



RETURN BIDS TO: RETOURNER LES SOUMISSIONS À: Bid Receiving - Environment and Climate Change Canada / Réception des soumissions – Environnement et changement climatique Canada Electronic Copy: soumissionsbids@ec.gc.ca BID SOLICITATION DEMANDE DE SOUMISSIONS PROPOSAL TO: ENVIRONMENT AND CLIMATE CHANGE CANADA We offer to perform or provide to Canada the services detailed in the document including any attachments and annexes, in accordance with the terms and conditions set out or referred to in the document, at the price(s) provided. SOUSSION À: ENVIRONNEMENT ET CHANGEMENT CLIMATIQUE CANADA Nous offrons d'effectuer ou de fournir au Canada, aux conditions énoncées ou incluses par référence dans le document incluant toutes pièces jointes et annexes, les services détaillés dans le document, au(x) prix indiqué(s).	Title – Titre Comprehensive cost profile for methane emission reduction options in Canada	
	EC Bid Solicitation No. /SAP No. – N° de la demande de soumissions EC / N° SAP 5000066817	
	Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ) 2022-09-06	
	Bid Solicitation Closes (YEAR- MM-DD) - La demande de soumissions prend fin (AAAA- MM-JJ) at – à 2:00 P.M. ADT on – le 2022-10-17	Time Zone – Fuseau horaire Atlantic Daylight Savings Time (ADT)
	F.O.B – F.A.B Not applicable	
	Address Enquiries to - Adresser toutes questions à Tim Pelletier, Senior Procurement Officer Timothy.Pelletier@ec.gc.ca	
	Telephone No. – N° de téléphone 902-920-4479	Fax No. – N° de Fax
	Delivery Required (YEAR-MM-DD) – Livraison exigée (AAAA- MM-JJ) 2023-03-31	
	Destination of Services / Destination des services National Capital Region	
	Security / Sécurité There is no security requirement in this solicitation	
	Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l'entrepreneur	
	Telephone No. – N° de téléphone	Fax No. – N° de Fax
	Name and title of person authorized to sign on behalf of Vendor/Firm: (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie) Signature Date	



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Attachment 1 to Part 3, Projects List for Assessment

Attachment 1 to Part 4, Mandatory Technical Criteria And Point Rated Technical Criteria

List of Annexes:

- Annex A Statement of Work
- Annex B Basis of Payment
- Annex C Schedule of Milestones



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 List of Projects for Assessment, Mandatory Technical Criteria And Point Rated Technical Criteria

The Annexes include the Statement of Work, the Basis of Payment, the Schedule of Milestones.

1.2 Summary

1.2.1 Environment and Climate Change Canada has a requirement as detailed in the Statement of Work, Annex A to the bid solicitation. The period of the contract is from contract award to March 31, 2023.

1.2.2 Bidders must provide a list of names, or other related information as needed, pursuant to section 01 Integrity Provisions of Standard Instructions 2003.

1.2.3 For services requirements, bidders in receipt of a pension or a lump sum payment must provide the required information as detailed in article 4 of Part 2 of the bid solicitation.

1.2.4 The requirement is subject to the provisions of the following trade agreements:

- i. Canadian Free Trade Agreement (CFTA),
- ii. Canada–Chile Free Trade Agreement,
- iii. Canada–Colombia Free Trade Agreement,
- iv. Canada–Honduras Free Trade Agreement,
- v. Canada–Korea Free Trade Agreement,
- vi. Canada–Panama Free Trade Agreement,

1.2.5 This procurement is not subject to Comprehensive Land Claims Agreement(s) (CLCAs)



1.2.6 This procurement is not set aside under the federal government's Procurement Strategy for Aboriginal Business.

1.3 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.



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 PSPC/PWGSC *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 (2022-03-29) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

The standard instructions 2003 are modified as follows:

Under “Text” at 02:

Delete: “Procurement Business Number”

Insert: “Deleted”

At Section 02 Procurement Business Number

Delete: In its entirety

Insert: “Deleted”

At Section 05 Submission of Bids, Subsection 05 (2d):

Delete: In its entirety

Insert: “send its bid only to Environment and Climate Change Canada as specified on page 1 of the bid solicitation or to the address specified in the bid solicitation;”

At Section 06 Late Bids:

Delete: “PWGSC”

Insert: “Environment and Climate Change Canada”

At Section 07 Delayed Bids:

Delete: “PWGSC”

Insert: “Environment and Climate Change Canada”

At Section 08 Transmission by Facsimile, Subsection 08 (1):

Delete: In its entirety

At Section 12 Rejection of Bid, Subsection 12 (1) a. and b.:

Delete: In their entirety

Insert: “Deleted”

At Section 17 Joint Venture, Subsection 17 (1) b.:

Delete: “the Procurement Business Number of each member of the joint venture,”

Insert: “Deleted”

At Section 20 Further Information, Subsection 20 (2):

Delete: In its entirety

Insert: “Deleted”



2.2. Submission of Bids

Bids must be submitted to Environment and Climate Change Canada at the address and by the date, time and place indicated on page 1 of the bid solicitation.

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 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 FPS 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 ten (10) 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.

2.5. 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.

2.6. 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 14 calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

2.7. Basis for Canada's Ownership of Intellectual Property

Environment and Climate Change Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, for the following reasons, as set out in the [Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts](#):

- the main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination;

2.8. 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.



PART 3 - BID PREPARATION INSTRUCTIONS

3.1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (one (1) soft copy in PDF or Word) by email.

Section II: Financial Bid (one (1) soft copy in PDF or Word) by email.

Section III: Certifications (one (1) soft copy in PDF or Word) by email.

Note for electronic submission of bids:

In order to be considered, bids must be received by the date and time indicated on the cover page to herein as the "Closing Date." Bids received after the Closing Date will be considered non-responsive and will not be considered for contract award. Bids submitted by email must be submitted ONLY to the following email address:

Email Address: soumissionsbids@ec.gc.ca

Attention: Tim Pelletier

Solicitation Number: 5000066817

Bidders should ensure that their name, address, Closing Date of the solicitation and Solicitation Number are clearly indicated in the body of their email. Bids and supporting information may be submitted in either English or French.

