

Carbon Sequestration Agreement Guidelines

Guidance for Carbon Sequestration Hubs

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Table of Contents

Context	4
Initial Term and Additional Terms	4
Location	4
Obligations	4
• Open Access	4
• Service and Access Request Considerations	5
• Consent and Regulatory Approval	5
• Establishing Rates	6
• Building on Experience	6
• Post-Closure Stewardship Fund	7
• Closure, Post Closure, Liability and Indemnification (general overview)	7
Reporting	8
Termination	8
Assignment	8
Change in Ownership or Control	8
Dispute Resolution	8
• Dispute Resolution Process	9
• Written Notice to Department	9
• Dispute Committee	9
Insurance	10

Context

The Government of Alberta has undertaken a competitive process to allocate carbon sequestration pore space to enable the development of carbon sequestration hubs. A carbon sequestration hub will be an area of pore space (“Location”) overseen by a private company that can effectively plan, enable, and undertake sequestration of captured carbon dioxide (CO₂) from various emissions sources. A series of Request for Full Project Proposals (RFPP) ultimately facilitated the granting of a Carbon Sequestration Agreement (Agreement) to successful proponent(s) who will advance the development of carbon sequestration hubs. The Agreement establishes the boundaries of the Location and outlines the rights and obligations of the Agreement Holder. The following guidelines provide further guidance around the Agreement and related processes. Periodic updates to the guidelines may be necessary as new information or processes become available. The updated guidelines will be shared with Agreement Holders prior to publication.

Initial Term and Additional Terms

The initial term of an Agreement is 15 years with the option to apply for additional 15-year periods. The initial term length provides reasonable time for hub development activities to advance and inform an application for an additional term that reflects the evolution of the hub development plan. An Agreement Holder may apply for an additional term within 3 years prior to expiry of an Agreement. Additional terms will be considered when requirements have been satisfied that include, but are not limited to:

- sequestration activities have commenced and are ongoing within the Location;
- the Agreement is in good standing (e.g., fees and rental paid, any requests for supporting information have been satisfied, the principles of open access have been satisfied, etc.);
- the Agreement Holder’s Hub Development Plan demonstrates the need for an additional term via planned and continued CO₂ sequestration and has provided supportive technical evidence of the Location’s capacity to accommodate continued sequestration.

Location

The Government of Alberta recognizes that carbon sequestration hubs are large-scale projects representing significant, long-term investment decisions for hub proponents. Processes are being developed as quickly as possible to ensure carbon capture and sequestration is deployed responsibly and strategically while protecting the safety of Albertans and the environment. As the industry evolves, there is an opportunity to amend the Location of an Agreement to account for any new developments or concerns.

As stipulated by the Agreements, the Location of an Agreement may be increased, decreased, or otherwise modified upon application by the Agreement Holder and approval by the Minister; this may also be done upon written notice by the Minister.

Some examples that may be considered as public interest circumstances that may warrant modifying a Location include, but are not limited to:

- the pore space is no longer required due to changes in the anticipated amount of CO₂ to be sequestered;
- operational data presents evidence that (i) areas of pore space in the Location will not be utilized; (ii) the Location should be adjusted to reflect updated modelling of the CO₂ plume; or (iii) the capacity of the pore space within the Location is lower than projected, requiring additional tenure to accommodate sequestration volumes;
- a carbon sequestration hub is being developed in phases and the Agreement Holder is transitioning lands that are under an Evaluation Agreement;
- the Agreement Holder has obtained prior written consent of the Minister to modify its Hub Development Plan, requiring changes to the Location; or,
- the Agreement Holder fails to comply with any Enactments.

Obligations

Open Access

Carbon Sequestration Agreement Holders have an obligation to enable open access to the Location to third-party carbon dioxide emitters through the provision of carbon sequestration services, or access to sequestration pore space for the purposes of carbon sequestration.

Agreement Holders can support carbon sequestration needs of CO₂ emitters who do not have the wherewithal to undertake carbon sequestration. This can include, but is not limited to, activities and infrastructure related to compression, transportation, and sequestration (injection and permanent disposal) of captured CO₂. Along with the carbon sequestration infrastructure and activities, there are a suite of undertakings that the Agreement Holder is responsible for to ensure long-term and successful operations within the hub, including but not limited to:

- site selection and characterization;
- application and permitting processes;
- risk analysis and robust measurement, monitoring, and verification (MMV) activities and reporting;
- quantification and verification of sequestered CO₂;
- responsibilities associated with various carbon crediting regimes or greenhouse gas regulatory frameworks;
- building and maintaining public confidence in carbon sequestration; and
- undertaking appropriate closure, abandonment, reclamation, and post-closure responsibilities as required.

