



Solicitation No. - N° de l'invitation  
NRCan-5000078756/B  
Client Ref. No. - N° de réf. du client  
180599

**Return Bids to:**

**Retourner Les Soumissions à:**  
Natural Resources Canada

Bid Receiving Natural Resources Canada  
See herein for bid submission instructions

**Request for Proposal (RFP)  
Demande de proposition (DDP)**

**Proposal To: Natural Resources Canada**  
*We hereby offer to sell to His Majesty the King in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.*

**Proposition à: Ressources Naturelles Canada**  
*Nous offrons par la présente de vendre à Sa Majesté le Roi du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).*

**Comments – Commentaires**

**Issuing Office – Bureau de distribution**

Finance and Procurement Management  
Branch  
Natural Resources Canada  
580 Booth Street  
Ottawa, Ontario  
K1A 0E4

<b>Title – Sujet</b>	
Assessments of risks and costs of underground hydrogen storage (UHS) in Canada	
<b>Solicitation No. – No de l'invitation</b>	<b>Date</b>
NRCan-5000078756/B	March 20, 2024
<b>Requisition Reference No. - N° de la demande</b>	
180599	
<b>Solicitation Closes – L'invitation prend fin</b>	
at – à <b>02:00 PM</b> Eastern Daylight Time (EDT)	
on – le <b>April 15, 2024</b>	
<b>Address Enquiries to: - Adresse toutes questions à:</b>	
Alexandre Rheault Alexandre.rheault@nrcan-rncan.gc.ca	
<b>Telephone No. – No de telephone</b>	
613-298-6447	
<b>Destination – of Goods and Services: Destination – des biens et services:</b>	
Natural Resources Canada 580 Booth Street Ottawa, Ontario K1A 0E4	
<b>Security – Sécurité</b>	
THERE ARE SECURITY REQUIREMENTS ASSOCIATED WITH THIS REQUIREMENT.	
<b>Vendor/Firm Name and Address</b>	
<b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
Telephone No.:- No. de téléphone:	
Email – Courriel :	
<b>Name and Title of person authorized to sign on behalf of Vendor/Firm (type or print)</b>	
<b>Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
_____	_____
<b>Signature</b>	<b>Date</b>



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The Articles contained in this document are mandatory in their entirety, unless otherwise indicated. Acceptance of these Articles, in their entirety, as they appear in this document, is a Mandatory requirement of this RFP.

**Suppliers submitting a proposal containing statements implying that their proposal is conditional on modification of these clauses or containing terms and conditions that purport to supersede these clauses or derogate from them will be considered non-responsive.**

Bidders with concerns regarding the provisions of the Bid Solicitation document (including the Resulting Contract Clauses) should raise such concerns in accordance with the Enquiries provision of this RFP.

By signing its bid, the bidder confirms that they have read the entire bid solicitation including the documents incorporated by reference into the bid solicitation and certifies that:

1. The Bidder considers itself and its proposed resources able to meet all the mandatory requirements described in the bid solicitation;
2. This bid is valid for the period requested in the bid solicitation;
3. All the information provided in the bid is complete, true and accurate; and
4. If the Bidder is awarded a contract, it will accept all the terms and conditions set out in the resulting contract clauses included in the bid solicitation.



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## PART 1 – GENERAL INFORMATION

### 1.1 Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Attachments include the Technical criteria, Additional Certifications required with the bid and Additional Certifications required precedent to contract award.

The Annexes include the Statement of Work, the Basis of Payment and the Security Requirements Checklist.

### 1.2 Summary

- a) This bid solicitation is being issued to satisfy the requirement of Natural Resources Canada (NRCan) (the "Client"). NRCan has identified a need for an engineering/science graduate to provide their coordination expertise to conduct a comprehensive study on the risks and costs associated with storing hydrogen in underground reservoirs across different Canadian jurisdictions. As part of Canada's commitment to transitioning to net-zero energy systems, hydrogen is seen as a key player in achieving zero-emission energy goals.
- b) The estimated period of the Contract will be for seven (7) months.

### 1.3 Security

There are security requirements associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, Bidders should refer to the Contract Security Program of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.



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#### **1.4 Accessibility**

Considering accessibility criteria and features is obligatory with this requirement. For additional information consult the *Treasury Board Contracting Policy*.

#### **1.5 Trade Agreements**

The requirement is subject to the provisions of the Canada-Korea Free Trade Agreement (CKFTA).

#### **1.6 Comprehensive Land Claims Agreements (CLCAs)**

The resulting contract(s) will not include deliveries within locations within Yukon, Northwest Territories, Nunavut, Quebec, or Labrador that are subject to Comprehensive Land Claims Agreements (CLCAs). Any requirements for deliveries within locations within Yukon, Northwest Territories, Nunavut, Quebec, or Labrador that are subject to CLCAs will have to be treated as a separate procurement, outside of this bid solicitation.

#### **1.7 epost Connect service**

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

#### **1.8 Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.



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## PART 2 – BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2023-06-08) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

- **In the complete text content (except Section 1 and 3)**  
**Delete:** Public Works and Government Services Canada” and “PWGSC”  
**Insert:** “Natural Resources Canada.” and “NRCan”
- **At 02 Procurement Business Number:**  
**Delete:** “Suppliers are required to”  
**Insert:** “It is suggested that suppliers”
- **At 08 Transmission by facsimile or by Canada Post Corporation's (CPC) Connect service, article 1:**  
**Delete:** in its entirety
- **At 08 Transmission by facsimile or by Canada Post Corporation's (CPC) Connect service, article 2a:**  
**Delete:** : The only acceptable email address to use with CPC Connect for responses to bid solicitations issued by PWGSC headquarters is: [tpsgc.pareceptiondessaoumissions-apbidReceiving.pwgsc@tpsgc-pwgsc.gc.ca](mailto:tpsgc.pareceptiondessaoumissions-apbidReceiving.pwgsc@tpsgc-pwgsc.gc.ca). or, if applicable, the email address identified in the bid solicitation.  
**Insert:** The only acceptable email address to use with CPC Connect for responses to bid solicitation issued by NRCan is: [procurement-appvisionnement@NRCan-RNCan.gc.ca](mailto:procurement-appvisionnement@NRCan-RNCan.gc.ca)
- **At 08, Transmission by facsimile or by Canada Post Corporation's (CPC) Connect service, article 2b:**  
**Delete:** “six business days”  
**Insert:** “five business days”
- **At 20, Further information, article 2b:**  
**Delete:** in its entirety

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days  
Insert: 180 days.

#### 2.1.1 SACC Manual Clauses

[A7035T](#) (2007-05-25) List of Proposed Subcontractors

### 2.2 Submission of Bids

Bidders must submit all proposals using the Canada Post Canada (CPC) Connect service. Given the current constraints on NRCan's networks, the electronic mail system has a limit of 1GB per single message received and a limit of 20GB per conversation.

Bids must be submitted no later than the date and time indicated on page 1 of the bid solicitation.



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**Only bids submitted using CPC Connect service will be accepted.**

At least five (5) business days before the bid solicitation closing date, it is necessary for the Bidder to send an email requesting to open CPC Connect conversation to the following address:

[procurement-appvisionnement@NRCan-RNCan.gc.ca](mailto:procurement-appvisionnement@NRCan-RNCan.gc.ca)

**Note 1:** Bids will not be accepted if e-mailed directly to this address. This e-mail address is to be used to open CPC Connect conversation, as detailed in the Standard Instructions 2003 (article 08, paragraph 2), or to send bids through CPC Connect message if the bidder is using its own licensing agreement for CPC Connect.

**Note 2:** Send as early as possible in order to ensure a response, Requests to open a CPC Connect conversation received after that time may not be answered.

**IMPORTANT:** It is requested that you write the bid solicitation number in "Subject" of the email: NRCan-5000078756/B Assessments of risks and costs of underground hydrogen storage (UHS) in Canada

NRCan will not assume responsibility for proposals directed to any other location.

The onus is on the Bidder to ensure that the bid is submitted correctly using CPC Connect service. Not complying with the instructions may result in NRCan's inability to ascertain reception date and/or to consider the bid prior to contract award. Therefore, NRCan reserves the right to reject any proposal not complying with these instructions.

Due to the nature of the bid solicitation, bids transmitted by email, mail or facsimile to NRCan will not be accepted.

