



<p>RETURN BIDS TO: RETOURNER LES SOUMISSIONS À:</p> <p>SOUMISSIONSBIDS@EC.GC.CA</p> <p>Bid Receiving - Environment and Climate Change Canada / Réception des soumissions – Environnement et changement climatique Canada</p> <p>All bids must be sent by email to:</p> <p>soumissionsbids@ec.gc.ca</p> <p>BID SOLICITATION DEMANDE DE SOUMISSIONS</p> <p>PROPOSAL TO: ENVIRONMENT AND CLIMATE CHANGE CANADA</p> <p>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.</p> <p>SOUSSION À: ENVIRONNEMENT ET CHANGEMENT CLIMATIQUE CANADA</p> <p>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).</p>	<p>Title – Titre Best Available Technologies and Best Environmental Practices (BAT/BEP), including emerging technologies, for greenhouse gas (GHG) reduction in the critical mineral mining and processing sector to support electrification and battery production.</p>	
	<p>ECCC Bid Solicitation No. /SAP No. – N° de la demande de soumissions ECCC / N° SAP</p> <p>500067274</p>	
	<p>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)</p> <p>2022-08-30</p>	
	<p>Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)</p> <p>at – à 2:00 P.M.</p> <p>on – le 2022-10-05</p>	<p>Time Zone – Fuseau horaire</p> <p>EDT</p>
	<p>F.O.B – F.A.B See herein</p>	
	<p>Address Enquiries to - Adresser toutes questions à Michel Lariviere at michel.lariviere@ec.gc.ca</p>	
	<p>Delivery Required - Livraison exigée See herein</p>	
	<p>Destination of Services / Destination des services See herein</p>	
	<p>Security / Sécurité There are no security requirements associated with this solicitation</p>	
	<p>Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l'entrepreneur</p>	
<p>Telephone No. – N° de téléphone</p>	<p>Fax No. – N° de Fax</p>	
<p>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)</p>		
<p>Signature</p>	<p>Date</p>	



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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; and

Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Attachments include the Financial Bid Presentation Sheet and Mandatory Technical Criteria And Point Rated Technical Criteria.

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

1.2 Summary

1.2.1 Environment and Climate Change Canada is seeking qualitative and quantitative data on the **best available technologies and best environmental practices (BAT/BEP), including emerging technologies, for reducing the GHG emissions from critical mineral mining and processing projects in Canada and internationally that involve critical minerals used in electrification and battery production** 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, 2024.

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 3 of Part 2 of the bid solicitation.

1.2.4 The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA), the Canada–Chile Free Trade Agreement (CCFTA), the Canada–Colombia Free Trade Agreement, the Canada–Honduras Free Trade Agreement, the Canada–Korea Free Trade Agreement, the Canada–Panama Free Trade Agreement, and the Canada-Peru Free Trade Agreement.



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"

At Section 05 Submission of Bids, Subsection 05 (4):

Delete: "sixty (60) days"

Insert: "one hundred and twenty (120) days"

2.2. Submission of Bids

Bids must be submitted, by email, to Environment and Climate Change Canada by the date and time 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 Quebec.

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 10 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

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 - 1 soft copy in PDF format by email.

Section II: Financial Bid - 1 soft copy in PDF format by email.

Section III: Certifications - 1 soft copy in PDF format by email.

Section IV: Additional Information – 1 soft copy in PDF format by email.

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

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: Michel Larivière
Solicitation Number: 5000067274

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.

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

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.

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 the Financial Bid Presentation Sheet detailed in Attachment 1 to Part 3.
- 3.1.2** Bidders must submit their financial bid in Canadian funds and in accordance with the Financial Bid Presentation Sheet detailed in Attachment 1 to Part 3. The total amount of Applicable Taxes must be shown separately.
- 3.1.3** Bidders must submit their price 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 the performance milestone 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.

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

FINANCIAL BID PRESENTATION SHEET

Financial Proposal

The Bidder must complete this Financial Bid Presentation Sheet and include it in its financial bid. Prices must only appear in the Financial Bid and in no other part of the bid.

The Bidder must enter the names and the all-inclusive rate for each individual and (or) labour category to be assigned to the Work. The total amount of Goods and Services Tax or Harmonized Sales Tax is to be shown separately, if applicable.

Category	Resource Name	Estimated Level of Effort in Days	All-Inclusive* Per Diem Rate	Total
		A	B	C = A x B
Project Manager	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
<i>(As needed, Bidder is to complete the below information for other members of the team)</i>				
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
Other Resource <BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	<BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>	\$ <BIDDER TO COMPLETE>
<i>(Bidder to add additional lines as needed)</i>				
TOTAL EVALUATED BID PRICE (The sum of all Total in Column C)				\$ <BIDDER TO COMPLETE>
APPLICABLE TAXES (Insert applicable taxes rate percentage)				% <BIDDER TO COMPLETE>
(insert the amount as applicable)				\$ <BIDDER TO COMPLETE>

* **All-Inclusive Per Diem rates** are firm and all-inclusive of overhead, profit and expenses such as travel and time to the NCR facilities. A day is defined as 7.5 hours exclusive of meal breaks.