The total size of the email, including all attachments, must be less than 15 megabytes (MB). It is each Bidder's responsibility to ensure that the total size of the email does not exceed this limit.

Bids sent by fax will not be accepted.

It is important to note that emails systems can experience systematic delays and, at times, large attachments may cause systems to hold or delay transmission of emails. It is solely the Bidder's responsibility to ensure that the Contracting Authority receives a bid on time, in the mailbox that has been identified for bid receipt purposes. Date stamps for this form of transmission are not acceptable.

Section I: Technical Bid

The Bidder must submit a technical proposal which must at minimum include:

- a) Objectives and scope
- b) Project approach with detailed work plan (including which tasks will be assigned to specific team members), milestones, and timeline
- c) Methodology for research and data collection
- d) Description of the team (including subcontractors, as applicable)
- e) Identification of Project Manager
- f) CV of all proposed team members

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 and describe their approach 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.

Attachment 1 to Part 3 includes a table for listing of projects to be included for evaluation. Bidders **must complete this table** as ECCC will not evaluate projects that have not been listed on Table 1.

Part 4, Evaluation Procedures, contains additional instructions that bidders should consider when preparing their technical bid.

Section II: Financial Bid

- 3.1.1 Bidders must submit their financial bid in accordance with Basis of Payment in Annex “B”. The total amount of Applicable Taxes must be shown separately.
- 3.1.2 Bidders must submit their financial bid in Canadian funds and in accordance with Basis of Payment in Annex “B”. The total amount of Applicable Taxes must be shown separately.
- 3.1.3 Bidders must submit their rates for FOB destination; Canadian customs duties and excise taxes included, as applicable; and Applicable Taxes excluded.

3.1.4 Price Breakdown

In their financial bid, the bidders are requested to provide a detailed breakdown of the price for the following elements for each Deliverable of the Work, as applicable:

- a) Professional fees: For each individual and (or) labour category to be assigned to the Work, the bidders should indicate: i) the firm hourly rate or the firm daily rate, inclusive of overhead and profit; and ii) the estimated number of hours or days, as applicable. The bidders should indicate the number of hours in one working day.
- b) Materials and Supplies (if applicable): The bidders should identify each category of materials and supplies required to complete the Work and provide the pricing basis. The Bidder should indicate, on a per category basis, whether the items are likely to be consumed during the performance of any resulting contract.
- c) Subcontracts (if applicable): The bidders should identify all of the proposed subcontractors and provide in their financial bid for each one a price breakdown.
- d) Other Direct Charges (if applicable): The bidders should identify all of the categories of other direct charges anticipated, such as long distance communications and rentals, providing the pricing basis for each and explaining the relevance to the work described in Part 7 of the bid solicitation.
- e) Applicable Taxes: The bidders should indicate the Applicable Taxes separately.

3.1.5. Bidders should include the following information in their financial bid:

- (a) Their legal name; and
- (b) The name of the contact person (including this person’s mailing address, phone and facsimile numbers and email address) authorized by the Bidder to enter into



communications with Canada with regards to their bid; and any contract that may result from their bid.

Section III: Certifications

Bidders must submit the certifications required under Part 5.



ATTACHMENT 1 TO PART 3 - PROJECTS LIST FOR ASSESSMENT

Bidders must complete the table below. Projects may be referenced for more than one Criterion.

Table 1 – List of Projects for Assessment of Criteria

NOTE: Include only Project Title and the page of proposal to every project listed here. Projects details are to be included in the proposal.

Criteria Number	List of reference projects for each criteria
M2	Provide separate list as needed to achieve requirement of M1
M3	Provide separate list as needed to achieve requirement of M2
M5	Provide separate list as needed to achieve requirement of M3
R1.1	Project 1:
	Project 2:
	Project 3:
R1.2	Project 1:
	Project 2:
	Project 3:
R2.1	Project 1:
	Project 2:



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 and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.2. Technical Evaluation

Except where expressly provided otherwise, the experience described in the bid must be the experience of the Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract). The experience of the Bidder's affiliates (i.e. parent, subsidiary or sister corporations), subcontractors, or suppliers will not be considered.

4.2.1 Technical Evaluation

Mandatory and point rated technical evaluation criteria are included in Attachment "1" to Part 4.

4.3. Financial Evaluation

4.3.1 Mandatory Financial Criteria

The maximum funding available for the Contract resulting from the bid solicitation is \$150,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

4.3.2 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, the Applicable Taxes excluded, Canadian customs and excise taxes included.

4.4 Basis of Selection - Highest Combined Rating of Technical Merit and Price

1. To be declared responsive, a bid must:
 - a) comply with all the requirements of the bid solicitation;
 - b) meet all mandatory criteria (insert if applicable: and mandatory financial criteria);and
 - c) obtain the required minimum of sixty-seven (67) points overall for the technical evaluation criteria which are subject to point rating.

The rating is performed on a scale of one-hundred and twelve (112) points.

2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be 75% for the technical merit and 25% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 75%.



5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 25%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 75/25 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

Table 2 - Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)

	Bidder		
	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	115/135	89/135	92/135
Bid Evaluated Price	\$55,000.00	\$50,000.00	\$45,000.00
Calculations			
Technical Merit Score	$115/135 \times 75 = 63.89$	$89/135 \times 75 = 49.44$	$92/135 \times 75 = 51.11$
Pricing Score	$45/55 \times 25 = 20.45$	$45/50 \times 25 = 22.5$	$45/45 \times 25 = 25$
Combined Rating	84.34	71.94	76.11
Overall Rating	1 st	3rd	2nd



ATTACHMENT 1 TO PART 4, MANDATORY TECHNICAL CRITERIA AND POINT RATED TECHNICAL CRITERIA

For mandatory and rated criteria where project reference is required, Bidders must provide list of project as per Attachment 1 to Part 3

Table 3: Mandatory Technical Criteria

MANDATORY TECHNICAL CRITERIA				
Item	Description	Met/ Not met	Comments	Reference Documents & Page Numbers
M1	<p>Identification of Project Team</p> <p>a) Project Team members must be identified by planned positions on the team to include Project Manager and other major positions of the team.</p> <p>b) Bidders can include names of Undergraduate students for the team, however, only Masters or PhD students, in a related field, will be considered for key positions.</p> <p>The Bidder must provide a CV for EACH of the proposed key team member(s), which clearly describes relevant work experience, academic qualifications, professional certifications and relevant publications.</p> <p>Key Team Members are:</p> <ol style="list-style-type: none"> 1. Project Manager 2. Assistant/Alternate Project Manager 3. Scientists, Engineers or Senior Analysts 4. Post-Graduate Students 5. Subject Matter Expert - Advisors/Consultants 			