### **2.3 Former Public Servant – Competitive Bid**

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

#### **Definitions**

For the purposes of this clause, "former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a) an individual;
- b) an individual who has incorporated;
- c) a partnership made of former public servants; or
- d) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of





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various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

### Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes**  **No**

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a) name of former public servant;
- b) date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2019-01](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

### Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes**  **No**

If so, the Bidder must provide the following information:

- a) name of former public servant;
- b) conditions of the lump sum payment incentive;
- c) date of termination of employment;
- d) amount of lump sum payment;
- e) rate of pay on which lump sum payment is based;
- f) period of lump sum payment including start date, end date and number of weeks;
- g) number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

## 2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.



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## 2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

## 2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least five (5) calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

## 2.6 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
  - Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.



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## PART 3 – BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

The Bidder must submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. The CPC Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

Canada requests that the Bidder submits its bid in separately saved documents as follows:

- Section I: Technical Bid
- Section II: Financial Bid
- Section III: Certifications
- Section IV: Additional Information

If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through CPC Connect service, the wording of the electronic copy provided through CPC Connect service will have priority over the wording of the other copies.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

- 1) Include all environmental certification(s) relevant to your organization (e.g., ISO 14001, Leadership in Energy and Environmental Design (LEED), Carbon Disclosure Project, etc.)
- 2) Include all environmental certification(s) or Environmental Product Declaration(s) (EPD) specific to your product/service (e.g., Forest Stewardship Council (FSC), ENERGYSTAR, etc.)

#### Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

#### Section II: Financial Bid

- A. Bidders must submit their financial bid in Canadian funds and in accordance with the pricing schedule detailed in Attachment 1 to Part 3.
- B. Bidders must submit their rates FOB destination; Canadian customs duties and excise taxes included, as applicable; and Applicable Taxes excluded.



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- C. When preparing their financial bid, Bidders should review clause 4.1.2, Financial Evaluation, of Part 4 of the bid solicitation; and article 7.6, Payment, of Part 7 of the bid solicitation.

**D. Price Breakdown**

Deleted.

**E. Exchange Rate Fluctuation**

C3011T (2013-11-06), Exchange Rate Fluctuation

**Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.

**Section IV: Additional Information**

**3.1.1 Bidder's Proposed Sites or Premises Requiring Safeguarding Measures**

- 3.1.1.1** As indicated in Part 6 under Security Requirements, the Bidder must provide the full addresses of the Bidder's and proposed individuals' sites or premises for which safeguarding measures are required for Work Performance:

Street Number / Street Name, Unit / Suite / Apartment Number

City, Province, Territory / State

Postal Code / Zip Code

Country

- 3.1.1.2** The Company Security Officer must ensure through the [Contract Security Program](#) that the Bidder and proposed individuals hold a valid security clearance at the required level, as indicated in Part 6 – Security, Financial and Other Requirements.



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## ATTACHMENT 1 TO PART 3, PRICING SCHEDULE

- 1.0 The Bidder should complete this pricing schedule and include it in its financial bid once completed. As a minimum, the Bidder must respond to this pricing schedule by including in its financial bid for each of the periods specified below its quoted all inclusive fixed hourly rate (in Can \$) for each of the resource categories identified.
- 2.0 The volumetric data included in this pricing schedule are provided for bid evaluated price determination purposes only. They are not to be considered as a contractual guarantee. Their inclusion in this pricing schedule does not represent a commitment by Canada that Canada's future usage of the services described in the bid solicitation will be consistent with this data.
- 3.0 The rates included in this pricing schedule includes the total estimated cost of any travel and living expenses that may need to be incurred for the Work described in Part 7 of the bid solicitation.

Under any resulting contract, Canada will not accept travel and living expenses that may need to be incurred by the contractor for any relocation of resources required to satisfy its contractual obligations.

### Contract Period:

<b>Estimated Contract Period (7 months)</b>					
	<b>(A)</b>	<b>(B)</b>	<b>(C)</b>	<b>(D)</b>	<b>(E)</b>
<b>Resource(s)</b>	<b>Level of Expertise</b>	<b>Estimated number of Resources Required</b>	<b>Estimated Number of Hours</b>	<b>Firm Per Diem Rate</b>	<b>Total Cost (C x D)</b>
Engineering/science graduate	_____	1	1,000	\$	\$
<b>(F) - Total Supplementary Costs (e.g. Subcontracts)</b>					\$
<b>E+F = Total Price or Evaluated Price (Taxes Extra)</b>					\$



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## PART 4 – EVALUATION PROCEDURES AND BASIS OF SELECTION

### 4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### 4.1.1 Technical Evaluation

##### 4.1.1.1 Joint Venture Experience

- a) Where the Bidder is a joint venture with existing experience as that joint venture, it may submit the experience that it has obtained as that joint venture.

Example: A bidder is a joint venture consisting of members L and O. A bid solicitation requires that the bidder demonstrate experience providing maintenance and help desk services for a period of 24 months to a customer with at least 10,000 users. As a joint venture (consisting of members L and O), the bidder has previously done the work. This bidder can use this experience to meet the requirement. If member L obtained this experience while in a joint venture with a third party N, however, that experience cannot be used because the third party N is not part of the joint venture that is bidding.

- b) A joint venture bidder may rely on the experience of one of its members to meet any given technical criterion of this bid solicitation.

Example: A bidder is a joint venture consisting of members X, Y and Z. If a solicitation requires: (a) that the bidder have 3 years of experience providing maintenance service, and (b) that the bidder have 2 years of experience integrating hardware with complex networks, then each of these two requirements can be met by a different member of the joint venture. However, for a single criterion, such as the requirement for 3 years of experience providing maintenance services, the bidder cannot indicate that each of members X, Y and Z has one year of experience, totaling 3 years. Such a response would be declared non-responsive.

- c) Joint venture members cannot pool their abilities with other joint venture members to satisfy a single technical criterion of this bid solicitation. However, a joint venture member can pool its individual experience with the experience of the joint venture itself. Wherever substantiation of a criterion is required, the Bidder is requested to indicate which joint venture member satisfies the requirement. If the Bidder has not identified which joint venture member satisfies the requirement, the Contracting Authority will provide an opportunity to the Bidder to submit this information during the evaluation period. If the Bidder does not submit this information within the period set by the Contracting Authority, its bid will be declared non-responsive.

Example: A bidder is a joint venture consisting of members A and B. If a bid solicitation requires that the bidder demonstrate experience providing resources for a minimum number of 100 billable days, the bidder may demonstrate that experience by submitting either:

- Contracts all signed by A;
- Contracts all signed by B; or
- Contracts all signed by A and B in joint venture, or
- Contracts signed by A and contracts signed by A and B in joint venture, or
- Contracts signed by B and contracts signed by A and B in joint venture.

that show in total 100 billable days.



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- d) Any Bidder with questions regarding the way in which a joint venture bid will be evaluated should raise such questions through the Enquiries process as early as possible during the bid solicitation period.

#### **4.1.1.2 Mandatory Technical Criteria**

Refer to Attachment 2 to Part 4.

#### **4.1.2 Financial Evaluation**

4.1.2.1 For bid evaluation and Contractor selection purposes only, the evaluated price of a bid will be determined in accordance with the Pricing Schedule detailed in Attachment 1 to Part 3.

#### **4.2 Basis of Selection**

##### **4.2.1 Lowest Evaluated Price**

4.2.1.1 A bid must comply with the requirements of the bid solicitation and meet all mandatory evaluation criteria to be declared responsive.

4.2.1.2 The responsive bid with the lowest evaluated price will be recommended for award of a contract.



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## ATTACHMENT 1 TO PART 4, TECHNICAL CRITERIA

### Mandatory Technical Criteria

The bid must meet the mandatory technical criteria specified below. The Bidder must provide the necessary documentation to support compliance with this requirement.

Bids which fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately.

### **Mandatory Technical Criteria (MT)**

For the purpose of the mandatory technical criteria specified below, the experience of the Bidder and its subcontractors, affiliates and suppliers will be considered.