Energy and Minerals intends for any dispute resolution process to be used as a last resort for open access. However, where the marketplace is unable to resolve these issues, a formal process will be available when it is required.

Service and Access Request Considerations

In assessing service and access requests, the Agreement Holder will contemplate a number of considerations that include, but are not limited to whether:

- There is sufficient capacity (over the life of the project, but taking into consideration pressure effects and the integrity of the sequestration complex) exists within the sequestration site to accommodate the applicant's CO₂,
- Or,
- The sequestration site's capacity can reasonably be increased (including acceptable cost sharing provisions) to accommodate the applicant's CO₂.
 - The access request will restrict the ability of the hub proponent to inject its own CO₂ and/or CO₂ the operator is contractually obligated to inject.
 - The sequestration site operator's pore space tenure would be affected and additional tenure would be required.
 - The applicant's CO₂ meets the technical requirements, including CO₂ composition.
 - Injection of the applicant's CO₂ will compromise the integrity of the sequestration complex.

Consent and Regulatory Approval

Carbon sequestration activities within the Location will require approval under all applicable legislation, regulations, guidelines, and directives, including Alberta Energy Regulator (AER) scheme approval or updates.

The Agreement terms do not apply to other injection or disposal activities occurring, or that may be proposed in the Location. Such scenarios will also continue to fall within established regulatory processes and applicable legislation, regulation, directives, approvals, and guidelines (Enactments).

If a third-party desires to undertake carbon sequestration activities (via access to the Agreement Holder's hub services or pore space) in the Location, they must come to an (commercial) arrangement with the Agreement Holder. If the third-party and the Agreement Holder agree the third-party can conduct activities on the Location, the third-party will need to demonstrate consent of the Agreement Holder to facilitate the regulatory approval process (e.g., fulfill requirements in AER Directive 065 to demonstrate the right to sequester captured carbon dioxide). Alberta Energy and Minerals must be notified of such consent agreements (e.g., location, volumes, sources, timeframe etc.) and updates must be made in advance to the relevant sections of the Hub Development Plan under the Agreement. The third-party (i.e., client) will be required to meet all regulatory requirements for the sequestration of carbon dioxide which includes the provision of all information required to enable the Agreement Holder to meet reporting and information sharing requirements pursuant to the Agreement and related Enactments. In all service and access scenarios, the Agreement Holder will continue to be responsible for the Location and is accountable to the Crown for all reporting related to the Agreement, post-closure stewardship fund payments, and other obligations under the Agreement. An Agreement Holder may consider these responsibilities in its development of rates or fees for services or access and other commercial terms in its commercial arrangement with a third party.

As a best practice and in preparation for reporting requests, Agreement Holders are encouraged to maintain and update the information requirements laid out in the carbon sequestration agreement applications guidelines. For assistance in determining whether changes to a Hub Development Plan may be required, please refer to the guidance below and submit your change request via email to CarbonCapture.Energy@gov.ab.ca.

When considering implementing a change to the Hub Development Plan, several examples can demonstrate when such changes should be considered. Generally, these changes arise as a result of many factors impacting the initial planning assumptions. Some examples of potential changes to the Hub Development Plan include, but are not limited to:

- a change in project configuration concerning emissions and injection sites;
- a change to the Agreement Holder's financial capability;
- a change in the expected capacity of the Location;
- deviations from previously communicated benefits to Indigenous communities;
- a change to the project's planned timelines in relation to subsequent phases;
- when making an application for an Assignment, Location Amendment, Change of Ownership, or for an Additional Term; or
- when a third-party has been given consent by the hub operator to conduct activities in the Location (e.g., the right to sequester captured CO₂).

Establishing Rates

An Agreement Holder is able to receive a fair and reasonable cost recovery in meeting their obligation to enable open access to third-party emission sources.