MANDATORY TECHNICAL CRITERIA				
Item	Description	Met/ Not met	Comments	Reference Documents & Page Numbers
M2	<p>Identification of Project Team At least one team member must have a minimum of 5 years of cumulative experience in dealing with oil and gas inventory and emission data;</p> <p>Time periods that overlap each other shall only be counted once.</p> <p>In order to demonstrate the requirement bidders must provide reference projects, completed within the last ten (10) years.</p> <p>For each of the reference project, Bidder must provide:</p> <ul style="list-style-type: none"> a) Project Name; b) Description; c) Start Date / End Date; d) Total number of months e) Name and Role of resource (s); f) Client Name / Organization 			
M3	<p>Identification of Project Team At least one team member must have a minimum of 5 years of cumulative experience in dealing with oil and gas emission mitigation/reduction technologies; Time periods that overlap each other shall only be counted once.</p> <p>In order to demonstrate the requirement bidders must provide reference projects completed within the last ten (10) years.</p> <p>For each of the reference project, Bidder must provide:</p> <ul style="list-style-type: none"> a. Project Name; b. Description; c. Start Date / End Date; d. Total number of months e. Name and Role of resource (s); f. Client Name / Organization 			



MANDATORY TECHNICAL CRITERIA				
Item	Description	Met/ Not met	Comments	Reference Documents & Page Numbers
M4	<p>Identification of Project Team The Bidder must demonstrate that at least one team member is a Professional Engineer (P.Eng) recognized by one of Canada's engineering regulators as listed by Engineers Canada</p> <p>In order to demonstrate the requirement the Bidder must provide a copy of the certification or a licence number in the province of work.</p>			
M5	<p>Identification of Project Manager The Bidder must demonstrate that the proposed Project Manager has a minimum of 8 cumulative years' of experience managing projects related to oil and gas emission inventories and data management or the assessment of oil and gas emission mitigation/reduction technologies</p> <p>In order to demonstrate the requirement bidders must provide reference projects completed within the last ten (10) years.</p> <p>For each of the reference project, Bidder must provide:</p> <ul style="list-style-type: none"> a. Project Name; b. Description; c. Start Date / End Date; d. Total number of months e. Name and Role of resource (s); f. Client Name / Organization 			



MANDATORY TECHNICAL CRITERIA				
Item	Description	Met/ Not met	Comments	Reference Documents & Page Numbers
M6	<p>Identification of Substitute Project Manager</p> <p>The Bidder must proposed an alternate Project Manager, who can take on the project in case the Project Manager leaves for reasons beyond the Bidder's control.</p> <p>The Bidder must demonstrate that the proposed Project Manager substitute has a minimum of 8 cumulative years' of experience managing projects related to oil and gas emission inventories and data management or the assessment of oil and gas emission mitigation/reduction technologies</p> <p>In order to demonstrate the requirement bidders must provide reference projects completed within the last ten (10) years.</p> <p>For each of the reference project, Bidder must provide:</p> <ol style="list-style-type: none"> Project Name; Description; Start Date / End Date; Total number of months Name and Role of resource (s); Client Name / Organization 			

Table 4: Point Rated Technical Evaluation Criteria

	Rated Criteria	Maximum Score	Score	Comments
R1	Project Team Experience (Max: 18 pts)			
	<p>Bidder should present three (3) reference projects for R1.1 and R1.2. All referenced projects should:</p> <ul style="list-style-type: none"> have been performed within the last ten (10) years and be at least 3 months in duration; 			



	Rated Criteria	Maximum Score	Score	Comments
	<ul style="list-style-type: none"> • have included at least one of the proposed key project team members; and, • provide a description of the scope of the work performed; the description should clearly identify the type of project; <p>The reference projects should have a similar scope to the proposed deliverables outlined in the Statement of Work.</p> <p>Definition: Similarity in scope: the degree of comparability of the example project's context, objective and work involved to the mandate outlined in Annex "A"-Statement of Work</p> <p>For each of the reference project, Bidder must provide:</p> <ol style="list-style-type: none"> a. Project Name; b. Description; c. Start Date / End Date; d. Total number of months e. Name and Role of resource (s); f. Client Name / Organization 			
<p>R1.1</p>	<p>Experience in dealing with oil and gas inventory and emission data, across a broad range of emission sources, with a primary focus on methane emissions.</p> <p>Example projects to be provided could include but are not limited to upstream oil and gas field surveys studies for emission inventories, source or component-specific studies for equipment performance and emission profiles, public/private data gathering as it relates to oil and gas emissions, etc.</p> <p>Point Allocation:</p>	<p>Project 1-3 points</p>		
		<p>Project 2-3 points</p>		



	Rated Criteria	Maximum Score	Score	Comments
	<p>0 or 3 points per project</p> <p>In order to achieve full points, Bidder must submit three (3) projects as per instruction in R1 and R1.1.</p>	Project 3-3 points		
R1.2	<p>Experience in dealing with oil and gas emission mitigation/reduction technologies and associated costs, across a broad range of emission sources, with a primary focus on <u>methane emission mitigation</u></p> <p>Example projects provided can include existing and emerging technologies from both Canadian and global sources, and at various stages of pre-commercial technology development but preference is for projects that have assessed technologies and associated costs that are commercially developed and could be rapidly deployed.</p> <p>Point Allocation:</p> <p>0 or 3 points per project</p> <p>In order to achieve full points, Bidder must submit three (3) projects as per instruction in R1 and R1.2.</p>	Project 1-3 points		
		Project 2-3 points		
		Project 3-3 points		
	R1 Total	18		
R2	Project Manager's and Substitute Project Manager's Experience (Max: 27 pts.)			