#### **The Bidder.**

#### **Experience.**

<b>Number</b>	<b>Mandatory Technical Criterion</b>	<b>Bid Preparation Instructions</b>
<b>MT1</b>	<p>The Bidder <b>MUST</b> demonstrate experience within 2 projects for which they have developed modelling, techno-economic analysis, or life cycle assessment on underground hydrogen, natural gas, or CO2 storage between January 1st, 2015, and the bid solicitation closing date.</p> <p>In order to demonstrate that their company possesses the required experience, the bidder should provide the following information:</p> <ol style="list-style-type: none"> <li>1. Project Name</li> <li>2. Project Summary</li> <li>3. Project Start and Completion Dates</li> <li>4. Contact Name and Contact Information (references*)</li> </ol> <p>Note: If the information provided is deemed insufficient for fulfilling project requirements in terms of the above-mentioned criteria, the bid will be considered non-responsive.</p> <p>* References may be contacted to confirm the information provided.</p>	<p>The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**</p>





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<b>The Bidder's Proposed Resources.</b>		
<b>Experience.</b>		
<b>Number</b>	<b>Mandatory Technical Criterion</b>	<b>Bid Preparation Instructions</b>
<b>MT2</b>	<p>The Bidder <b>MUST</b> propose a resource with at least 36 months experience in modelling of hydrogen, natural gas or CO2 storage between January 1<sup>st</sup>, 2010, and the bid solicitation closing date.</p> <p>The bidder <b>MUST</b> provide the résumé, which demonstrates the required experience of the resource proposed.</p>	The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**
<b>MT3</b>	<p>The Bidder <b>MUST</b> propose at least two additional resources, and demonstrate they each have a minimum of 12 months of continuous experience in hydrogen, natural gas, or CO2 underground storage, within the previous 60 months of the bid solicitation closing date.</p> <p>The bidder <b>MUST</b> provide the résumés, which demonstrates the required experience of each of the resources proposed.</p>	The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**
<b>MT4</b>	The proposed resource <b>MUST</b> have a minimum of 12 months of experience within the last 120 months as of the bid solicitation closing date working with the codes, standards, and regulations related to hydrogen, natural gas or CO2 storage in Canada.	The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**
<b>MT5</b>	<p>The proposed resource <b>MUST</b> have a degree from a university in one of the following field(s):</p> <p>Geological science, Petroleum, Materials, Chemical, Mechanical, Environmental, Industrial or Energy System engineering.</p> <p>The proposed resource <b>MUST</b> have a post secondary diploma, certificate or degree from an institution, and have a minimum of 24 months of experience in techno-economic assessment of energy-related topics.</p>	The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**
<b>MT6</b>	The proposed resource <b>MUST</b> have a valid certificate in the life cycle or modeling of energy-related topics.	The Bidder must demonstrate, in a one-page summary, that they meet this criteria.**

\*\*Note: The same one-page summary can be used for more than one criteria.



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## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the Integrity declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the [Ineligibility and Suspension Policy \(http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Contractor must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

All applicants, regardless of their status under the policy, must have the following information at the time to participate in a procurement process:

- Suppliers that are corporate entities, including those bidding as joint ventures, must provide a complete list of the names of all current directors or, for a privately owned corporation, the names of the owners of the corporation;
- Suppliers bidding as sole proprietors, including sole proprietors bidding as joint ventures, must provide a complete list of the names of all owners;
- Suppliers that are a partnership do not need to provide a list of names.

Supplier's Legal Name: \_\_\_\_\_

OR

Name of each member of the joint venture:



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Member 1: \_\_\_\_\_  
Member 2: \_\_\_\_\_  
Member 3: \_\_\_\_\_  
Member 4: \_\_\_\_\_

**Organizational Structure:**

- corporate entity (shareholders) - provide the names of the current Board of directors
- privately owned corporation - provide a list of the owner's names
- sole proprietor - provide a list of the owner's names

**LIST OF NAMES**

LAST NAME	FIRST NAME	TITLE

**5.2.2 Security Requirements – Required Documentation**

In accordance with the requirements of the Contract Security Program of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>), the Bidder must provide a completed Contract Security Program Application for Registration (AFR) form to be given further consideration in the procurement process.

Bidders are reminded to obtain the required security clearance and, as applicable, security capabilities promptly. As indicated above, bidders who do not provide all the required information at bid closing will be given the opportunity to complete any missing information from the AFR form within a period set by the Contracting Authority. If that information is not provided within the timeframe established by the Contracting Authority (including any extension granted by the Contracting Authority in its discretion), or if Canada requires further information from the Bidder in connection with assessing the request for security clearance (i.e., information not required by the AFR form), the Bidder will be required to submit that information within the time period established by the Contracting Authority, which will not be less than 48 hours. If, at any time, the Bidder fails to provide the required information within the timeframe established by the Contracting Authority, its bid will be declared non-compliant.

**5.2.3 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid List" available at the bottom of the page of the [Employment and Social](#)



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[Development Canada \(ESDC\) - Labour's website \(https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#\)](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid List" at the time of contract award.

### **5.2.3 Additional Certifications Precedent to Contract Award**

#### **5.2.3.1 Status and Availability of Resources**

[A3005T](#) (2010-08-16) Status and Availability of Resources

#### **5.2.3.2 Education and Experience**

SACC Manual clause [A3010T](#) (2010-08-16) Education and Experience



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## ATTACHMENT 1 TO PART 5, ADDITIONAL CERTIFICATIONS REQUIRED PRECEDENT TO CONTRACT AWARD

### 1. Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability.

### 2. Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

### 3. Former Public servant

<b>Former Public Servants</b> See the Article in Part 2 of the bid solicitation entitled Former Public Servant for a definition of "Former Public Servant".	Is the Bidder a FPS in receipt of a pension as defined in the bid solicitation?  Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, provide the information required by the Article in Part 2 entitled "Former Public Servant"
	Is the Bidder a FPS who received a lump sum payment under the terms of the Work Force Adjustment Directive?  Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, provide the information required by the Article in Part 2 entitled "Former Public Servant"



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**SIGNATURE for CERTIFICATION**

The Contractor certifies having read and understood the information included in the present document and acknowledges receipt.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date



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## PART 6 – SECURITY, FINANCIAL AND OTHER REQUIREMENTS

### 6.1 Security Requirement

1. Before award of a contract, the following conditions must be met:
  - a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
  - b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicated in Part 7 – Resulting Contract Clauses;
  - c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
  - d) the Bidder's proposed location of work performance and document safeguarding must meet the security requirements as indicated in Part-7 - Resulting Contract Clauses;
  - e) the Bidder must provide the addresses of proposed sites or premises of work performance and document safeguarding as indicated in Part-3 - Section IV Additional Information.
2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.
3. For additional information on security requirements, Bidders should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.



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## PART 7 – RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 7.1 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work in Annex A.

### 7.2 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### 7.2.1 General Conditions

2035 (2022-12-01), General Conditions - Higher Complexity - Services, apply to and form part of the Contract with the following replacements:

**Section 08 – Replacement of Specific Individuals**, of 2035 (2022-12-01) General Conditions – Higher Complexity – Services is deleted and replaced with the following:

1. if the Contractor is unable to provide the services of any specific individual identified in the Contract to perform the services, the Contractor must within five working days of the individual's departure or failure to commence Work (or, if Canada has requested the replacement, within ten working days of Canada's notice of the requirement for a replacement) provide to the Contracting Authority:
  - a. the name, qualifications and experience of a proposed replacement immediately available for Work; and
  - b. security information on the proposed replacement as specified by Canada, if applicable.

Any assessment of the information provided will occur as per 2 (b) below.

2. Subject to an Excusable Delay, where Canada becomes aware that a specific individual identified under the Contract to provide services has not been provided or is not performing, the Contracting Authority may elect to:
  - a. exercise Canada's rights or remedies under the Contract or at law, including terminating the Contract for default under Article titled "Default of the Contractor"; or
  - b. assess the information provided under 1 (a) and (b) above or, if it has not yet been provided, require the Contractor propose a replacement to be rated by the Technical Authority. The replacement must have qualifications and experience that meet or exceed those obtained for the original resource and be acceptable to Canada. Upon assessment of the replacement, Canada may accept the replacement, exercise the rights in 2 (a) above, or require the Contractor to propose another replacement within five working days' notice.
3. Where an Excusable Delay applies, Canada may require 2 (b) above instead of terminating under the "Excusable Delay" Article. An Excusable Delay does not include resource unavailability due to allocation of the resource to another Contract or project (including those for the Crown) being performed by the Contractor or any of its affiliates.
4. The Contractor must not, in any event, allow performance of the Work by unauthorized replacement persons. The Contracting Authority may order that a resource stop performing the





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Work. In such a case, the Contractor must immediately comply with the order. The fact that the Contracting Authority does not order that a resource stop performing the Work does not relieve the Contractor from its responsibility to meet the requirements of the Contract.

