C. ...competency in most of areas necessary to implement an integrated CCS project; the proponents have limited demonstrated experience with projects of this scale;
- B. ...demonstrated knowledge and experience in the areas listed above and experience with projects of this scale has been supported;
- A. ...demonstrated significant experience and a proven track record in all of the areas required to implement an integrated CCS project of this scale.

## 11.5 Project Plan

This section of the proposal includes a description of the systems in place to manage project design, construction and operation of an integrated CCS project. The proponents are expected to outline the mitigating measures for risks during the construction and operation phases for all aspects of the project – capture, transportation and storage. It includes a description of the project management processes such as a steering committee with regular meetings and reporting processes and specified roles and responsibilities. It includes a description of the decisions to be made by the project proponent and partners throughout the design and construction phase that could impact project completion and its composition. Details of the pipeline and storage aspects of the project should be included here. The plan for pipeline design, size, capacity, right-of-way and route need to be provided, with risks to this plan detailed and mitigation strategies articulated. For the storage component, EOR or disposal options should be detailed, with plans provided on pore space access, ownership, surface access, production profiles for EOR and monitoring systems for storage integrity; risks and mitigation strategies should also be provided.

The Project Plan:

D. ...

- i) does not include milestones and risks are not identified;
- ii) does not refer to the establishment of a steering committee; and
- iii) does not address reporting requirements to the ADOE.
- iv) provides inadequate details of the pipeline component including costs; and
- v) storage options have not been described.

C. ...

- i) includes milestones however they not in sufficient detail to manage a projects of this scale and scope; risks are partially identified;
- ii) does not include a steering committee with all partners participating; and
- iii) only partially addresses reporting requirements to the ADOE.
- iv) includes partial pipeline details and costs for the project; and
- v) storage options have been partially described.

B. ...

- i) includes detailed milestones; risk mitigation strategies are fully identified;
- ii) includes a steering committee with fully developed terms of reference and decision making processes; and
- iii) addresses reporting requirements to the ADOE.
- iv) pipeline details and costs are provided for a specific project; and
- v) storage options have been fully described.

- A. ...
- i) includes detailed milestones and risk mitigation strategies are extensively identified;
  - ii) includes a steering committee with regular reporting sessions, specified roles and responsibilities, a fully developed terms of reference and decision making process;
  - iii) reporting requirements are fully addressed and the project plan is exceptionally clear and of high quality.
  - iv) pipeline description includes details and costs for both a project specific line and an integrated pipeline considering potential available CO<sub>2</sub> in the region; and
  - v) storage options have been thoroughly discussed targeting specific storage sites.

## 11.6 Financial Structure and Risk

This section of the proposal includes a description of the financial structure and risk mitigation strategies set in place for all the components of the project. It includes a detailed cost overview of the all components of the CCS project with a discussion of the level of confidence in all cost estimates. It also includes any factors that might influence the boards of directors' decision to go ahead with the project. Careful consideration is given to the proponents' financial ability to manage the project and the financial contingency plan. Operating revenue from the facility must be described and estimates supported; customers for process output should be identified.

For the project:

D. ...

- i) financing is only in place for part of the project and risk mitigation strategies are not included;
- ii) the proponents lack sufficient financial strength to be able to secure financing in the short-term; and
- iii) costs estimates are only at a high level.

C. ...

- i) financing for the integrated CCS project base facility is not complete and risk mitigation strategies have been partially developed;
- ii) the proponent has limited financial ability to secure financing in the short term; and
- iii) costs estimates have been supported by appropriate analysis.

B. ...

- i) financing for the integrated CCS project base facility has been arranged and a fully formulated financing plan for the project is in place; a risk mitigation strategy is well developed,
- ii) the project proponents have the financial strength to manage project financing and contingencies; and
- iii) costs estimates for the project have been thoroughly developed.

A. ...

- i) financing for the entire life cycle of the integrated CCS project is in place and risk mitigation strategies are extensively developed;
- ii) the project proponents have extensive financial strength to manage project financing and contingencies. The proponent also includes a discussion considering how possible market externalities and tightening credit markets could impact the project's financial viability, with mitigating strategies developed; and
- iii) costs estimates for the project have been extensively developed.

## 11.7 Cost Sharing Structure

This section of the proposal describes the proponents' expectations with respect to the contributions of the Government of Alberta necessary for the CCS project to proceed. Section 6, Funding Principles, outlines the Government of Alberta's cost sharing agreement as: a maximum of up to 75 percent of the total incremental cost to capture, transport and store CO<sub>2</sub>; a maximum of up to 40 percent of the approved CCSF funding for the pre-completion stage based on achieved milestones; up to an additional 20 percent of the approved CCSF funding upon construction completion, with the remaining 40 percent of the CCSF funding support to be paid as CO<sub>2</sub> is captured and stored over a maximum period of 10 years. Security to the Crown during construction should be provided by either an on-sight letter of credit or by providing credit assurances deemed to be acceptable by the Crown.