	Rated Criteria	Maximum Score	Score	Comments
<p>R2.1</p>	<p>Project Manager experience managing projects of similar or greater scope related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>Two (2) reference projects will be evaluated for each of the project manager and the substitute, as described below. All referenced projects must have been performed within the last ten (10) years from the date of bid closing.</p> <p>Definition:</p> <ol style="list-style-type: none"> 1. Similarity in scope means: the degree of comparability of the example project's context, objective and work involved compared to Annex "A"-Statement of Work. <p>Two of the proposed projects will be awarded points as follows.</p> <p>(6 pts) The project was of similar or greater scope and was related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>(3 pts) The project is smaller in terms of scope but is related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>(0 pts) No reference projects provided or the reference projects were not related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>For a maximum of 12 points; 6 points per proposed resource</p>	<p>Project 1- Maximum of 12:</p>		
	<p>(6 pts) The project was of similar or greater scope and was related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>(3 pts) The project is smaller in terms of scope but is related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>(0 pts) No reference projects provided or the reference projects were not related to the development of comprehensive cost and emission profiles for methane emission reduction options in Canada</p> <p>For a maximum of 12 points; 6 points per proposed resource</p>	<p>Project 2- Maximum 12</p>		
<p>R2.2</p>	<p>Details on transition plans and selection requirement for the alternate Project Manager, this person may be already be included as a team member.</p>			



	Rated Criteria	Maximum Score	Score	Comments
	<p>To demonstrate how this is met, the Bidder will provide a short transition plan.</p> <p>Transition plan shall include the method of ensuring the Alternate Project Manager is current on the project status and project plan. It shall also include expected time period to complete the transition to a new Project Manager.</p> <p>(3 pts) The transition plan is clearly presented and can be implemented at a moments notice.</p> <p>(2 pts) The plans are described but incomplete resulting in extended period to implement the plan.</p> <p>(0 pts) The back-up transition is not provided OR the back-up Project Manager has not been identified.</p>	3 points		
	R2 Total	27		
R3	Objectives and Scope (Max: 10 pts,)			
	The Bidder should demonstrate a thorough understanding of the project's objectives and scope in the Objectives and Scope section in its proposal.			
R3.1	<p>Understanding of Objective and Scope</p> <p>The demonstrated understanding of the objectives and scope will be awarded points as follows:</p> <p>(10 pts) Excellent. Complete and correct understanding of objectives and scope with significant added insights that demonstrate the completeness of understanding of the objectives</p> <p>(8 pts) Good. Complete and correct understanding of objectives and scope with some additional insights that demonstrate a more complete understanding of the objectives</p>	10 points		



	Rated Criteria	Maximum Score	Score	Comments
	<p>(6 pts) Adequate. Complete and correct understanding of objectives and scope but without any additional insights</p> <p>(4 pts) Inadequate. Poor understanding of objectives and scope. Incomplete, imprecise or lacking any evidence of understanding</p> <p>(2 pts) Not evident: Incorrect understanding of objectives and scope.</p> <p>(0 pts) Not addressed</p> <p>Definitions:</p> <p>Complete means no gaps are present in objective and scope items.</p> <p>Correct means that the understanding of objectives and scope corresponds to the project needs laid out in the Statement of Work.</p> <p>Additional insights refers to information brought forward by the bidder, based on professional experience, which supplements their understanding of the project objectives and scope.</p> <p>Poor means that the understanding of objectives and scope is insufficient and does not fully correspond to the project needs laid out in the Statement of Work.</p>			
	R3 Total	10		
R4	Methodological approach (Max: 33)			
	The Bidder's proposal should demonstrate a comprehensive methodological approach to complete all aspects of the project.			



	Rated Criteria	Maximum Score	Score	Comments
R4.1	<p>The proposed methodological approach</p> <p>The bidder should outline its methodology in clear, logic steps and prove the coherence and rational for choosing the proposed approach.</p> <p>(15 pts) The methodological approach includes a detailed description of the steps that will be undertaken to meet each deliverable in the Statement of Work. The approach is complete, realistic and feasible</p> <p>(10 pts) The methodological approach includes a description of the steps that will be undertaken to meet each deliverable in the Statement of Work. All key steps are included but some steps are not clearly described with sufficient detail. The approach is realistic and feasible.</p> <p>(6 pts) The methodological approach includes a description of the steps that will be undertaken to meet each deliverable in the Statement of Work, but is a) missing a key step; or b) some steps are not realistic or feasible</p> <p>(3 pts) The methodological approach is incomplete (missing steps), not realistic or not feasible.</p> <p>(0 pts) There is no methodological approach in the proposal</p>	15 points		



	Rated Criteria	Maximum Score	Score	Comments
R4.2	<p>The consideration for emission sources</p> <p>The bidder should outline in the proposal the consideration for emissions sources, beyond the mandatory sources listed below, to be examined.</p> <p>(8 pts) The considered emissions sources includes all sources listed in the statement of work with an indication if other potential methane sources deemed significant by the contractor will be considered.</p> <p>(7 pts) The considered emissions sources includes all sources listed in the statement of work with no indication if other potential methane sources deemed significant by the contractor will be considered.</p> <p>(4 pts) The considered emissions sources includes all mandatory emission sources listed below but not all the sources listed in the statement of work</p> <p>(1 pts) The considered emissions sources lacks one of the mandatory emission sources listed below</p> <p>(0 pts) The considered emissions sources lacks more than one of the mandatory emission sources listed below</p> <p>Note that the following mandatory sources, at minimum, must be considered:</p> <ul style="list-style-type: none"> a. Pneumatic Controllers b. Pneumatic Pumps (Chemical Injection Pumps) c. Surface Casing Vent Flow (SCVF) and Gas Migration d. Equipment Fugitive Leaks (Any unintentional emission occurring from equipment/processes across Production, Processing, Transmission & Distribution activities) e. Production (Routine) Venting (i.e. Wellheads (casing vent), Tanks, separators) f. Compressor Start Gas g. Engine Exhaust h. Process Blowdowns (Production, Processing & Transmission equipment and pipeline) 	8 points		