5. The obligations in this article apply despite any changes that Canada may have made to the Client's operating environment.

**Section 17 - Interest on Overdue Accounts**, of 2035 (2022-12-01) General Conditions - Higher Complexity - Services - will not apply to payments made by credit cards.

With respect to **Section 30 - Termination for Convenience**, of 2035 (2022-12-01) General Conditions - Higher Complexity - Services, Subsection 04 is deleted and replaced with the following Subsections 04, 05 and 06:

- 04) The total of the amounts, to which the Contractor is entitled to be paid under this section, together with any amounts paid, due or becoming due to the Contractor must not exceed the Contract
- 05) Where the Contracting Authority terminates the entire Contract and the Articles of Agreement include a Minimum Work Guarantee, the total amount to be paid to the Contractor under the Contract will not exceed the greater of:
  - a. the total amount the Contractor may be paid under this section, together with any amounts paid, becoming due other than payable under the Minimum Revenue Guarantee, or due to the Contractor as of the date of termination; or
  - b. the amount payable under the Minimum Work Guarantee, less any amounts paid, due or otherwise becoming due to the Contractor as of the date of termination.
- 06) The Contractor will have no claim for damages, compensation, loss of profit, allowance arising out of any termination notice given by Canada under this section except to the extent that this section expressly provides. The Contractor agrees to repay immediately to Canada the portion of any advance payment that is unliquidated at the date of the termination.

### 7.2.2 Supplemental General Conditions

SACC Manual Clause [4006](#) (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information apply to and form part of the Contract.

### 7.2.3 Inspection and Acceptance

The Project Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

### 7.2.4 Specific Person(s)

The Contractor must provide the services of the following person(s) to perform the Work as stated in the Contract: \_\_\_\_\_ (insert name(s) of person(s)).



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### 7.3 Security Requirement

**7.3.1** The following security requirements (SRCL and related clauses provided by the Contract Security Program) apply and form part of the Contract:

The Canadian Designated Security Authority (Canadian DSA) for industrial security matters in Canada is the Industrial Security Sector (ISS), Public Works and Government Services Canada (PWGSC), administered by International Industrial Security Directorate (IISD), PWGSC. The Canadian DSA is the authority for confirming Contractor compliance with the security requirements for foreign suppliers. The following security requirements apply to the foreign recipient Contractor incorporated or authorized to do business in a jurisdiction other than Canada and delivering outside of Canada the services listed and described in the subsequent contract.

1. The Foreign recipient Contractor must be from a country within the North Atlantic Treaty Organization (NATO), the European Union (EU) or from a country with which Canada has an international bilateral security instrument. The Contract Security Program (CSP) has international bilateral security instruments with the countries listed on the following PWGSC website:  
<http://www.tpsgc-pwgsc.gc.ca/esc-src/international-eng.html>.
2. The Foreign recipient Contractor must, at all times during the performance of the contract, hold an equivalence to a valid Designated Organization Screening (DOS), issued by the Canadian DSA as follows:
  - i. The Foreign recipient Contractor must provide proof that they are incorporated or authorized to do business in their jurisdiction.
  - ii. The Foreign recipient Contractor must not begin the work, services or performance until the Canadian DSA is satisfied that all contract security requirement conditions have been met. Canadian DSA confirmation must be provided, in writing, to the foreign recipient Contractor in an Attestation Form, to provide confirmation of compliance and authorization for services to be performed.
  - iii. The Foreign recipient Contractor must identify an authorized Contract Security Officer (CSO) and an Alternate (ACSO) (if applicable) to be responsible for the overseeing of the security requirements, as defined in the contract. This individual will be appointed by the proponent foreign recipient Contractor's Chief Executive Officer or Designated Key Senior Official, defined as an owner, officer, director, executive, and or partner who occupy a position which would enable them to adversely affect the organization's policies or practices in the performance of the contract.
  - iv. The Foreign recipient Contractor must not grant access to CANADA PROTECTED A or B information/assets, except to its personnel subject to the following conditions:
    - a. Personnel have a need-to-know for the performance of the contract;
    - b. Personnel have been subject to a Criminal Record Check, with favourable results, from a recognized governmental agency or private sector organization in their country as well as a Background Verification, validated by the Canadian DSA.
    - c. The Foreign recipient Contractor must ensure that personnel provide consent to share results of the Criminal Record Check(s) with the Canadian DSA and other Canadian Government Officials, if requested; and
    - d. The Government of Canada reserves the right to deny access to CANADA PROTECTED information/assets to a foreign recipient Contractor for cause.
3. CANADA PROTECTED information/assets provided or generated pursuant to this contract must not be further provided to a third party Foreign recipient Subcontractor unless:



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- a. written assurance is obtained from the Canadian DSA to the effect that the third-party Foreign recipient Subcontractor has been approved for access to CANADA PROTECTED information/assets by the Canadian DSA; and
  - b. written consent is obtained from the Canadian DSA, if the third-party Foreign recipient Subcontractor is located in a third country.
4. The Foreign recipient Contractor MUST NOT remove CANADA PROTECTED information/assets from the identified work site(s), and the foreign recipient Contractor must ensure that its personnel are made aware of and comply with this restriction.
  5. The Foreign recipient Contractor must not use the CANADA PROTECTED information/assets for any purpose other than for the performance of the contract/subcontract without the prior written approval of the Government of Canada. This approval must be obtained from the Canadian DSA.
  6. The Foreign recipient Contractor must, at all times during the performance of the contract hold an equivalence to an approved Document Safeguarding Capability (DSC) at the level of CANADA PROTECTED A or B.

All CANADA PROTECTED information/assets, furnished to the foreign recipient Contractor or produced by the foreign recipient Contractor, must also be safeguarded as follows:

7. The Foreign recipient Contractor must immediately report to the Canadian DSA all cases in which it is known or there is reason to suspect that CANADA PROTECTED information/ assets pursuant to this contract has been compromised.
8. The Foreign recipient Contractor must immediately report to the Canadian DSA all cases in which it is known or there is reason to suspect that CANADA PROTECTED information/ assets accessed by the foreign recipient Contractor, pursuant to this contract, have been lost or disclosed to unauthorized persons.
9. The Foreign recipient Contractor must not disclose CANADA PROTECTED information/assets to a third party government, person, firm or representative thereof, without the prior written consent of the Government of Canada. Such consent must be sought through the Canadian DSA.
10. The Foreign recipient Contractor must provide the CANADA PROTECTED information/assets a degree of safeguarding no less stringent than that provided by the Government of Canada in accordance with the National Policies, National Security legislation and regulations and as prescribed by the Canadian DSA.
11. Upon completion of the Work, the foreign recipient Contractor must return to the Government of Canada, all CANADA PROTECTED information/assets furnished or produced pursuant to this contract, including all CANADA PROTECTED information/assets released to and/or produced by its subcontractors.
12. The foreign recipient Contractor requiring access to CANADA PROTECTED A or B information/assets, under this contract, must submit a Request for Site Access to the Chief Security Officer of Natural resources Canada.
13. The Foreign recipient Contractor MUST NOT utilize its Information Technology (IT) systems to electronically process, produce, or store on a computer system any CANADA PROTECTED A or B information/assets until authorization to do so has been confirmed by the Canadian DSA. See Annex C for security measures required for the treatment and access to CANADA PROTECTED A or B information.
14. In the event that a foreign recipient Contractor is chosen as a supplier for this contract, subsequent country-specific foreign security requirement clauses must be generated and promulgated by the Canadian DSA, and provided to the Contracting Authority, to ensure compliance with the security provisions, as defined by the Canadian DSA, in relation to equivalencies.



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15. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of the Canadian DSA.
16. All Subcontracts awarded to a third party foreign recipient are NOT to be awarded without the prior written permission of the Canadian DSA in order to confirm the security requirements to be imposed on the subcontractors.
17. The Foreign recipient Contractor must comply with the provisions of the Security Requirements Check List attached at Annex C.
18. Canada has the right to reject any request to electronically access, process, produce, transmit or store CANADA PROTECTED information/assets related to the Work in any other country if there is any reason to be concerned about the security, privacy, or integrity of the information.