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.

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 **\$200,000.00 (Applicable Taxes excluded)**. 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.

For evaluation purposes only, the price of the bid will be determined as follows:

4.3.2.1 For bid evaluation and contractor(s) selection purposes only, the evaluated price of a bid will be determined in accordance with the Financial Bid Presentation Sheet detailed in Attachment 1 to Part 3.

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

4.4.1 To be declared responsive, a bid must:

- (a) comply with all the requirements of the bid solicitation;
- (b) meet all mandatory criteria and mandatory financial criteria; and
- (c) obtain the required minimum of **44 points** overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of **73 points**.

4.4.2 Bids not meeting (a) or (b) or (c) will be declared non-responsive.



- 4.4.3 The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be **70 %** for the technical merit and **30%** for the price.
- 4.4.4 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 70%.
- 4.4.5 To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30%.
- 4.4.6 For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
- 4.4.7 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.
- 4.4.8 In the event of identical combined rating, then the bid with the highest points under evaluation criteria R3 will be nominated for contract award.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

Basis of Selection – Highest Combined Rating Technical Merit (60%) and Price (40%)

		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	$115/135 \times 60 = 51.11$	$89/135 \times 60 = 39.56$	$92/135 \times 60 = 40.89$
	Pricing Score	$45/55 \times 40 = 32.73$	$45/50 \times 40 = 36.00$	$45/45 \times 40 = 40.00$
Combined Rating		83.84	75.56	80.89
Overall Rating		1st	3rd	2 nd



ATTACHMENT 1 TO PART 4

MANDATORY TECHNICAL CRITERIA AND POINT RATED TECHNICAL CRITERIA

Technical Mandatory 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 that fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately.

Criteria #	Mandatory Criteria	Requirement Met? (Y/N)	Cross Reference to Bid
M1	<p>A. The Bidder must provide a description of the team that it proposes to perform the work. The description must include the following information:</p> <ul style="list-style-type: none"> i. Full name of each of the project team members that will be significant contributors to the deliverables; ii. Describe the roles and responsibilities of each team member; and iii. Full name of the Project Manager which will be the primary point of contact for the deliverables. <p>B. The Bidder must provide a detailed résumé for EACH of the project team member(s) that will be significant contributors to the deliverables which clearly describes relevant work experience.</p>		
M2	<p>The Bidder must demonstrate that at least one team member has:</p> <ul style="list-style-type: none"> i. a minimum of 36 cumulative months of experience, within the last 10 years of bid closing, relating to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production, and has ii. a relevant post-graduate degree in any field in engineering or environmental science. The list of recognized assessment organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: http://www.cicic.ca/indexe.stm. The bidder must provide a copy of the diploma with their proposal <p>To demonstrate the proposed resource experience, the Bidder must provide a list of projects.</p> <p>For each project listed, the Bidder must provide:</p>		



	<ul style="list-style-type: none">a. Name of client organization (or description of client organization if name cannot be disclosed due to confidentiality)b. Project description and role in the projectc. Duration (mm-yyyy to mm-yyyy).		
M3	<p>The Bidder must demonstrate that the proposed Project Manager has a minimum of 60 cumulative months of experience, within the last 10 years of bid closing date, managing projects related to the assessment and/or design of technologies and/or practices to reduce GHG emissions in the critical minerals mining and processing sectors.</p> <p>To demonstrate the proposed resource experience, the Bidder must provide a list of projects.</p> <p>For each project listed, the Bidder must provide:</p> <ul style="list-style-type: none">a. Name of client organization (or description of client organization if name cannot be disclosed due to confidentiality)b. Project description and role in the projectc. Duration (mm-yyyy to mm-yyyy).		



Point Rated Criteria

Bids that meet all the mandatory technical criteria will be evaluated and scored as specified in the tables inserted below.

Bids, which fail to obtain the required minimum number of points specified, will be declared non-responsive. Each point rated technical criterion should be addressed separately.

Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
R1	<p>Methodological approach</p> <p>The Bidder's proposal demonstrates a comprehensive methodological approach to complete all aspects of the project. <u>Criteria R1.1 to R1.3</u> will be used to evaluate the approach.</p>		
	<p>R.1.1 - The proposed methodological approach</p> <p>(12 pts) The methodological approach includes a <u>detailed</u> description of the steps that will be undertaken to meet each deliverable in the Statement of Work. <u>The approach is complete, realistic and feasible.</u></p> <p>(9 pts) The methodological approach includes a description of the steps that will be undertaken to meet each deliverable in the Statement of Work. <u>All key steps are included but some steps are not clearly described with sufficient detail. The approach is realistic and feasible.</u></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 <u>missing a key step</u> and <u>some steps are not realistic or feasible.</u></p> <p>(3 pts) The methodological approach is <u>incomplete (missing steps), not realistic or not feasible.</u></p> <p>(0 pt) There is <u>no</u> methodological approach in the proposal</p>		
	<p>R.1.2 - The proposed data sources</p> <p>(5 pts) The proposed data sources to be used for completing each task are clearly described in <u>detail. The data sources are multiple, varied and comprehensive, with preference for credible, reliable sources and which cover the breadth</u> of the Critical Mineral sector that involve critical minerals used in electrification and battery production 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, however, <u>some key data sources are not provided OR lacking sufficient detail to cover the breadth</u> of the Critical Mineral sector that involve critical minerals used in electrification and battery production and ensure quality information and data throughout the project;</p> <p>(0 pt) The data sources provided <u>are limited in details OR incomplete.</u></p>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>R.1.3 - Possible problems and challenges that could impact the quality and/or delivery of the project and proposed solutions</p> <p>(5 pts) Possible problems and challenges that could arise which 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 which would impact the quality and/or delivery of the project are described but incomplete. The proposed solutions do not adequately mitigate the issues identified or are not within the scope of the project</p> <p>(0 pt) Possible problems and challenges that could arise which would impact the quality and/or delivery of the project are not described.</p>		
Total R1	Total Maximum Points for R1 (R1.1+R1.2+R1.3): 22 points	Total Points Awarded	
R2	<p>Work plan and Schedule</p> <p>The Bidder proposal demonstrates a work plan that identifies the tasks required to meet the project timelines, the resources allocated to the tasks, and the quality assurance measures that will be applied. <u>Criteria R2.1 to R2.2</u> will be used to evaluate the work plan and schedule.</p>		
	<p>R2.1 - Description of schedule, tasks, and resources</p> <p>(12 pts) The work plan demonstrates that the proposed project will meet the time schedule requirements requested in the Statement of Work. It explains in a clear and logical manner all the tasks that will be completed to reach the Objectives of the Statement of Work, including project resources assigned to each task.</p> <p>(8 pts) The work plan demonstrates that the proposed project may meet the time schedule requirements requested in the Statement of work. The key tasks are included, with project resources assigned to key tasks, but not explained in a clear and logical manner how they will reach the Objectives of the Statement of Work.</p> <p>(4 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. The key tasks and/or project resource assignments to key tasks are missing to reach the objectives of the Statement of Work.</p> <p>(0 pt) The Contractor did not include a schedule or work plan in the proposal.</p>		
	<p>R.2.2 - Quality Assurance</p> <p>(3 pts) Quality assurance is addressed throughout the project. Measures used for quality assurance are described in sufficient detail to</p>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>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 pt.) Quality assurance is not addressed in the work plan</p>		
Total R2	Total Maximum Points for R2 (R2.1+R2.2): 15 points	Total Points Awarded	
R3	<p>Project Team Experience</p> <p><u>Criteria R3.1 to R3.2</u> will be used to evaluate the overall project team experience.</p> <p>Provide a maximum of four (4) reference projects for each of Topics 1 (R3.1) and 2 (R3.2) below, in tabular format.</p> <p>For each project listed, the Bidder must provide:</p> <ol style="list-style-type: none"> Name of the project team member(s) involved in the reference project Name of client organization (or description of client organization if name cannot be disclosed due to confidentiality) Project description/scope of the work performed Role and contribution of the project team member(s) 		
	<p><u>R3.1 - Topic 1</u></p> <p>Experience in the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p> <p>Each of the proposed projects will be awarded points as follows:</p> <p>(3 pts) The reference project was related to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production AND the project team member contribution demonstrated excellent experience.</p> <p>“excellent” is defined as follows: Includes the assessment and/or design of multiple and varied technologies and/or practices, related to at least two of the following activities as outlined in section 4 of the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(2 pts) The reference project was related to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals</p>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>used in electrification and battery production AND the project team member contribution demonstrated acceptable experience.</p> <p>“acceptable” is defined as follows: Includes the assessment and/or design of relevant technologies and/or practices, including experience related to at least one of the following activities as outlined in section 4 the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(0 pt) No reference project provided or the reference project was not related to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production AND the project team member demonstrated no experience.</p>		
	<p><u>R3.2 - Topic 2</u></p> <p>Experience in evaluating emerging technologies for future reduction of GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p> <p>Each of the proposed projects* will be awarded points as follows:</p> <p>* <i>Projects for R3.2 means: Example projects to be provided could include those that have evaluated and/or implemented emerging technologies from both Canadian and global sources, and at various stages of pre-commercial technology development.</i></p> <p>(3 pts) The reference project was related to evaluating emerging technologies for future reduction of GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production AND the project team member contribution demonstrated excellent experience.</p> <p>“excellent” is defined as follows: Includes the evaluation of multiple and varied emerging technologies, related to at least two of the following activities as outlined in section 4 of the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(2 pts) The reference project was related to evaluating emerging technologies for future reduction of GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production AND the project team member contribution demonstrated acceptable experience.</p> <p>“acceptable” is defined as follows:</p>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>Includes the evaluation of relevant emerging technologies, including experience related to at least one of the following activities as outlined in section 4 of the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(0 pt) <u>No reference project provided or the reference project was not related</u> to evaluating emerging technologies for future reduction of GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production AND the project team member <u>demonstrated no</u> experience.</p>		
Total R3	Total Maximum Points for R3 (R3.1 + R3.2): 24 points	Total Points Awarded	
R4	<p>Project Manager's Experience</p> <p>The bidder should demonstrate, using project description(s), that the proposed Project Manager has experience managing projects related to the assessment and/or design of GHG emission reduction technologies and/or practices in Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p> <p>A maximum of two (2) reference projects will be evaluated as described below. If the bidder submits more than two (2) referenced projects, only the first two (2) in order of presentation will be evaluated.</p> <p>Each of the proposed projects will be awarded points as follows.</p> <p>(6 pts) The project managed by the proposed project manager was similar scope and was related to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p> <p>“similar” is defined as follows:</p> <p>The assessment and/or design of GHG emission reduction technologies and/or practices that includes each of the following activities as outlined in section 4 of the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(3 pts) The referenced project is smaller in terms of scope but is related to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>“smaller” is defined as follows:</p> <p>The assessment and/or design of GHG emission reduction technologies and/or practices that includes at least one of the following activities as outlined in section 4 of the Statement of Work:</p> <ul style="list-style-type: none"> • Mineral exploration and extraction • Mineral processing and refining • Mine site development • Mine site reclamation <p>(0 pts) <u>No reference project provided or the reference project was not related</u> to the assessment and/or design of technologies and/or practices to reduce GHG emissions from Critical Mineral mining and processing facilities that involve critical minerals used in electrification and battery production.</p>		
Total R4	Total Maximum Points for R4: 12 points	Total Points Awarded	
Overall Total Maximum Points (R1+R2+R3+R4): 73 points Overall Minimum Passing Mark Required (R1+R2+R3+R4): 44 points		Total Points Awarded	