	Rated Criteria	Maximum Score	Score	Comments
	<ul style="list-style-type: none"> i. Glycol Dehydrator Systems (Vents & Pumps) j. Routine Hydrocarbon gas destruction (Conservation cost-effectiveness factors to reduce Flaring, Enclosed Combustion and Incineration) k. Unlit Flares l. Storage Tanks (i.e. Flashing Losses, Working Losses, Breathing Losses, Loading/Unloading) 			
<p>R4.3</p>	<p>The proposed data sources</p> <p>(5 pts) The proposed data sources to be used for completing each task are clearly described in detail; The data sources are multiple, varied and comprehensive, with preference for credible, reliable sources and which cover the breadth of current methane emission inventory and mitigation technology literature/knowledge to ensure quality data and information throughout the project;</p> <p>(3 pts) The proposed data sources to be used for completing each task are clearly described; Some key data sources are not provided OR lacking sufficient detail to cover the breadth of current methane emission inventory and mitigation technology literature/knowledge and ensure quality information and data throughout the project;</p> <p>(0 pts) The data sources provided are limited in details OR incomplete.</p>	<p>5 points</p>		
<p>R4.4</p>	<p>Possible obstacles and challenges that could impact the quality and/or delivery of the project and proposed solutions</p>			



	Rated Criteria	Maximum Score	Score	Comments
	<p>(5 pts) Possible problems and challenges that could arise that would impact the quality and/or delivery of the project are clearly described; the proposed solutions adequately mitigate the issues identified and are within the scope of the project.</p> <p>(3 pts) Possible problems and challenges that could arise that would impact the quality and/or delivery of the project are described but incomplete or the proposed solutions do not adequately mitigate the issues identified or are not within the scope of the project</p> <p>(0 pts) Possible problems and challenges that could arise that would affect the quality and/or delivery of the project are not described.</p>	5 points		
R4 Total		33		
R5	Work plan and Schedule (Max: 24 pts,)			
	The Bidder should provide a work plan that identifies the tasks required to meet the project timelines, the allocation of resources to the tasks, and the quality assurance measures that will be applied.			
R5.1	Description of schedule and tasks			
	<p>(9 pts) The work plan demonstrates that the proposed project will meet the time schedule requirements requested in the Statement of Work, and explains in a clear and logical manner all the tasks and deliverables that will be needed to reach the Objectives of the Statement of Work.</p> <p>(6 pts) The work plan demonstrates that the proposed project may meet the time schedule requirements requested in the Statement of work; key tasks are included but not explained in a clear and logical manner how they will reach the Objectives of the Statement of Work.</p>	9 points		



	Rated Criteria	Maximum Score	Score	Comments
	<p>(3 pts) The work plan presented is not entirely complete or lacks details to demonstrate that the proposed project will meet the time schedule requirements requested in the Statement of work; key tasks are missing to reach the objectives of the Statement of Work.</p> <p>(0 pts) The Contractor did not include a schedule or work plan in the proposal.</p>			
R5.2	<p>Resource Allocation:</p> <p>(12 pts) For each Task, the personnel assigned to the Task are each qualified for the task and have experience relevant to their assigned role in successfully completing the Task.</p> <p>(8 pts) For some Tasks, only some personnel assigned to the Task are qualified and have experience relevant to their assigned role in successfully completing the Task but the overall project team can deliver.</p> <p>(4 pts) The personnel assigned to the tasks are not qualified and/or not experienced to ensure successful completion of the Project.</p> <p>(0 pts) There are no personnel assigned to each task</p>	12 points		
R5.3	<p>Quality Assurance</p> <p>(3 pts) Quality assurance is addressed throughout the project; measures used for quality assurance are described and are sufficient to ensure the quality of all deliverables.</p> <p>(2 pts) Quality assurance is addressed but measures used for quality assurance are not described with sufficient detail at each stage of the project.</p> <p>(0 pts) Quality assurance is not addressed in the work plan</p>	3 points		
	R5 Total	24		
TOTAL AVAILABLE POINTS/TOTAL SCORE		112	Total minimum points required is 67 points	



Mandatory Financial Criteria

The maximum funding available for the Contract resulting from the bid solicitation is \$150,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

Table 5 – Financial Criteria

Criteria	Amount	Met/Not Met
Maximum funding	\$150,000.00	



PART 5 - CERTIFICATIONS

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, 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 may render the bid non-responsive or constitute a default under the Contract.

5.1. Certifications Required Precedent to Contract Award

5.1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

5.2. Additional Certifications Required Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications 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 comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

5.2.1. 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. Failure to comply with the request may result in the bid being declared non-responsive.

5.2.2. Education and Experience

SACC Manual clause A3010T (2010-08-16), Education and Experience



PART 6 – SECURITY AND OTHER REQUIREMENTS

6.1. Security Requirement

There is no security requirement for the Resulting Contract of the solicitation.

6.2. Insurance Requirements

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

PART 7 - RESULTING CONTRACT

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

Title: Comprehensive cost profile for methane emission reduction options in Canada

7.1. Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at 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 PSPC/PWGSC *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 (2022-05-12), General Conditions - Professional Services (High Complexity), as modified below, apply to and form part of the Contract.

7.2.2 Supplemental General Conditions

The following supplemental general conditions apply to and form part of the Contract:

4007 (2010-08-16), Canada to own Intellectual Property Rights in Foreground

7.3. Security Requirement

There is no security requirement applicable to this Contract.

7.4. Term of Contract

7.4.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2023 inclusive.

7.4.2 Comprehensive Land Claims Agreements (CLCAs)

The Contract is not subject to any Comprehensive Land Claims Agreement(s):

7.5. Authorities

7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Tim Pelletier, CD, SCMP, CFSP
Senior Procurement Officer
Procurement & Contracting Services
Environment and Climate Change Canada
Office: 902-920-4479
17th Floor, 45 Alderney Drive, K'jipuktuk (Dartmouth) NS B2Y 2N6
Timothy.Pelletier@ec.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 (will be provided at contract award)

The Project Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: ____-____-_____
Facsimile: ____-____-_____
E-mail address: _____

7.5.3 Alternate Authority (will be provided at contract award)

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 (will be provided at contract award)

Name:

Contact Phone:

Email:

7.6. Proactive Disclosure of Contracts with Former Public Servants

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.

7.7. Payment

7.7.1 Basis of Payment (will be completed at contract award)

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ _____. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

7.7.2 Discretionary Audit

C0101C (2010-01-11) Discretionary Audit - Non-commercial Goods and/or Services

7.8. Invoicing Instructions

7.8.1 Milestone Payments

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Contract and the payment provisions of the Contract if:

- (a) an accurate and complete claim for payment and any other document 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) all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

7.8.2 SACC Manual Clauses

A9117C (2007-11-30) T1204 - Direct Request by Customer Department

7.9. Certifications and Additional Information

7.9.1 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.