Commercial scale carbon sequestration is a nascent yet rapidly growing and evolving industry. The Government of Alberta does not establish service rates for sequestration of CO₂. However, it is an expectation that rates are set in a fair manner to both parties and in accordance with industry best practices. There will be circumstances where a hub Agreement Holder will have the rights for carbon sequestration in a geographic region. The aim of the Government of Alberta is to ensure that hub operators are not able to charge unreasonable rates, which could result in emissions not being sequestered. Government also acknowledges the legitimate need of Agreement Holders to be able to be adequately and appropriately compensated.

This guideline serves to provide direction and assistance as a measure of reasonableness to allow emitters and Agreement Holders to reach an equitable agreement based on various business models, risk factors, and scale of the operations in the absence of a government prescribed rate or formula.

Building on Experience

It is anticipated that, generally, rates will be designed to allow Agreement Holders to recover costs that include capital and operating costs, and service debt while providing a reasonable return. Financial integrity of the Agreement Holder is important for maintaining their pipelines, wells, and below surface maintenance, as well as attracting capital to build new infrastructure, and meeting the market's evolving needs. These needs can also vary depending on the level of service, oversight, and cost recovery on the side of the Agreement Holder (e.g., from full-service scenarios that include compression, transportation, and injection services, to the necessary activities that will support effective third-party access to the Location).

As such, there is currently no one-size-fits-all service and rate model to follow. There are various regulatory models or industry-accepted best practices that are publicly available to inform appropriate costs, accounting, and rate determination. Regardless of the approach or model used, Agreement Holders will provide third parties/emitters with adequate information so they can understand how a rate is derived. It is expected that in the case of a dispute, supporting information must be produced to support the dispute resolution process (see the dispute process below). Parties are encouraged to, where appropriate/possible, build upon analogous industry accepted best practices that are publicly available as they negotiate and structure their commercial agreements. Examples are provided below for reference only, and do not represent official guidance or policy with respect to rate setting and cost recovery.

Alberta's oil sands royalty system provides a yearly Rate of Return on Capital composed of Cost of Debt and Deemed Equity returns through the Non-Arm's Length calculations for pipelines, which could be adapted to provide guidance. Deemed debt follows a 10-year government of Canada yield along with deemed equity ratios that will provide some guidelines when parties enter into a negotiation on rates of return related to the costs (Capex and Opex).
<https://www.alberta.ca/assets/documents/energy-nal-nb-pipeline.pdf>

The Canadian Energy Regulator (CER) also provides a framework on rates of return for the equity portion of the weighted average cost of capital (WACC) that is often used to arrive at a reasonable return.

<https://www.cer-rec.gc.ca/en/data-analysis/facilities-we-regulate/canadas-pipeline-system/2021/financial-integrity-of-oil-and-gas-pipeline-companies.html>

Determining which costs should be included when calculating the WACC for a project proponent is often challenging. An industry best practice is to follow the accounting procedures as updated periodically by the Petroleum Joint Venture Association. This consolidates information from 300 industry members on accounting for various costs categories and determining dispute resolutions for typical joint venture agreements in upstream energy projects.

<https://pjva.ca/newsletter/2012/jan2012/index.php>

Often the Accounting Procedure is accompanied by the Head Agreements as broadly outlined by the Canadian Association of Petroleum Land Management CAPLA JV agreement that outlines common practice on setting up committees and governance in managing project costs and operating procedures.

<https://caplacanada.org/wp-content/uploads/2019/05/Joint-Operating-Agreement-CAPLA-2019-05-14.docx>

The Federal government also provides regulations (Oil Pipeline Uniform Accounting Regulations) on maintaining transparency and accounting of costs related to regulated pipelines that could be used to account for costs related to project investment and operations.

https://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1058/index.html

Although none of these guidelines and regulations must be followed prescriptively, they can be referenced as good guidance and best practice for a nascent sector within Alberta. Energy and Minerals intends for any dispute resolution process to be used as a last resort for matters of fair and reasonable pricing. However, where the marketplace is unable to resolve these issues, a formal process will be available when it is required. Again, should an emitter or project proponent require a dispute to be resolved through the dispute resolution process (see below), these guidelines could be used to gauge the degree of fairness and equity in dispute.

Post-Closure Stewardship Fund

The Government of Alberta created the Post-Closure Stewardship Fund (PCSF) to offset costs associated with the long-term monitoring and maintenance of sequestration sites. Agreement Holders pay a fee per tonne of sequestered CO₂ into the fund. Currently, this fee is intended to be project specific and the rate be determined with model inputs that include, but are not limited to:

- the amount of carbon dioxide injected over the life of the project;
- interest and inflation rates;
- the frequency and type of long-term monitoring that will occur when the province assumes liability; and
- the probability and type of risks associated with long-term CO₂ storage.