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.

5.2.2. Education and Experience

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



PART 6 - RESULTING CONTRACT

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation. *(ECCC to delete this sentence at contract award)*

Title: *(ECCC to insert at contract award)*

6.1 Statement of Work

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

6.2 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.

6.2.1 General Conditions

2035 (2022-05-12), General Conditions - Professional Services (High Complexity), as modified below, apply to and form part of the Contract.

6.2.2 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

6.2.3 Specific Person(s)

The Contractor must provide the services of the following person(s) to perform the Work as stated in the Contract: _____ *(ECCC to insert name(s) of person(s) at contract award)*.

6.3 Security Requirement

6.3.1 There is no security requirement applicable to this Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

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

6.5 Authorities *(ECCC to completed the below info at contract award)*

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: _____

Title: _____



Environment and Climate Change Canada
Procurement and Contracting Division
Address: _____

Telephone: ____ - ____ - _____
E-mail address: _____

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.

6.5.2 Technical Authority

The Technical Authority for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ____ - ____ - _____
E-mail address: _____

The Technical Authority named above 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 Technical Authority, however the Technical 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.

6.5.3 Contractor's Representative

Name: _____
Title: _____
(Legal & Operating Company Name): _____
Address: _____

Telephone: ____ - ____ - _____
E-mail address: _____

6.6 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.

6.7 Payment



6.7.1 Basis of Payment – Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ _____ (*ECCC to insert the amount at contract award*). 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.

6.8 Invoicing Instructions

6.8.1 Milestone Payments

6.8.1.1 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.

6.9 Certifications and Additional Information

6.9.1 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.

6.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (*ECCC to insert the name of the province or territory as specified by the bidder in its bid, if applicable, at contract award*)

6.11 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 4007 (2010-08-16), Canada to own Intellectual Property Rights in Foreground;



- (c) the general conditions 2035 (2022-05-12), General Conditions - Professional Services (High Complexity);
- (d) Annex "A", Statement of Work;
- (e) Annex "B", Basis of Payment;
- (f) Annex "C", Schedule of Milestones; and
- (g) the Contractor's bid dated _____, (ECCC to insert date of bid) or (If the bid was clarified or amended, ECCC to insert at the time of contract award), as clarified on _____ (or), as amended on _____ (and insert date(s) of clarification(s) or amendment(s)).

6.12 Insurance

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

6.13 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 Title

Best Available Technologies and Best Environmental Practices (BAT/BEP), including Emerging Technologies, for Greenhouse Gas Reduction in the Critical Mineral Mining and Processing sector to support Electrification and Battery Production.

2 Background

On August 28th, 2019, the Government of Canada adopted new legislation that repeals and replaces the Canadian Environmental Assessment Act, 2012 (CEAA 2012). Through the adopted [Impact Assessment Act \(IAA\)](#), the Government is enforcing new rules that protect the environment, recognize and respect Indigenous rights, and strengthen the economy. These new rules involve a shift from environmental assessment to impact assessment. The IAA establishes a new process for considering environmental, health, social and economic effects of projects that will undergo a federal impact assessment. This includes the extent to which the effects of the designated project hinder or contribute to the Government of Canada’s ability to meet its commitments in respect of climate change such as the Paris Agreement, Canada’s 2030 target and the goal of Canada achieving net-zero emissions by 2050.