7.10. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

7.11. 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;
- (b) the supplemental general conditions 4010 (2012-07-16) - Services Higher Complexity;
- (c) the general conditions 2035 (2022-05-12) - General Conditions - Higher Complexity – Services;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated _____, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award:*"), as clarified on _____ " **or** ", as amended on _____ " *and insert date(s) of clarification(s) or amendment(s)*".

7.12. Insurance

SACC Manual clause G1005C (2016-01-28) - Insurance – No Specific Requirement

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".

ANNEX “A” - STATEMENT OF WORK

1.0 Background

Environment and Climate Change Canada's mandate is to preserve and enhance the quality of the natural environment; conserve Canada's renewable resources; conserve and protect Canada's water resources; forecast weather and environmental change; enforce rules relating to boundary waters; and coordinate environmental policies and programs for the federal government.

Federal methane regulations were published on May 27, 2018 to deliver on the Pan-Canadian Framework (PCF) on Clean Growth and Climate Change commitment to reduce oil and gas methane emissions by 40-45% from 2012 levels by 2025.

Based on best international practices and research, the Government of Canada has announced plans to further reduce methane emissions from the oil and gas sector by 2030, building on previous objectives to reduce methane emissions. This plan will support the PCF and represents an important step in achieving Canada's 2030 Paris Agreement and 2050 net-zero targets. Canada is an active participant in international initiatives to reduce methane emissions. For example, Canada is a founding member of the Climate and Clean Air Coalition. Together with the International Energy Agency, the Coalition is targeting a 45% reduction in methane emissions by 2025 and 75% by 2030. Canada has also signed on to the Global Methane Pledge, which aims to reduce global methane emissions by 30% below 2020 levels by 2030.

A series of studies conducted by the International Energy Agency (IEA) indicates that it is technically possible to avoid 75% of today's methane emissions from global oil and gas operations. The IEA also estimates that a significant portion of those methane emission reductions can be achieved at zero net cost, given that methane is a valuable product and, in many cases, can be sold if it is captured instead of vented or flared.

A study undertaken by the Canadian Energy Research Institute confirmed that in Canada, steps taken to reduce methane emissions in the oil and gas sector can result in cost savings, or can be carried out at low cost.

The approach to achieve further reductions of methane emissions by 2030 would need to provide feasible, flexible and cost-effective approaches to managing facility emissions in the upstream oil and gas sector. The approaches could be prescriptive by emission source, such as those presently found in Canada's methane regulations for the upstream oil and gas sector or involve other types of control programs and industry actions to improve performance. The approaches would encourage innovative technology deployment and operational insight to provide overall greenhouse gas (GHG) mitigating solutions. For such work, there is a need to better understand the current (post-2020) landscape of methane emissions by source and the current deployment and implementation of methane mitigation technology to meet or exceed current methane regulations. There is also a need to understand the potential for further methane emission mitigation, the availability of ready-to-deploy technologies and the associated costs (marginal abatement costs) expected beyond 2025.

Preliminary internal research on marginal abatement costs (MAC) to further control methane emissions indicate that Canada could achieve a 75% reduction with an estimated average incremental cost of \$100/tCO₂e. The costs could result in savings, as presumed in the case for implementing non-emitting controllers where conserved gas value is included, subject to the availability of suitable gas infrastructure. However, there are also some sources where marginal abatement costs tend to be at the higher end of the range, as presumed in the case of surface casing vent flows and continuous fugitive leak monitoring which is driven by the need for

significant upfront capital costs. Environment and Climate Change Canada's Oil, Gas and Alternative Energy Division seeks to assess, validate and update these estimates based on the findings of this proposed work.

2.0 Objectives:

The objective is to expand on ECCC's current understanding of available abatement technologies or solutions applicable to the current oil and gas landscape in Canada and the associated costs.

The details for the objective are:

1. Expand upon current understanding¹ of emission reduction technologies or solutions by source including current technology deployment, abatement potential and abatement costs (by technology and by emissions abated)
2. Identify the potential for further (future) methane emission mitigation, e.g, additional to provincial methane regulations requirements, the abatement feasibility², as well as the associated costs beyond 2025
3. Quantify the abatement costs for different source categories, considering various scales, and the determination of total costs of methane emission reduction
4. Validate cost framework for future federal regulatory action³

3.0 Notes & Definitions:

The following definitions and descriptions apply:

- The terms mitigation, abatement and reduction may be used interchangeably throughout this statement of work.
- The terms technologies, solutions, measures and actions may be used interchangeably throughout this statement of work.
- The current regulatory landscape is defined as the ongoing scenario for governing regulations that support the reduction of greenhouse gas emissions, including methane emissions, in the oil and gas sector across Canadian jurisdictions between 2020 and 2025. The *Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector)*, [SOR/2018-66](#) (the "federal methane regulations") are applicable in all Canadian provinces. Certain provinces, such as [British-Columbia](#), [Alberta](#) and [Saskatchewan](#), have equivalency agreements in place and therefore have different governing regulations.

¹ Current understanding relates to existing technologies and their deployment rate and mitigation capacity to achieve compliance for the current regulatory framework

² The abatement feasibility means the emission reduction potential by technology per source as well as an indication of the technologies' rollout/uptake potential

³ Future federal regulatory action will consider current technology pathways to reduce additional volumes of methane from currently regulated sources and from sources that are not currently addressed by regulations.

- The potential regulatory landscape is defined as the incremental scenario for greenhouse gas emission reduction beyond the current regulatory landscape.

4.0 Reference Documents:

ECCC has undertaken considerable analysis of information and sources available, including the documents listed below. This list is provided as reference source for analyses already completed and are recommended for review during the execution of the Resulting Contract and are intended to supplement additional sources provided by the Contractor.