Agreement Holders are encouraged to approach Alberta Energy and Minerals for information on the fund and the rate setting process.

Closure, Post Closure, Liability and Indemnification (general overview)

Following the carbon sequestration injection period, an Agreement Holder may notify the Crown of its intention to terminate hub operations and make the appropriate application to the AER for review and approval to commence its Closure Period activities as outlined in its MMV and closure plan. The MMV and closure plan, including the closure and post-injection activities, monitoring and maintenance requirements will be project specific, and be determined by the project details, and risks identified for each project. For more information, please see [Directive 065, Appendix P MMV Principles and Objectives for CO₂ Sequestration Projects](#).

During the course of the Project's construction, its operational life (i.e., the period where CO₂ injection and related activities are being conducted) and its closure period, the Agreement Holder is required to indemnify Alberta in accordance with the terms of the Sequestration Agreement. In addition, as identified in the Sequestration Agreement, Agreement Holders will be required to pay into the PCSF based upon the amount of CO₂ sequestered by the Hub. The PCSF will be used by Alberta (or its delegate) in accordance with Section 122 of the *Mines and Minerals Act* and relevant Enactments.

Through the course of the closure period, the Agreement Holder will perform all required MMV activities to assess reservoir integrity and containment and to ensure the long-term (i.e., permanent) safety of the reservoir. As no injection activities are

intended to occur during this period, the expectation is that no payments into the PCSF will be made by the Agreement Holder during the closure period.

Upon completion of the required closure period, and upon demonstrating to the satisfaction of the AER and the Minister in accordance with applicable Enactments, that the reservoir is safe and secure, and that permanent sequestration of the injected CO₂ has been achieved, the Agreement Holder will be able to apply for a closure certificate. Upon issuance of such closure certificate, the Crown assumes the obligations outlined in Section 121 of the *Mines and Minerals Act*.

Reporting

The Agreement Holder will be responsible for keeping accurate and complete records related to the hub development and all carbon sequestration activities within the Location including third parties (i.e., clients). In lieu of annual reporting, government can request records at any time. Any confidential information obtained by or submitted to Alberta Energy and Minerals is subject to Section 50 of the *Mines and Minerals Act*.

When requesting any information or records, (to any specific data, measurement, monitoring, reporting, project status, cost or operational information, etc.) the Minister or AER may take into consideration the complexity of each request when determining a response time period. While the agreement lays out certain independent actions the Government of Alberta can take to obtain and review records, the Government will first try and take collaborative and reasonable actions with the Agreement Holder to obtain records first.

Termination

For information related to termination, please reference Article 10 of the Agreement.

Assignment

An agreement can be assigned in whole or in part with written consent of the Minister. When reviewing an assignment request, the Minister may consider numerous factors, including but not limited to whether:

- the Assignment will result in the project continuing as described in the Hub Development Plan;
- the proposed Assignee has the ability to take on the Agreement and ensure safe, effective use of the pore space for sequestration of CO₂;
- the proposed Assignee demonstrates the financial ability to take on the Agreement and associated operations; and
- the proposed Assignee is in good standing with the department.

If an assignment request is not approved, the Agreement will remain with the original Agreement Holder.

Change in Ownership or Control

For information related to Change in Ownership or Control, please reference Article 12 of the Agreement.

Dispute Resolution

The Government of Alberta expects that parties will have first exhausted all reasonable avenues of private negotiation around mutually acceptable terms. If an agreement cannot be made, either party can approach the department to assess the dispute and the appropriate course of action (NOTE: In scenarios where a dispute arises, and a contract or agreement is already in place between the Agreement Holder and a third-party, that dispute should be governed by the terms of that contract).

The Dispute Resolution process will be used for resolving disputes between parties (the Participants). In a dispute, the Participants are expected to include the Agreement Holder, and an arm's length entity seeking carbon sequestration services to the Agreement Holder's Location for sequestration of captured CO₂ (Third-Party Emitter). In some regions of Alberta, government has enabled more than one sequestration hub proponent to advance, providing optionality to third-party emitters. It is expected that a third-party emitter will consider other sequestration options prior to approaching the department on a dispute.

Disputes are expected to fall into two broad categories:

- Disputes relating to commercial rates associated with access to the Location or sequestration services; and/or
- Disputes about the ability to inject additional volumes into the Location.