The IAA outlines the factors to be included in an impact assessment. The following three factors taken from the IAA frame the scope of this work and the tasks outlined in the work description.

- *“The purpose of and need for the designated project”*
- *“any alternatives to the designated project that are technically and economically feasible and are directly related to the designated project”*
- *“alternative means of carrying out the designated project that are technically and economically feasible, including through the use of best available technologies, and the effects of those means”*

The Government of Canada published the [Strategic Assessment of Climate Change](#) (SACC) in 2020. This document describes the climate change-related information requirements throughout the federal impact assessment process and requires proponents of projects with a lifetime beyond 2050 to provide credible plans to achieve net-zero emissions by 2050. Information requirements will also include describing the mitigation measures projects will undertake to minimize greenhouse gas (GHG) emissions, including the use of best available technologies and best environmental practices (BAT/BEP), including emerging technologies, through all phases of the project. Additional information is also provided in the draft Technical Guide.¹ The SACC and related draft Technical Guide will enable consistent, predictable, efficient, and transparent consideration of climate change in federal impact assessments.

Critical minerals may prove indispensable to global efforts’ to reaching net-zero economies by 2050 and Canada has the capacity to become a global leader in clean technology, including throughout the supply and value chains of critical minerals. Developing Canada’s critical minerals industry throughout the supply and value chains may accelerate the electrification of Canada’s energy supply and support a wide

¹ Draft Technical Guide related to the SACC: [Guidance on quantification of net greenhouse gas \(GHG\) emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment](#) (August 2021)



range of Canadian industries, including across the electric vehicles value chain, information and communication technologies, and battery innovation and recycling, and may create new economic opportunities for communities and workers. However, in the short-to-medium term, additional mining and manufacturing activities along these supply and value chains could lead to incremental domestic GHG emissions, thus putting additional pressure on Canada's efforts to reach its 2030 and 2050 targets.

Any information provided in this Statement of Work should not be interpreted as a policy decision.

3 Objectives

ECCC is seeking qualitative and quantitative data on the **Best Available Technologies and Best Environmental Practices (BAT/BEP)**, including **emerging technologies** that are not yet commercially viable, for reducing the GHG emissions from Critical Mineral mining and processing projects in Canada and internationally that involve critical minerals used in electrification and battery production. The assessment must consider all critical mineral mining and processing project phases including, construction, operation, and decommissioning. The assessment must also evaluate potential scenarios outlining how future Critical Mineral mining and processing projects could minimize GHG emissions and achieve net-zero GHG emissions by 2050 or earlier.

4 Scope

To support the Government of Canada net-zero by 2050 goal, ECCC is seeking information on GHG emission reduction opportunities for future Critical Mineral mining and processing projects both in Canada and internationally that involve critical minerals used in electrification and battery production. In order to assess the GHG emissions associated with those projects, the scope of the assessment must include the following activities.

- Mineral exploration and extraction
- Mineral processing and refining
- Mine site development
- Mine site reclamation

The scope of the emissions to be included in this assessment (including the net-zero GHG emission scenarios) are the net GHG emissions (as defined in section 3 of the SACC) of the project, aligned with the project activities above. Downstream emissions, such as the transportation and end-use of the processed and refined minerals, are not included in scope.

5 Time horizon

In 2019, the Government of Canada announced a commitment for Canada to achieve net-zero emissions by 2050. As some Critical Mineral mining and processing projects will operate to 2050 and beyond, the Contractor must present analysis and projections of technology development from present up to 2050 to allow ECCC to understand how the BAT/BEP, including emerging technologies, can transition the sector to a net-zero economy and contribute to Canada fulfilling this commitment. This will also allow ECCC to understand how technologies and practices could be phased in during the project lifetime, including how they could be implemented during periods of project maintenance and facility upgrades.



6 TASKS

Throughout each task outlined below, the Contractor should seek out input and feedback on technologies and practices from a wide range of resources including industry stakeholders, Critical Mineral facility operators, equipment manufacturers, and academic scholars to gain insights on the BAT/BEP, including emerging technologies, from both Canadian and global sources. This can be done through various means of communications, which could include surveys, interviews, or other engagement options. Technologies that could lead to important GHG emission reductions but require financial incentives for the commercialization phase must be included in the analysis.