1. Canadian Energy Research Institute (CERI). 2019. "Economic and Environmental Impacts of Methane Emissions Reductions in the Natural Gas Supply Chain" <https://ceri.ca/studies/economic-and-environmental-impacts-of-methane-emissions-reduction-in-the-natural-gas-supply-chain>.
2. Delphi Program. 2017. "Methane Abatement Costs: Alberta." <https://www.aer.ca/documents/DelphiAlbertaMethaneAbatementCostStudy.pdf>.
3. Matthew R. Johnson, Adam R. Coderre, Opportunities for CO₂ equivalent emissions reductions via flare and vent mitigation: A case study for Alberta, Canada, International Journal of Greenhouse Gas Control, Volume 8, 2012, Pages 121-131, ISSN 1750-5836, <https://doi.org/10.1016/j.ijggc.2012.02.004>.
4. David R. Tyner and Matthew R. Johnson, A Techno-Economic Analysis of Methane Mitigation Potential from Reported Venting at Oil Production Sites in Alberta, Environmental Science & Technology 2018 52 (21), 12877-12885, DOI: 10.1021/acs.est.8b01345.
5. EPA. 2019. "Global Non-CO₂ Greenhouse Gas Emission Projections & Marginal Abatement Cost Analysis: Methodology Documentation" <https://www.epa.gov/global-mitigation-non-co2-greenhouse-gases>
6. ICF. 2016. "Economic Analysis of Methane Emission Reduction Potential from Natural Gas Systems" <https://onefuture.us/wp-content/uploads/2018/07/ICF-Study.pdf>
7. ICF. 2015. "Economic Analysis of Methane Emission Reduction Opportunities in the Canadian Oil and Natural Gas Industries" https://www.edf.org/sites/default/files/content/canada_methane_cost_curve_report.pdf
8. ICF. 2014. "Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas Industries" https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf
9. ICF. 2016. "Finding the Facts on Methane Emissions: A Guide to the Literature." https://www.ngsa.org/download/analysis_studies/NGC-Final-Report-4-25.pdf.
10. IEA. 2021. "IEA Methane Tracker 2021" <https://www.iea.org/reports/methane-tracker-2021>
11. Element Energy. 2019. "Assessment of Options to Reduce Emissions from Fossil Fuel Production and Fugitive Emissions" <https://www.theccc.org.uk/wp-content/uploads/2019/05/Assessment-of-Options-to-Reduce-Emissions-from-Fossil-Fuel-Production-and-Fugitive-Emissions.pdf>
12. Petrinex: <https://www.petrinex.ca/Pages/default.aspx>
13. Cap-Op Energy Inc. 2018. Other Sources of Methane Emissions in the Oil & Gas Sector
14. PTAC, 2021, PTAC Methane Detection and Mitigation Initiatives Report, <https://www.ptac.org/wp-content/uploads/2021/12/PTAC-Methane-Detection-Mitigation-Initiatives-Report.pdf>

5.0 Scope:

There are federal and provincial regulations for reducing methane emissions from the oil and gas sector and these regulatory requirements and the sources they target vary across regions. ECCC is seeking to assess existing emission mitigation technologies for their current deployment and abatement performance as well as their future deployment and abatement potential beyond the current regulatory landscape. The contractor will identify:

1. Available emissions reduction technologies and practices by emission source
2. Current deployment and effectiveness of emission reduction technologies
3. Maximum abatement potential by source beyond the current regulatory landscape
 - a. Based on production type, sector, or location in Canada
 - b. Presented as “tiers”, based on associated costs, to achieve different levels of emission reductions up to the maximum
4. Abatement cost ranges by technology and by emissions abated with respect to varying capacities (i.e. gas throughput and equipment sizing⁴)

The analysis indicated above shall be considered for the following emissions sources:

- a. Pneumatic Controllers
- b. Pneumatic Pumps (Chemical Injection Pumps)
- c. Surface Casing Vent Flow (SCVF) and Gas Migration
- d. Equipment Fugitive Leaks (Any unintentional emission occurring from equipment/processes across Production, Processing, Transmission & Distribution activities)
- e. Production (Routine) Venting (i.e. Wellheads (casing vent), Tanks, separators)
- f. Compressor Start Gas
- g. Engine Exhaust
- h. Catalytic Heaters
- i. Process Blowdowns (Production, Processing & Transmission equipment and pipeline)
- j. Glycol Dehydrator Systems (Vents & Pumps)
- k. Well Completions and Workovers
- l. Liquids Unloading from Wells
- m. Routine Hydrocarbon gas destruction (Conservation cost-effectiveness factors to reduce Flaring, Enclosed Combustion and Incineration)
- n. Unlit Flares
- o. Storage Tanks (i.e. Flashing Losses, Working Losses, Breathing Losses, Loading/Unloading)
- p. Other potential methane sources deemed significant by the contractor but not explicitly stated in this list

For emissions mitigation solutions requiring gas collection infrastructure (such as production venting and storage tanks), the contractor should emphasize mitigation feasibility based on paragraph 3 in the Scope of work.

⁴ The idea of varying capacities is related to the potential increments in associated costs based on the increments of emission reductions by source.

Data gathering will be done from publicly available industry and academic reports, interviews of technology vendors and operators, open-access government databases and purchased data from commercial databases.

Final report must include emissions estimate methodologies used such as most recent inventory data or alternative estimation methods with justification, emission factors, life expectancy, deployment rate, and range of cost of mitigation technologies including CAPEX, OPEX, and maintenance costs.

6.0 Tasks and Acceptance Criteria:

The following tasks will be required to achieve the Objective:

1. Review existing industry and academic reports, federal and provincial regulations, inventories and/or databases, and assess their relevance to this contract for updating and not to repeat the existing information or analysis;
2. Assess and plan for additional data gathering prospects, such as interviews of technology, vendors and operators, open-access government databases and purchased data from commercial databases;
3. Develop a project work plan, describing the methodology to be used, including tools, for:
 - Developing emission profiles by source;
 - Defining emission reduction technologies or solutions, including reference to prospective makes and models, and potential abatement by source;
 - Determining the current deployment and effectiveness of emission reduction technologies or solutions across Canada;
 - Establishing maximum abatement potential of the technologies, by source, beyond the current regulatory landscape;
 - The abatement potential shall be presented based on production type, sector or location in Canada, and;
 - Developing costing ranges for emission mitigation technologies and costs by emissions abated with respect to varying capacities;
 - Based on the magnitude of the associated technology costs, the cost ranges shall be presented as “tiers” to achieve different levels of emission reductions up to the maximum abatement potential;
4. Implement any additions and updates to the project work plan based on ECCC’s input;
5. Develop and deliver a Midterm Emissions Reduction Technology Report, that covers:
 - Emission profiles by source;
 - Emissions reduction technologies or solutions by emission source, including reference to prospective makes and models;
 - Current deployment and effectiveness of emission reduction technologies with respect to varying capacities (i.e. gas throughput and equipment sizing), and;
 - Total abatement potential, by source, beyond the current regulatory landscape;
6. Implement any additions and updates to the draft report based on ECCC’s input;
7. Meet with the Departmental Representative(s) (ECCC) to assess progress;