### **7.3.2 Contractor's Site or Premises Requiring Safeguarding Measures**

**7.3.2.1** Where safeguarding measures are required in the performance of the Work, the Contractor must diligently maintain up-to-date the information related to the Contractor's and proposed individuals' sites or premises for the following addresses:

Address:  
Street Number / Street Name, Unit / Suite / Apartment Number  
City, Province, Territory / State  
Postal Code / Zip Code  
Country

**7.3.2.2** The Company Security Officer (CSO) must ensure through the [Contract Security Program](#) that the Contractor and proposed individuals hold a valid security clearance at the required level of document safeguarding capability.

## **7.4 Term of Contract**

### **7.4.1 Period of the Contract**

The period of the Contract is from date of Contract to December 31, 2024 inclusive.

### **7.4.2 Termination on Thirty Days Notice**

Canada reserves the right to terminate the Contract at any time in whole or in part by giving thirty (30) calendar days written notice to the Contractor.

In the event of such termination, Canada will only pay for costs incurred for services rendered and accepted by Canada up to the date of the termination. Despite any other provision of the Contract, there will be no other costs that will be paid to the Contractor as a result of the termination.

### **7.4.3 Comprehensive Land Claims Agreements (CLCAs)**

The Contract does not include deliveries of services within locations within: Yukon, Northwest Territories, Nunavut, Quebec, or Labrador that are subject to Comprehensive Land Claims Agreements (CLCAs). Any requirements for deliveries of services within locations within Yukon, Northwest Territories, Nunavut, Quebec, or Labrador that are subject to CLCAs will have to form part of a separate contract.

## **7.5 Authorities**



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### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Alexandre Rheault  
Title: Procurement Specialist  
Organization: Natural Resources Canada  
Directorate: Corporate Management Services Sector  
Address: 580 Booth St. Ottawa ON, K1A 0E4  
Telephone: 613-298-6447  
E-mail address: alexandre.rheault@nrcan-rncan.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

### 7.5.2 Project Authority (to be inserted at contract award)

The Project Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_  
E-mail address: \_\_\_\_\_

Insert, as applicable:

In its absence, the Project Authority is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_  
E-mail address: \_\_\_\_\_

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority; however, the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

### 7.5.3 Contractor's Representative (Fill in at time of contract award.)

## 7.6 Payment

### 7.6.1 Basis of Payment

#### 7.6.1.1 Limitation of Expenditures

For the Work described in sections S.W. 4 and 5 of the Statement of Work in Annex A :



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The Contractor will be paid for its costs reasonably and properly incurred in the performance of the Work in accordance with the Basis of Payment in Annex B to a limitation of expenditure of \$\_\_\_\_\_ (*insert the amount at contract award*). Customs duty are included and Applicable Taxes are extra.

### 7.6.2 Method of Payment

#### Monthly Payment

Canada will pay the Contractor on a monthly basis for work performed during the month covered by the invoice in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work performed has been accepted by Canada.

### 7.6.3 Time Verification

C0711C (2008-05-12), Time Verification

### 7.7 Invoicing Instructions

Invoices shall be submitted using the following method:

<p><u>E-mail:</u></p> <p><a href="mailto:Invoicing-Facturation@nrcan-rncan.gc.ca">Invoicing-Facturation@nrcan-rncan.gc.ca</a></p> <p><b>Note:</b> Attach "PDF" file. No other formats will be accepted</p>
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Invoices and all documents relating to a contract must be submitted on the Contractor's own form and shall bear the Contract number: \_\_\_\_\_ (to be inserted at contract award)

Invoicing Instructions to suppliers: <http://www.nrcan.gc.ca/procurement/3485>

### 7.8 Certifications and Additional Information

#### 7.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

#### 7.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour,



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the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid List" available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>). The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

## 7.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario (or \_\_\_\_\_ *(to be completed at contract award)*).

## 7.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (c) the general conditions [2035](#) (2022-12-01) General Conditions - Higher Complexity - Services;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment ;
- (f) Annex C Security Requirements Check List & Supplemental Security Guide;
- (i) the Contractor's bid dated \_\_\_\_\_ (to be inserted at contract award)

## 7.11 Foreign Nationals

SACC Manual clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor) OR  
SACC Manual clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)

## 7.12 Proactive Disclosure of Contracts with Former Public Servants

[A3025C](#) (2020-05-04)

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2019-01](#) of the Treasury Board Secretariat of Canada.

## 7.13 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".



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## ANNEX A, STATEMENT OF WORK

### SW.1.0 TITLE

Assessments of risks and costs of underground hydrogen storage (UHS) in Canada

### SW.2.0 INTRODUCTION

In the transition to net-zero energy systems by 2050, hydrogen (H<sub>2</sub>) is envisioned to play a major role as a zero-emission energy carrier in combination with electricity made with minimal or no greenhouse gas (GHG) emissions. According to the **Hydrogen Strategy for Canada**, “A strong hydrogen economy will lead to financial, environmental, and health benefits for Canadians” (1). Canada has unique competitive advantages compared to other countries and can be a leader in hydrogen production, usage, export, and related technologies and services. In this regard “Hydrogen storage and transport from production hubs to users’ sites will be one of the more challenging obstacles for the large-scale global adoption of hydrogen.”

Natural Resources Canada (NRCan) aims to **perform a study to understand the risks and costs of storing hydrogen in underground reservoirs**. The study aims to explore the viability of utilizing underground reservoirs for H<sub>2</sub> storage across different jurisdictions and investigate the possibility of reusing existing CO<sub>2</sub> storage reservoirs solely for H<sub>2</sub> storage or in combination with CO<sub>2</sub>. NRCan is particularly interested in understanding the following:

- (1) What are the available underground H<sub>2</sub> storage options (depleted oil and gas fields, salt caverns, and saline aquifers) in different jurisdictions in Canada? What are the specific depths and volumes/capacities of these storage facilities for H<sub>2</sub> storage purposes? Considering the hydrogen demand and potential hydrogen production within each jurisdiction moving toward 2050, do the existing storage facilities have adequate capacity to store domestically produced hydrogen and capture the CO<sub>2</sub> generated during production?
- (2) How do the storage mechanisms for H<sub>2</sub> differ from those of carbon dioxide (CO<sub>2</sub>) storage in terms of geological formations, carbon intensity, leakage risks, safety considerations, compatibility of existing infrastructure, and costs within underground facilities?
- (3) Considering the potential for synergies, can a hybrid storage approach be adopted, where H<sub>2</sub> and CO<sub>2</sub> are stored together in the same geological formations? What are the benefits and drawbacks of such an approach?

### SW.3.0 BACKGROUND

Canada produces an estimated 3 million tonnes (Mt) of H<sub>2</sub> (out of which 2.4 Mt is produced in Alberta) mainly through steam methane reforming of natural gas. It is expected that by 2050, Canada will produce more than 20 Mt of low-carbon-intensity H<sub>2</sub> per year. According to the **Hydrogen Strategy for Canada**, “Hydrogen storage is a key factor in determining the feasibility of hydrogen use in the power sector, factors such as: geological location, volume stored and duration stored play a role in the cost of storing the hydrogen”. Hydrogen faces several challenges in production and storage and storing hydrogen cheaply and safely is difficult. There is a need to develop cost-effective, reliable, and safe storage systems to foster the development of a hydrogen economy. This work statement plans to cover perspectives and prospects of underground hydrogen storage in Canadian jurisdictions.

Hydrogen production, distribution and storage are interconnected processes. Currently, most of the hydrogen produced is distributed by rail, truck or stored as compressed gas in high-pressure cylinders, or





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as a cryogenic liquid in specialty insulated tanks. There are pilot projects across Canada wherein hydrogen is being blended with natural gas in underground natural gas pipeline networks. If distribution of hydrogen via natural gas pipeline is not feasible or there aren't sufficient above ground hydrogen storage units, then bulk underground storage options for hydrogen will be required. This is especially important to consider when hydrogen is going to be used for seasonal or daily energy demand, as the need and volume for hydrogen grows. There is a great potential for Canada to use its depleted oil and gas reservoirs, salt caverns and saline aquifers for UHS. However, it is unknown how much storage is available among these UHS options, their volume capacities, and whether they will be able to meet and store future hydrogen production volumes of 20 million tonnes moving toward 2050 (1).