The Contractor must carry out the following tasks:

6.1 Task 1: Provide an overview of GHG emissions and GHG emission reduction technologies and practices used in certain Critical Minerals mining and processing projects

In a draft report, the Contractor must perform the following tasks:

- 6.1.1 The Contractor must identify which Critical Minerals are used in electrification and battery production, providing sources to justify the selection. The Technical Authority will approve the selected Critical Minerals for further study. Those selected Critical Minerals will be the focus for the remainder of the study, including in the identification of Critical Mineral projects and evaluation of technologies and practices.
- 6.1.2 The Contractor must evaluate and discuss the current status of Critical Mineral extraction and processing in Canada and internationally, which must include an exhaustive inventory of existing projects (including project start date, years in operation, and capacity) as well as projects under development and planned. The Contractor must evaluate Canada's import and export of unrefined critical minerals, including a breakdown of the quantities, types of critical minerals, and countries of origin/destination.
- 6.1.3 The Contractor must conduct a review of public information sources in order to provide a **quantitative** overview of GHG emission sources and emission levels (absolute emissions and emissions intensities) during construction, operation, and decommissioning of Critical Mineral mining and processing projects and outline recent trends. The Contractor must provide a description of the current technologies and practices to establish a "business-as-usual" baseline and describe the main variables driving GHG emission levels.
- 6.1.4 A preliminary list for approval of **all technologies and practices, including emerging technologies**, for reducing direct GHG emissions from future Critical Mineral mining and processing projects in Canada and internationally, considering all the phases of project including construction, operation, and decommissioning. The technologies and practices include those that are commercially deployed and available in the current Critical Mineral sector and emerging technologies and practices pursuing commercialization in the future to support further reduction of GHG emissions from Critical Mineral facilities. Once the list is approved by the Technical Authority, a **general** description of each technology and practice must be provided.



- 6.1.5 Where relevant or available, the Contractor must provide a breakdown of quantitative figures providing calculations or references and justifying their methodology. Technologies and practices should be categorized by equipment, project phase, facility size, capacity and/or fuel type/technology, as appropriate.
- 6.1.6 After submission of the Task 1 draft report and review by the Technical Authority, the Contractor must review the comments of the Technical Authority and provide an updated version as part of Task 6.2.5 in a combined report with the Task 2 draft report, with comments addressed for review, feedback, and acceptance.
- 6.1.7 The Contractor must use this work as a foundation for Task 2.

6.2 Task 2: Evaluation of Technologies and Practices in the Critical Mineral sector and Case Studies

Using the Task 1 report, the Contractor must provide the following:

- 6.2.1 For each technology and practice identified in Task 1, including emerging technologies and practices, a **quantitative** assessment report of the GHG emission intensity or emission reduction potential associated and a **qualitative and quantitative** description of:
 - 6.2.1.1 the associated costs (capital and operating as a minimum);
 - 6.2.1.2 the technical considerations, if any;
 - 6.2.1.3 the effect on the environment, such as black carbon emissions;
 - 6.2.1.4 a description of other factors that influence the effectiveness of the technology/practice, including but not limited to project location, mineral deposit, and site geology; and
 - 6.2.1.5 for emerging technologies, a commercialization timeline, including a description of their current development stage, the Technology Readiness Level if applicable, and an assessment on their potential to be incorporated, or phased in over time, into the Critical Mineral sector. The Contractor must evaluate the drivers, any barriers and technology limitations, and outline potential mechanisms to overcome such barriers for each emerging technology (e.g. challenges and limitations such as use in northern and remote communities).
- 6.2.2 The Contractor must provide a preliminary outline report of the above for approval by the Technical Authority of the information and analysis to be included with an overview of the approach to be used for the technical and economic assessment as well as how additional considerations, such as environmental impacts, will be included. This will allow ECCC to understand the importance of these considerations and the scenarios where they could apply, such as the impact of project location (North/South of 60 degrees latitude).



- 6.2.3 Where relevant or available, the Contractor must provide a breakdown of quantitative figures, providing calculations or references and justifying their methodology. Technologies and practices should be categorized by equipment, project phase, facility size, capacity and/or fuel type/technology, as appropriate.
- 6.2.4 The Contractor must provide at least three **(3) case studies** of representative Critical Mineral mining and processing projects, where the projects integrated a variety of technologies and practices to mitigate GHG emissions. Case studies will be selected through discussion between the Contractor and the Technical Authority. Case studies must include a description of:
- 6.2.4.1 the resulting facility GHG emission intensity, where available;
 - 6.2.4.2 the associated costs (capital and operating as a minimum);
 - 6.2.4.3 the technical considerations, if any;
 - 6.2.4.4 the environmental considerations, if any;
 - 6.2.4.5 a description of the drivers and barriers to the implementation in the context of the Canadian Critical Mineral sector.
- 6.2.5 The Contractor must combine the Task 1 draft report and Task 2 draft report and submit to the Technical Authority for review. The Contractor must review the comments of the Technical Authority and provide an updated version with comments addressed for review, feedback, and acceptance.