Dispute Resolution Process

Upon receipt of a written notice from either Participant, the department will meet with representatives of the Participants within thirty (30) days of receipt of such notice, or within such other time period as may be directed by the Minister and attempt to resolve the dispute described in the notice. Such meeting shall be confidential and without prejudice to the rights of either Participant.

- a) If the dispute is resolved by meeting with the department, then no order shall be issued and the Participants may agree to withdraw the notice by mutual consent.
- b) If the dispute is not resolved by meeting with the department, then either Participant may request that the dispute be referred to the Minister for final resolution. Upon such request, the department shall issue a Notice of Dispute for Resolution to the Minister of Alberta Energy and Minerals.

The Notice of Dispute for Resolution will identify the dispute and attach for reference a copy of the written notice from the original notifying party of its position in respect of the dispute. All notices, discussions and other communications among the Participants and the department in respect of any dispute will be on a without prejudice basis and may not be used, referred to, or introduced into evidence in any proceedings in respect of that dispute.

Where any dispute is referred to the Minister, the Minister shall, within thirty (30) days, provide a written response to the Participants, confirming receipt of the Notice of Dispute for Resolution.

The Minister may either:

- a) issue a determination that the nature of the dispute falls outside the scope of the dispute resolution process contemplated in this Agreement and must be resolved independently between the Participants;
- b) hear the dispute and issue an order of the decision; or,
- c) establish a committee under the *Government Organization Act* ("Committee") to hear the dispute, including establishing a process in accordance with any regulations or guidelines applicable to carbon sequestration matters and put forward a recommendation to Minister.

The outcome of a dispute will be subject to any relevant regulatory processes and applicable legislation, regulation, directives and/or guidelines (e.g., if the dispute conflicts with a decision of the Regulator, the Regulator shall prevail).

Written Notice to Department

A written notice of a dispute shall be submitted to carboncapture.energy@gov.ab.ca and include:

- A summary of the Participant's position with respect to the matters in dispute.
 - Nature of the dispute (e.g., rates to access Location; rates for carbon sequestration services; and/or technical rationale related to the ability to inject CO₂ volumes into the Location).
- Summary of efforts that demonstrate meaningful and reasonable negotiations.
- Reasoning that negotiations have not resolved the dispute.
- Evidence that there are no reasonable alternative sequestration options for the Emitter.
- Other information as requested to support the assessment.

Dispute Committee

- The department may engage relevant experts to support the committee/committee selection.
- If a committee has been established in respect of any other dispute, the Minister may delay establishing a further committee until such time that the Minister makes a decision in respect of a previously established committee, or the terms and conditions of a decision made in respect of a previously established committee have been fully satisfied.
- If the Minister receives multiple requests to establish a committee from the same or any other applicant under subsection, the Minister may determine the order in which to establish those committees.
- The committee will provide Alberta Energy and Minerals/Minister with a written recommendation, reasons for its recommendation, and the procedures for the review of the dispute.
- An administration fee may be enabled for parties entering the dispute resolution process.
- The Participants will be required to fund any experts who would need to be engaged.

Insurance

The Agreement Holder is required to submit evidence of insurance, acceptable to the Minister, for activities related to carbon sequestration hubs prior to any activity commencing at the approved Location. Alberta Energy and Minerals acknowledges that acceptable insurance may vary by Agreement Holder. Alberta Energy and Minerals will continue to monitor the availability of liability insurance for CCUS operations in the commercial insurance marketplace and will review each Agreement Holder's insurance from this perspective. Alberta Energy and Minerals further acknowledges that instances may occur where insurance policies may not be in place at the time of application for the Carbon Sequestration Agreement. Additionally, some applicants may choose to self-insure. In lieu of submission of an insurance certificate at time of application, the applicant is required to submit the following information:

- The limit of insurance proposed for each of the required coverages and a detailed summary of the coverage that will be provided under those policies including deductibles or self-insured retention amounts, if applicable;
- Rationale with respect to the coverage selections and limits of insurance proposed, including the basis used in determining the limit and coverage chosen;
- A summary on the progress of the efforts in the investigation and pursuit of the required insurances; and
- An estimate of when an insurance certificate will be submitted to the department for review.

Or

- In cases of self-insurance, provide proof of self-insurance for all related liabilities and risks associated with the hub.