### Hydrogen storage facilities in Canada

Canada is home to an abundance of natural resources, making the possibility of implementing large-scale hydrogen production and storage a viable industry in the future. There are three main rock types that form the Canadian continent. They are from the oldest to the youngest, crystalline (hard) rock, sedimentary (soft) rock, and unconsolidated glacial sediments (2). Canada has 68 sedimentary basins of different geological formations where depleted oil and gas fields, salt caverns and saline aquifers are found. Current UHS operations are found at a depth of 400-2000 meters below the ground surface (2). Most of the UHS units in Canada are depleted oil and gas fields due to their economic feasibility (3). As of 2018, the natural gas storage capacity in depleted oil and gas fields across Canada was around 26.3 billion m<sup>3</sup>. There was a total of 249 fields primarily for the production of oil and gas and the largest number of fields were in the WCSB (226 sites), followed by Ontario (11 sites), Atlantic Canada (10 sites), and Northwest Territories (2 sites)(2). Among all the depleted oil and gas fields, it is unknown what volume of hydrogen or CO<sub>2</sub> is being stored, whether their pressure and geological formations are suitable for UHS, their accessibility and long-term economic viability and whether it can hold future production capacities.

Salt caverns make up 2% of all underground storage capacities in Canada (3). Across the country, major rock salt (halite) mines or basins are found in the provinces of Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, and Nova Scotia (2). As of 2018, Canada's capacity for UHS in salt caverns was around 594 million m<sup>3</sup>. In the provinces of Saskatchewan and Ontario, the storage capacities are approximately 509 million m<sup>3</sup> and 85 million m<sup>3</sup>, respectively (2). In Ontario, there are 73 caverns used for temporary hydrocarbon storage, while in Saskatchewan it is unknown whether the caverns are developed or being utilized (4). In Alberta, there are ongoing salt cavern development projects to store hydrocarbons that are estimated to have a volume storage capacity of 400,000 m<sup>3</sup> (5). However, the total volume capacity for UHS in the province for salt caverns is not known. In addition, salt caverns have different structural and geological characteristics making only certain formations in Canada suitable for UHS. These formations need to be identified and further evaluated to determine its feasibility in storing hydrogen safely and economically in the long-term.

Around the globe, studies have shown that saline aquifers have potential for UHS. However, across Canada, a main drawback for aquifers is that there isn't sufficient information available on their suitability for UHS in its sedimentary basins. Currently, in the provinces of Alberta, Saskatchewan, Manitoba, Ontario, Quebec and New Brunswick, carbon capture and storage (CCS) in saline aquifers is ongoing research. The Western Canadian, southern Ontario, and St. Lawrence basins were assessed to be the most suitable, while in New Brunswick, there were deficiencies in the data gathering, and as a result, units for storage could not be defined. Further, the volume capacity for either CCS or hydrogen storage in these aquifers are unknown. Canada's investment in CCS in deep saline aquifers are underway through the Quest project in the Basal Sandstone aquifer located in central Alberta. More than 1 million tonnes of CO<sub>2</sub> per year is injected into the unit. These projects involving carbon sequestration in deep saline aquifers show that there is potential for mimicking the same storage processes for UHS, but more research is required (2).



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## CO<sub>2</sub> storage facilities in Canada

Canada's leading provinces with CCS development are Alberta and Saskatchewan. Alberta's carbon projects include the Alberta Carbon Trunk Line (ACTL) and Quest, wherein more than 10.5 million tonnes of CO<sub>2</sub> have been captured and stored since 2015 (6). In Saskatchewan, the SaskPower Boundary Dam became the world's first power station to successfully use the CCS technology. It is still functioning today but capturing lower amounts of CO<sub>2</sub> than its initial yearly target amounts (7). Both Alberta and Saskatchewan have a combined CO<sub>2</sub> storage capacity of approximately 190,000 to 640,000 MT. Most of the storage capacities in these two provinces are estimated to be in saline formations rather than oil and gas or coal reservoirs (8). Ontario recently announced it is going to follow Alberta and Saskatchewan in capturing and storing CO<sub>2</sub> underground. The best suitable location for underground CO<sub>2</sub> storage in Ontario is deemed to be the saline aquifer found in southwestern Ontario (9). However, it is not known what the storage capacities currently are and whether it will be enough to store the anticipated CO<sub>2</sub> captures. Similarly, there isn't clear volume capacities for CO<sub>2</sub> storage available for other provinces. Whether there are sufficient storage sites, their locations, accessibility, long-term economic viability, type of storage, pressure/geological formations, costs, and policy trends all remain as a large research and development gap across Canada (8). Some literature studies have indicated that it is possible to store a mixture of both H<sub>2</sub> and CO<sub>2</sub>, however more research and analysis coupled with measurements from pilot operations are needed to address this gap (10).

The results of this work must support the following priorities for Canada:

- Lowering the GHG emissions and leakage risk of H<sub>2</sub> storage;
- Finding the most economical, still clean pathway(s) for providing the H<sub>2</sub> storage facilities for different jurisdictions;
- Addressing the gaps with respect to technology, regulatory, market and policy innovations for hydrogen
- Contribute to the development of hydrogen related roadmaps across all provinces in Canada

This study tries to answer the following research questions regarding the H<sub>2</sub> storage in Canada:

1. What are the available options for underground H<sub>2</sub> storage in different Canadian jurisdictions and do they have sufficient capacity to store hydrogen moving toward 2050?
2. How do H<sub>2</sub> storage mechanisms differ from CO<sub>2</sub> storage?
3. Would it be possible to adopt a hybrid storage approach, storing both H<sub>2</sub> and CO<sub>2</sub> together in the same geological formations, to be separated later on depending on the use of individual gas, and if yes which locations in Canada are suitable for this purpose?

## **SW.4.0 OBJECTIVES**

### **SW.4.1 Overview:**

In order to meet the hydrogen demand and production levels moving toward 2050, there are multiple data gaps that must be addressed. There is insufficient data on the existing volume storage capacities of UHS options (including depleted oil and gas reservoirs, salt caverns and saline aquifers) across Canada. In addition, the characterizations of these geological formations have not been fully investigated for their suitability for UHS. These gaps are results of the lack of data-gathering, analysis, and cross-referencing of information with actual measured data from experimentation/projects. This can inhibit Canada's future hydrogen production if there aren't enough storage units or if there is no framework that addresses where it can be stored. While studies and pilot projects have shown there is potential for these underground storage options for hydrogen, there has not been large-scale implementation or the data from these experiments are not known. Further, there is more data available on UHS options like depleted oil and



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gas reservoirs and salt caverns for certain provinces compared to others. Many of the current underground storage units are used for natural gas or CCS. Since hydrogen, natural gas, and CO<sub>2</sub> have different properties, it is unclear whether the same storage units could be used interchangeably. Past experience has also shown that due to hydrogen's high diffusivity and low molecular weight, there can be potential hydrogen leakage in the underground storage units. However, this theoretical assessment backed by minor operational measurements need further evaluation to determine ways this risk can be mitigated.

The objective of this research is to comprehensively explore the underground H<sub>2</sub> storage options in various Canadian jurisdictions, assess the specific depths and capacities of these storage facilities for H<sub>2</sub> storage purposes, compare the storage mechanisms for H<sub>2</sub> with those of CO<sub>2</sub> storage in terms of geological formations, GHG emissions, leakage risks, safety considerations, infrastructure compatibility, and costs within underground facilities, and finally, investigate the feasibility and potential benefits and drawbacks of adopting a hybrid storage approach where both H<sub>2</sub> and CO<sub>2</sub> are stored together in the same geological formations to explore potential synergies. The project will involve gathering data from various sources, including academic literature, government reports, industry publications, and expert interviews. The data will be subjected to thorough analysis using appropriate statistical and qualitative methods to compare the characteristics of H<sub>2</sub> and CO<sub>2</sub> storage options and identify potential synergies in adopting a hybrid storage approach. By combining robust data collection and careful analysis, this research aims to provide valuable insights and recommendations for policymakers, energy planners, and industry stakeholders to make informed decisions regarding the development of underground H<sub>2</sub> storage and its integration with CO<sub>2</sub> storage for more sustainable energy solutions in Canada.

This study will be completed through four separate but related Tasks/Phases. A report must be submitted to NRCan by the deadline specified for each Task (May 31, 2024, for Task 1; and July 31, 2024, for Task 2; September 30, 2024, for Task 3; and November 30, 2024, for Task 4).