6.3 Task 3: Identifying BAT/BEPs for achieving net-zero emissions by 2050 through hypothetical scenarios

Using the Task 2 report, the Contractor must provide the following:

- 6.3.1 A **qualitative and quantitative** assessment report of the BAT/BEPs that can be implemented for Critical Mineral mining and processing projects to reach net-zero emissions by 2050. This assessment must include, at a minimum, reference to the information provided in the assessment completed in Task 2.
- 6.3.2 The Contractor must also investigate the interactions of various technologies and practices by highlighting the potential for combining technologies along with the associated GHG reduction potential.
- 6.3.3 The Contractor must develop **two hypothetical net-zero scenarios** of new Critical Mineral mining and processing projects that would undergo an impact assessment as outlined under the *Impact Assessment Act*. These scenarios will provide a plan demonstrating how each project will achieve net-zero emissions by 2050 by incorporating BAT/BEP, emerging



technologies, and other mitigation measures (such as offset measures (as defined in section 2.1.4 of the draft Technical Guide²)). The Contractor should follow section 5.3 of the SACC and section 3.5 of the draft Technical Guide and the detailed requirements therein. The proposed scenarios, including a summary of the methodology that will be used for the analysis, will be selected through discussion between the Contractor and the Technical Authority. Each scenario must include, at a minimum:

- 6.3.3.1 A description of the project and project activities, as described in Section 4 of this document;
 - 6.3.3.2 A net-zero plan that provides a detailed qualitative and quantitative description of BAT/BEP, emerging technologies and other offset measures, following the process in the draft Technical Guide. This should include, but not limited to, GHG reduction potential and efficiency of each technology;
 - 6.3.3.3 A detailed analysis describing barriers (technology and economic limitations, etc.), market structure, market demand, future critical mineral pricing and any other relevant aspect that could influence this scenario to achieve the net-zero emissions; and
 - 6.3.3.4 A description of possible supportive actions by the Government of Canada, if any, that could contribute to achieve net-zero emissions from this scenario.
- 6.3.4 After submission of the draft report and review by the Technical Authority, the Contractor must review the comments of the Technical Authority and provide an updated version with comments addressed for review, feedback, and acceptance.

6.4 Task 4: Reporting and presentation

- 6.4.1 The Contractor must combine the draft reports into a draft final report, with an executive summary, relevant Appendices, and a concluding report with recommendations for future work. After addressing comments from the Technical Authority, the Contractor must produce a final report and a summary MS PowerPoint deck for live presentation to Government of Canada staff.

6.5 Supplementary requirements

- 6.5.1 Completion of each task will be determined by the Technical Authority with the deliverables subject to the acceptance and/or approval of the Technical Authority.
- 6.5.2 ECCC reserves the right to have the collected data and the reports reviewed, in a confidential manner, by a third party expert and/or industry consultants. The Contractor must, where valid and reasonable, incorporate their recommendations, comments and views on all the deliverables.

² Draft Technical Guide related to the SACC: [*Guidance on quantification of net greenhouse gas \(GHG\) emissions, impact on carbon sinks, mitigation measures, net-zero plan and upstream GHG assessment \(August 2021\)*](#)



- 6.5.3 On the written request from the Project Authority, the Contractor must provide and present technical data in tables and graphs.
- 6.5.4 The Contractor must cite all relevant sources of information.
- 6.5.5 All reports (either in draft or final form) must be submitted in a Microsoft Office format for Windows, version 2007 or later.
- 6.5.6 All supporting and underlying data (raw data) must be provided in Microsoft Excel format (version 2007 or later). Data must be properly organized, referenced and sourced. The credibility of reference material should be considered, with third party peer reviewed literature given greater reliance. If estimates and assumptions are used, they must be clearly identified and justified. Spreadsheet design and documentation should enable modification and replication of results by the Technical Authority.

7 Deliverables

The proposed timelines for each deliverable in the table below may be modified with the Technical Authority’s approval. The Contractor must allow at least two weeks for ECCC to review draft deliverables and should plan for a minimum of a week to address ECCC comments for each deliverable.

DELIVERABLE		DEADLINES
7.1	Task 1: Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and processing projects	
7.1.1	Preliminary list of technologies and practices for reducing direct GHG emissions from Critical Mineral mining and processing projects in Canada and internationally	2 weeks after contract signature
7.1.2	Draft report: Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and processing projects	4 weeks after completion of 7.1.1
7.2	Task 2: Evaluation of Technologies and Practices in the Critical Mineral sector	
7.2.1	Overview of the approach to be used for the technical, economic and additional considerations assessment	2 weeks after completion of 7.1.2
7.2.2	Draft reports:	6 weeks after completion of 7.2.1
	7.2.2.1 Evaluation of Technologies and Practices in the current Critical Mineral sector in Canada and internationally	
	7.2.2.2 BAT/BEP Case Studies	
7.2.3	Revised draft reports:	4 weeks after completion of 7.2.2
	7.2.3.1 Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and	