The proposed cost sharing arrangement:

- D. ...does not meet all the terms outlined in the Funding Principles.
- C.... meets all the terms in the Funding Principles but introduces conditions or uncertainties.
- B. ...meets all the terms outlined in the Funding Principles.
- A...provides more favourable cost sharing terms and security (to the Government of Alberta) than those outlined in the Funding Principles.

## 11.8 Efficiency

This section of the proposal evaluates the efficiency of the project relative to the requested financial support from the CCSF. The measure for efficiency is the level of CO<sub>2</sub> reductions relative to the requested CCSF contribution and it is relative to other CCS solutions within the proponent's industry.

The requested contribution from the fund, calculated on a per tonne of emissions stored basis, is:

- D....of extremely high cost, for the specific industry.
- C. ...of higher than average cost, for the specific industry.
- B. ...of average cost, for the specific industry.
- A. ...of below average cost, for the specific industry.

## 11.9 Ancillary benefits and synergies

This section of the proposal high-lights the expectations of the Government of Alberta that the CCS Fund, and the projects it will support, will create ancillary benefits and synergies with respect to government's strategic goals. There is a desire to support projects from more than one sector, to develop value added processing in Alberta and to disseminate learnings and information developed through the projects supported. The Fund has been established to initiate a wide-scale implementation of CCS in Alberta; where opportunities exist, projects supported should contribute to creating an integrated CCS sector in the province. This section includes a description of the following project characteristics:

- Natural gas consumption for industrial purposes;
- Potential to unlock low-value natural resources and waste products;
- Water usage;
- Potential reductions in NO<sub>x</sub> and SO<sub>x</sub> emissions; and
- Potential reductions in land disturbance.

The project's ancillary benefits and synergies provide:

- D. ...limited expectations of furthering the Government of Alberta's strategic goals in addition to CCS.
- C. ...some expectations of furthering the Government of Alberta's strategic goals in addition to CCS.
- B. ...significant expectations of furthering the Government of Alberta's strategic goals in addition to CCS.
- A. ...will further the Government of Alberta's strategic goals in addition to CCS implementation.

## 11.10 Portfolio Contribution

Government's objective is to have the CCS Fund support projects from more than one sector. A specific project's alignment with this objective would mean that:

- The project contributes to portfolio diversification
- The project fits within the desire to fund 3 – 5 projects which in total will result in 5 million tonnes of CO<sub>2</sub> annually being stored, within the \$2 billion available in the fund.

D ... The project does not fit with government's diversification objectives and /or funding it will not allow 3 – 5 projects to be funded within the \$2 billion limit.

C ... The project challenges government's diversification objectives and risks the ability to fund 3 – 5 projects.

B ... The project fits with government's diversification objectives and will contribute to meeting the volume objectives within the \$2 billion commitment.

A ... The project has a superior fit with government's diversification objectives.

## 12. Project Proponents' Certification and Signature

The undersigned hereby:

- a) verifies the accuracy of their proposal;
- b) consents, and has obtained the written consent of any individuals identified in the FPP, to the use of the information in the proposal by the Government of Alberta, employees of the Government of Alberta, and individuals and organizations under contract to provide services to the Alberta Department of Energy, for the purpose of evaluating this application and for any other purpose related to the Carbon Capture and Storage Fund;
- c) consents to the proponents names, organizations, project title, abstract, overview, expected benefits and approved funding amount being publicly disclosed if the proposal is selected for funding; and
- d) confirms that the Boards of Directors of the proponent corporations have approved the submission and the information contained herein.

Proponent's Name – <b>Capture</b>	Title/Organization:
Authorized Signature:	Date:

Proponent's Name - <b>Transportation</b>	Title/Organization:
Authorized Signature:	Date:

Proponent's Name - <b>Storage</b>	Title/Organization
Authorized Signature:	Date:

## 13. Submission

In submitting a project proposal, please note the following:

- a) Proposals received unsigned, by facsimile, by electronic mail, or after 4:30 p.m. (MST), March 31, 2009, **will be rejected**.
- b) Ambiguous, incomplete, unclear or unreadable applications may also be rejected.
- c) Proponents must submit three paper copies of the proposal (including all supporting documentation), and one electronic copy.
- d) Proposals must be submitted to either the Calgary or Edmonton office of ADOE and addressed to:

Mr. David Breakwell  
Assistant Deputy Minister  
Alberta Department of Energy  
North Petroleum Plaza  
10th Floor, 9945 – 108 Street  
Edmonton, Alberta T5K 2G6  
[ccseoi.energy@gov.ab.ca](mailto:ccseoi.energy@gov.ab.ca)

Mr. David Breakwell  
Assistant Deputy Minister  
Alberta Department of Energy  
AMEC Place  
Suite 300, 801 6<sup>th</sup> Avenue S.W.  
Calgary, Alberta T2P 3W2  
[ccseoi.energy@gov.ab.ca](mailto:ccseoi.energy@gov.ab.ca)