#### **SW.4.2 Task 1 (Capacities of Underground Hydrogen Storage Options in Canadian Jurisdictions):**

Task 1 will focus on assessing the available underground H<sub>2</sub> storage options in various Canadian jurisdictions, covering depleted oil and gas fields, salt caverns, and saline aquifers. This task involves conducting a comprehensive review of existing literature and data sources to identify these storage facilities. Additionally, specific depths and volumes/capacities of each identified facility for H<sub>2</sub> storage purposes will be collected and compiled through data-gathering efforts. The findings will be analyzed and presented in a report, providing insights into the suitability and potential of these storage options for supporting H<sub>2</sub>-based energy solutions in Canada and will consider Canada's ambitious goals in H<sub>2</sub> production and the need for increased H<sub>2</sub> storage moving toward 2050.

#### **SW.4.3 Task 2 (Comparative Analysis of Hydrogen and CO<sub>2</sub> Storage Mechanisms in Underground Facilities):**

Task 2 will focus on investigating and comparing the storage mechanisms for H<sub>2</sub> and CO<sub>2</sub> in underground facilities, with a focus on geological formations, GHG emissions, leakage risks, safety considerations, infrastructure compatibility, and costs. The task involves an extensive literature review to gather relevant information on each storage mechanism. Data collection efforts will be aimed at acquiring detailed insights into the geological characteristics, emissions, safety protocols, and infrastructure compatibility associated with both H<sub>2</sub> and CO<sub>2</sub> storage. Subsequently, a thorough analysis will be conducted to present a comparative assessment of the two storage methods, providing valuable findings to inform policymakers and stakeholders about the distinctions and implications for sustainable energy storage solutions.

#### **SW.4.4 Task 3 (Feasibility of Hybrid Hydrogen-CO<sub>2</sub> Storage: Synergies and Challenges):**



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Task 3 of this study aims to explore the feasibility of a hybrid storage approach, investigating the co-storage of H<sub>2</sub> and CO<sub>2</sub> in the same geological formations to leverage potential synergies. The task involves analyzing existing literature, case studies, and technical reports to understand the technical and operational aspects of this approach. Data gathering efforts will focus on identifying the benefits and drawbacks associated with storing H<sub>2</sub> and CO<sub>2</sub> together. Through a comprehensive analysis, the findings will be presented, providing valuable insights into the potential advantages and challenges of adopting such a hybrid storage approach for optimizing energy storage and mitigating GHG emissions.

The above tasks of this study include an analysis of (1) feasibility, (2) costs, (3) complexities, and (4) other requirements and considerations, including advantages and disadvantages, as they relate to each of the following:

- A. Insurance and liabilities associated with underground H<sub>2</sub> and CO<sub>2</sub> storage options.
- B. Safety and environmental implications, including GHG emissions, leakage risks, risk mitigation measures, and disaster response options for both H<sub>2</sub> and CO<sub>2</sub> storage.
- C. Technology and construction considerations, such as materials, equipment, and timeline requirements for establishing and operating the required underground infrastructure and associated assets for H<sub>2</sub> and CO<sub>2</sub> storage.
- D. Economic considerations, including infrastructure and technology costs, and the minimum volume requirements for the economic viability of underground H<sub>2</sub> and CO<sub>2</sub> storage facilities.
- E. Federal, provincial, territorial, and municipal regulatory approvals, including the duration of the approval processes for underground H<sub>2</sub> and CO<sub>2</sub> storage initiatives.

#### **SW.4.5 Task 4 (Final report, Presentation, and Training of NRCan staff)**

Compile Tasks 1-3 into a final report and provide a PowerPoint presentation to NRCan. The final report must include a title page, table of contents, introduction, executive summary, conclusion, appendix, and references. The final report should be publication-ready quality and free of errors. Additionally, the research team will be responsible for training NRCan staff on utilizing the developed model effectively. Furthermore, unlimited access to the developed model will be provided to NRCan, enabling ongoing usage and exploration of its capabilities.



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## **SW.5.0 PROJECT REQUIREMENTS**

### **SW.5.1 Tasks, Deliverables, Milestones, and Schedule**

<b>Tasks/Activities</b>	<b>Deliverables/Milestones</b>	<b>Time Schedule and Deadline</b>
<p>Task 0</p> <p>Project Kickoff, Work planning &amp; Progress Meetings</p>	<p>The contractor must prepare and submit a draft work plan to the Technical Authority (NRCan). The draft work plan should include the following elements:</p> <ul style="list-style-type: none"> <li>a) Statement of understanding of the project's objective, scope, and deliverables</li> <li>b) Proposed approach</li> <li>c) Project work plan and schedule</li> </ul> <p>The Contractor must schedule a kick-off meeting by videoconference within ten (10) business days of contract award. The kickoff meeting agenda will include a discussion about the contractor's work plan and project schedule. The Contractor must update the work plan and project schedule with any changes agreed to during the meeting and submit an updated work plan within five (5) business days following the kickoff meeting.</p> <p>In addition, the Contractor must schedule bi-weekly progress meetings with the technical authority for providing project updates and interim results. The Contractor must submit minutes of all meetings to the Technical Authority (TA) within two (2) working days of the meeting for acceptance.</p>	<p>Within ten (10) business days</p>
<p>Task 1</p> <p>Capacities of Underground Hydrogen Storage Options in Canadian Jurisdictions</p>	<p>The contractor will undertake research, conduct analysis, and engage with the relevant stakeholders and experts to fulfill the objectives of Task 1, focused on underground H2 storage capacity in Canada, as per the SW.4.0 OBJECTIVES section of this SOW.</p> <p>The contractor must submit and present a completed draft report on Task 1 to NRCan for review by the deadline of Task 1. NRCan will review and comment on the draft report and presentation within ten (10) business days or as agreed to. The contractor will have ten (10) business days to make the required amendments and provide the amended report to NRCan.</p> <p>The contractor must also make available to NRCan the results of the literature reviews, analysis, data sources, charts and graphs, and stakeholder interviews, including any associated Excel spreadsheets.</p>	<p>May 31, 2024</p>



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<p>Task 2</p> <p>Comparative Analysis of Hydrogen and CO2 Storage Mechanisms in Underground Facilities</p>	<p>The contractor will undertake research, conduct analysis, and engage with the relevant stakeholders and experts to fulfill the objectives of Task 2, focused on analysis of H2 and CO2 storage in Canada, as per the SW.4.0 OBJECTIVES section of this SOW.</p> <p>The contractor must submit and present a completed draft report on Task 2 to NRCan for review by the deadline of Task 2. NRCan will review and comment on the draft report and presentation within ten (10) business days or as agreed to. The contractor will have ten (10) business days to make the required amendments and provide the amended report to NRCan.</p> <p>The contractor must also make available to NRCan the results of the literature reviews, analysis, data sources, charts and graphs, and stakeholder interviews, including any associated Excel spreadsheets.</p>	<p>July 31, 2024</p>
<p>Task 3</p> <p>Feasibility of Hybrid Hydrogen-CO2 Storage: Synergies and Challenges</p>	<p>The contractor will undertake research, conduct analysis, and engage with the relevant stakeholders and experts to fulfill the objectives of Task 3, requiring the contractor to provide recommendations on the feasibility of hybrid storage of H2 and CO2, as per the SW.4.0 OBJECTIVES section of this SOW.</p> <p>The contractor must submit and present a completed draft report on Task 3 to NRCan for review by the deadline of Task 3. NRCan will review and comment on the draft report and presentation within ten (10) business days or as agreed to. The contractor will have ten (10) business days to make the required amendments and provide the amended report to NRCan.</p> <p>The contractor must also make available to NRCan the results of the literature reviews, analysis, data sources, charts and graphs, and stakeholder interviews, including any associated Excel spreadsheets.</p>	<p>September 30, 2024</p>
<p>Task 4:</p> <p>Final report, presentation, and training of NRCan staff</p>	<p>The Contractor must address all of NRCan's comments provided on the draft presentation and deliver a final PowerPoint presentation and final report in Word and PDF format to the Technical Authority.</p> <p>The final report should contain the outcomes of Tasks 1, 2, and 3, and also include a title page, table of contents, introduction, executive summary, conclusion, appendix, and references.</p> <p>The presentation must include key findings and recommendations contained in the final report. This presentation must be provided within 1 week after NRCan's approval of the final report and must be completed by videoconference.</p>	<p>November 30, 2024</p>



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	The research team will train the NRCan staff on utilizing the developed model in one-day workshop. Furthermore, unlimited access to the developed model will be provided to NRCan, enabling ongoing usage and exploration of its capabilities.	
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### SW.5.2 Reporting Requirements

The Contractor is to present their Work along the duration of the Contract. All relevant documents and content are to be sent electronically using Microsoft Applications and Adobe pdf formats to the Project Authority (NRCan). Meetings will be held via videoconference.