8. Create a final report, which covers:
 - Emission profiles by source;
 - Emissions reduction technologies or solutions by emission source, including reference to prospective makes and models;
 - Current deployment and effectiveness of emission reduction technologies, with respect to varying capacities (i.e. gas throughput and equipment sizing);
 - Maximum abatement potential of the technologies, by source, beyond the current regulatory landscape;
 - The abatement potential shall be presented based on production type, sector or location in Canada, and;
 - Cost range profiles for emission control technologies, by emissions abated with respect to varying capacities;
 - Based on the magnitude of the associated technology costs, the cost ranges shall be presented as “tiers” to achieve different levels of emission reductions up to the maximum abatement potential.
9. Document Review
 - All documents produced by the Contractor will be subject to review in draft form by Departmental Representative(s) or designated person. The review will generate feedback for the Contractor to incorporate into the final version of each deliverable. All work must be to the satisfaction of the Departmental Representative(s). The Department reserves the rights to ownership, title and interests to the project information, including all related published findings and raw data.

Furthermore, the Contractor will conduct their work subject to the following conditions:

- Additional information: This list of tasks is not necessarily exhaustive. The Contractor is encouraged and expected to provide the Departmental Representative with any additional information discovered during the course of this work in cases where the additional information may be relevant to this Contract’s purpose or objectives.
- Obstacles: The Contractor should identify obstacles to the Departmental Representative and explain the sources and implications of the obstacles and how they will be addressed. Obstacles refer to issues with gathered information or scenarios which affect the execution of the project tasks which could lead to unreliable project outputs and not meeting the objectives set out in this Contract.
- Sources: The Contractor shall report all relevant sources of information.

- Reports: The project work plan and all reports (in either draft or final form) shall be written in a clear and logical fashion and shall be submitted in a Microsoft Office word format for Windows, version 2016 or later and Adobe PDF.
- Supporting and underlying data: Data must be properly organized, referenced, and sourced. If estimates and assumptions are used, they must be clearly identified and justified. Data should also be provided in Excel format.

8.0 Schedule

Table 4 – List of planned due dates

#	Item/Deliverable	Deliverable	Days from Contract Execution
1.	The contractor and the Departmental Representative (s) will have a project kick-off meeting. The contractor will identify issues/data gaps and potential impact on the project , if any.	N/A	7
2.	The contractor must submit the project work plan .	Deliverable #1	14
3.	The contractor must submit the final project work plan . The final project work plan will include additions and updates in accordance with ECCC's input to deliverable #2.	Deliverable #2	28
4.	The contractor and the Departmental Representative will have a project progress meeting. The contractor will submit meeting notes , following the meeting to identify: (i) Progress of each task and of the Work as a whole. (ii) An explanation of any variation from the work plan.	Continuous Deliverable #3	60
5.	The contractor must submit the Draft Emissions Reduction Technology Report along with a draft of the inventory databases , if any.	Deliverable #4 – And Deliverable #5	90
6.	The contractor and the Departmental Representative will have a project progress meeting. The contractor will submit meeting notes , following the meeting to identify:	Continuous Deliverable #3	120

#	Item/Deliverable	Deliverable	Days from Contract Execution
	(i) Progress and updates in accordance with ECCC's input to deliverable #5. (ii) Progress of each task and of the Work as a whole. (iii) An explanation of any variation from the work plan.		
7.	<p>The contractor must submit the final report along with inventory databases and sources/supporting data tables,</p> <p>This report will include additions and updates in accordance with ECCC's input from Deliverable #4.</p> <p>This report will cover items listed in the Tasks and Acceptance Criteria section such as emissions reduction technologies by emission source, current deployment of emission reduction technologies, remaining abatement potential, and abatement cost ranges by technology and emissions abated.</p>	Deliverable #6; Deliverable #7; and, Deliverable #8	180

9.0 Deliverables

1. Draft Project Plan;
2. Final Project Plan;
3. Meeting Notes from any status meetings;
4. Draft Emissions Report;
5. Draft Inventory Database;
6. Sources and Supporting data tables;
7. Final Inventory Database; and,
8. Final Report.

10.0 Official Languages

The work may be conducted in the language of Contractors choice, however, all Deliverables will be provided in English.

Any contact with the general public will be done in the Official language of choice requested by the person being contacted.

11.0 Travel

Travel is not required to perform the Work.

12.0 Departmental Representatives

(will be provided at Contract Award)

Sean Smith
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ANNEX "B" - BASIS OF PAYMENT

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ _____. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

Table 5 – Deliverables cost estimate

No	Deliverable	Estimated days	Rate per day	Subtotal (A)
1	Draft Project Plan			
2	Final Project Plan			
3	Meeting Notes from any status meetings			
4	Draft Emissions Report and Draft Inventory Database			
5	Sources and Supporting data tables			
6	Final Inventory Database			
7	Final Report			
Subtotal (B) will be used for purpose of Price Evaluation			Subtotal (B)	\$
			Tax Rate % (C)	\$
			Total (D)	\$

ANNEX “C” - SCHEDULE OF MILESTONES

The following table provides the milestone percentage breakdown by Deliverable to be used for invoicing of the resulting contract.

Table 6 - Milestones

Deliverable No	Deliverable	Amount pre-tax (to be completed at contract award)
1	Draft plan	\$
2	Final project plan	\$
4 and 5	Draft Emissions Report and Draft Inventory Database Sources and Supporting data tables	\$
3 and 7 and 8	Meeting Notes from any status meetings Final report, database and all supporting materials	\$
	Subtotal	
	Tax	
	Total	