### SW.5.3 Method and Source of Acceptance

All deliverables and services rendered under any contract are subject to inspection by the Project Authority. The Project Authority shall have the right to reject any deliverables that are not considered satisfactory or require their correction before payment will be authorized.

### SW.6.0 OTHER TERMS AND CONDITIONS OF THE SOW

#### SW.6.1 Contractor's Obligations

In addition to the obligations outlined in Section 4 of this Statement of Work, the Contractor shall:

- Submit all written reports in electronic Microsoft Office Word format and Adobe pdf format;
- Provide NRCan with useful background data used in compiling the report;
- Participate in biweekly video conferences.

In satisfying the requirements of this agreement, the Recipient is encouraged to comply with the provisions and intent of the NRCan Scientific Integrity Policy (SIP) and to discharge its contractual obligations in support of research, science, or related activities in a manner consistent with all relevant NRCan SIP provisions. For more information on the Scientific Integrity Policy, please visit the NRCan website at: <https://www.nrcan.gc.ca/scientific-integrity/21665#a20>

#### SW.6.2 NRCan's Obligations

- Provide publications, reports, studies, etc., as required;
- Provide comments on draft reports within ten (10 working days); and
- Provide other assistance or support as required.
- NRCan will be providing government issued laptop and allow remote access to up to Protected B of Government of Canada (GoC) information to a vendor. Security authority of CMSS acknowledges and accepts all associated security risks and as such the Contract Security Program (CSP) will not conduct any inspections related to DSC/IT for this particular contract .

#### SW.6.2 Language of Work

All reports must be submitted in English. Correspondence with NRCan may be in the contractor's official language of choice.

#### SW.6.3 Location of Work, Work Site, and Delivery Point



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The Work is expected to be completed at the Contractor's place of business and upon completion will be delivered to the NRCan. There is no requirement for the Contractor to have access to any Government facility or use of Government electronics or devices.

### **S.W.7 Diversity**

Natural Resources Canada is committed to making our Department more inclusive for everyone and fostering an equitable workplace culture that values diversity and creates an environment that is welcoming and rewarding for all. We encourage the businesses that work with us to reflect these values. More information can be found [here](#).

### **References:**

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## ANNEX B, BASIS OF PAYMENT

### A - Contract Period (From date of contract award to December 31, 2024)

During the period of the Contract, for Work performed in accordance with the Contract, the Contractor will be paid as specified below.

#### 1. Professional Fees

The Contractor will be paid all inclusive fixed time rates as follows:

Resource(s)	Name	All Inclusive Fixed Per Diem Rate
Engineering/science graduate	_____	\$ _____

**Total Estimated Cost of Professional Fees:** \$ \_\_\_\_\_ (insert amount at contract award)

#### Definition of a Day/Proration

For the purpose of this Contract, a day is defined as 7.5 hours of work, exclusive of meal breaks. Payment will be made for days actually worked, with no provision for annual leave, statutory holidays and sick leave. If time worked is more or less than a day, the all inclusive fixed daily rate must be prorated to reflect the actual time worked.”)

- i. All proposed personnel must be available to work outside normal office hours during the duration of the Contract.
- ii. No overtime charges will be authorized under the Contract. All time worked will be compensated according to paragraph above.

#### 1.1. Subcontracts

The Contractor will be reimbursed the expenses for subcontracts it reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and administrative overhead. These expenses will be paid upon submission of a copy of the invoice ( supported by receipt vouchers (as applicable)) the contractor received from the subcontractor.

Subcontractor	Estimated Supplementary Cost
(insert data at contract award)	
_____ (insert name)	\$ _____
_____ (insert name)	\$ _____

Total Estimated Supplementary Cost of Subcontracts: \$ \_\_\_\_\_ (insert amount at contract award)

### 2. Total Estimated Cost- Contract Period: \$ \_\_\_\_\_ (insert amount at contract award)

With the exception of the all inclusive fixed time rates specified above, the amounts shown in this section of the annex are estimates only. Minor changes to these estimates will be accepted for billing purposes as the Work proceeds, provided that these changes have the prior approval of the Project Authority, and provided that the total estimated cost of the Contract does not exceed the Limitation of Expenditure specified in clause \_\_\_\_\_ (insert the applicable basis of payment clause number and title) of the Contract.



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## ANNEX C, SECURITY REQUIREMENTS CHECK LIST

COMMON-PS-SRCL#9



Government of Canada  
Gouvernement du Canada

Contract Number / Numéro du contrat 180599
Security Classification / Classification de sécurité UNCLASSIFIED

### SECURITY REQUIREMENTS CHECK LIST (SRCL)

### LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE		
1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine <b>Natural Resources Canada</b>	2. Branch or Directorate / Direction générale ou Direction <b>Office of Energy Research and Development</b>	
3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4. Brief Description of Work / Brève description du travail NRCan aims to perform a study to understand the risks and costs of storing hydrogen in underground reservoirs. The study aims to explore the viability of utilizing underground reservoirs for H2 storage across different jurisdictions and investigate the possibility of reusing existing CO2 storage reservoirs solely for H2 storage or in combination with CO2.		
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui	
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui	
6. Indicate the type of access required / Indiquer le type d'accès requis		
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Non Oui	
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui	
6. c) Is this a commercial courier or delivery requirement with <b>no</b> overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale <b>sans</b> entreposage de nuit?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Non Oui	
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès		
Canada <input checked="" type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions Aucune restriction relative à la diffusion <input checked="" type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>	Restricted to: / Limité à: <input type="checkbox"/>
Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:	Specify country(ies): / Préciser le(s) pays:
7. c) Level of information / Niveau d'information		
PROTECTED A PROTÉGÉ A <input checked="" type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input checked="" type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>



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**PART A (continued) / PARTIE A (suite)**

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?  No / Non  Yes / Oui

If Yes, indicate the level of sensitivity:

Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?  No / Non  Yes / Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

**PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)**

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

- |   |   |   |  |
|---|---|---|--|
| <input checked="" type="checkbox"/> RELIABILITY STATUS<br>COTE DE FIABILITÉ | <input type="checkbox"/> CONFIDENTIAL<br>CONFIDENTIEL           | <input type="checkbox"/> SECRET<br>SECRET           | <input type="checkbox"/> TOP SECRET<br>TRÈS SECRET               |
| <input type="checkbox"/> TOP SECRET- SIGINT<br>TRÈS SECRET - SIGINT         | <input type="checkbox"/> NATO CONFIDENTIAL<br>NATO CONFIDENTIEL | <input type="checkbox"/> NATO SECRET<br>NATO SECRET | <input type="checkbox"/> COSMIC TOP SECRET<br>COSMIC TRÈS SECRET |
| <input type="checkbox"/> SITE ACCESS<br>ACCÈS AUX EMPLACEMENTS              |   |   |  |

Special comments:

Commentaires spéciaux : \_\_\_\_\_

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?  
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?  No / Non  Yes / Oui

If Yes, will unscreened personnel be escorted?

Dans l'affirmative, le personnel en question sera-t-il escorté?  No / Non  Yes / Oui

**PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)**

**INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS**

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?  
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?  No / Non  Yes / Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?  
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?  No / Non  Yes / Oui

**PRODUCTION**

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?  
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?  No / Non  Yes / Oui

**INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)**

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?  
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?  No / Non  Yes / Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?  
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?  No / Non  Yes / Oui



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Table with contract details: Contract Number / Numéro du contrat (180599) and Security Classification / Classification de sécurité (UNCLASSIFIED)

PART C - (continued) / PARTIE C - (suite)

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.

Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.

Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Summary Chart table with columns for Category, Protected, Classified, NATO, and COMSEC. Includes rows for Information/Assets, Production, IT Media, and IT Link.

- 12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED? La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE? [X] No [ ] Yes

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification". Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

- 12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED? La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE? [X] No [ ] Yes

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments). Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).