<p>processing projects (7.1.2).</p> <p>7.2.3.2 Evaluation of Technologies and Practices in the current Critical Mineral sector in Canada and internationally</p> <p>7.2.3.3 BAT/BEP Case Studies</p>	
<p>7.3 Task 3: Identifying BAT/BEPs for achieving net-zero emissions by 2050</p>	
<p>7.3.1 Draft reports:</p> <p>7.3.1.1 BAT/BEPs for Achieving Net-zero Emissions by 2050</p> <p>7.3.1.2 Scenario Evaluation: Net-zero GHG Emissions by 2050 for Critical Mineral mining and processing projects</p>	<p>8 weeks after completion of 7.2.3</p>
<p>7.3.2 Revised draft reports:</p> <p>7.3.2.1 BAT/BEPs for Achieving Net-zero Emissions by 2050</p> <p>7.3.2.2 Scenario Evaluation: Net-zero GHG Emissions by 2050 for Critical Mineral mining and processing projects</p>	<p>5 weeks after completion of 7.3.1</p>
<p>7.4 Task 4: Report</p>	
<p>7.4.1 Complete draft report, based off 7.2.3 and 7.3.2</p>	<p>4 weeks after completion of 7.3.2</p>
<p>7.4.2 Summary presentation and delivery of the presentation</p>	<p>5 weeks after completion of 7.4.1</p>
<p>7.4.3 Final report</p>	<p>5 weeks after completion of 7.4.1</p>

7.5 All deliverables must be provided in the required electronic format and submitted to the Technical Authority. The Contractor must provide to the Technical Authority electronic copies of all background documents (including reports, papers, notes, text, graphics, surveys, raw data, and spreadsheets) used for the delivery of this Contract.

7.6 Reports and correspondence generated by the Contractor during the course of this project must be in English, be double-sided, using Microsoft Word, Microsoft Excel and Microsoft Power Point for Windows for presentations and other graphics.

7.7 Materials should be developed in a reader- and user-friendly format targeted toward an audience with a wide range of experience, education, and varying knowledge of the sector and its processes. It is recommended that an effective use of textual and visual (e.g., schematics) formats be incorporated within the report. Gaps in information and uncertainties (where they exist) must be identified throughout the report if significant.



7.8 Structure of final report deliverables

7.8.1 The report must include an executive summary and, as required, appendices, to address the issues and questions introduced in the Statement of Work, as well as any other items raised during discussions between the Contractor and the Technical Authority. The Contractor may, subject to the approval of the Technical Authority, change the suggested order of the final report from that implied by the Statement of Work.

7.8.2 Where appropriate and available, uncertainties must be identified, their sources explained and a range of high/low values or an appropriately justified data distribution must be provided. All the sources of information must be documented.

8 Acceptance criteria

All deliverables, and successful completion of the project, are subject to approval by the Technical Authority.

9 Communication

To assist with coordination of this project, the Contractor must communicate bi-weekly by email and/or by telephone with the Technical Authority with updates on the project. The Contractor must describe briefly the status of each deliverables and any deviation from the work plan or the timelines in the proposal. Any changes to the schedule must be justified and accompanied with a solution that takes into account remaining timelines.

10 Travel

Travel is not required for this project.

11 Security

There is no security clearance required for this project.

12 Work location

The work will be performed at the Contractor's site.



ANNEX "B"

BASIS OF PAYMENT

Milestone No.	Deliverable	Percentage of the firm price under sub-section 6.7.1	Amount
1	After receiving the deliverables under 7.1.2 of the SOW	17.5 %	\$ <i>(ECCC to insert at contract award)</i>
2	After receiving the deliverables under 7.2.3 of the SOW	45.0 %	\$ <i>(ECCC to insert at contract award)</i>
3	After receiving the deliverables under 7.3.2 of the SOW	30.0 %	\$ <i>(ECCC to insert at contract award)</i>
4	After receiving the deliverables under 7.4.3 of the SOW	7.5 %	\$ <i>(ECCC to insert at contract award)</i>



ANNEX “C”

SCHEDULE OF MILESTONES

DELIVERABLE		DEADLINES	MILESTONE No.
7.1 Task 1: Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and processing projects			
7.1.1	Preliminary list of technologies and practices for reducing direct GHG emissions from Critical Mineral mining and processing projects in Canada and internationally	2 weeks after contract signature	1
7.1.2	Draft report: Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and processing projects	4 weeks after completion of 7.1.1	
7.2 Task 2: Evaluation of Technologies and Practices in the Critical Mineral sector			
7.2.1	Overview of the approach to be used for the technical, economic and additional considerations assessment	2 weeks after completion of 7.1.2	2
7.2.2	Draft reports:	6 weeks after completion of 7.2.1	
7.2.2.1	Evaluation of Technologies and Practices in the current Critical Mineral sector in Canada and internationally		
7.2.2.2	BAT/BEP Case Studies		
7.2.3	Revised draft reports:	4 weeks after completion of 7.2.2	
7.2.3.1	Overview of GHG emissions and GHG emission reduction technologies and practices used in Critical Mineral mining and processing projects (7.1.2).		
7.2.3.1	Evaluation of Technologies and Practices in the current Critical Mineral sector in Canada and internationally		
7.2.3.2	BAT/BEP Case Studies		



DELIVERABLE		DEADLINES	MILESTONE No.
7.3 Task 3: Identifying BAT/BEPs for achieving net-zero emissions by 2050			
7.3.1	Draft reports: 7.3.1.1 BAT/BEPs for Achieving Net-zero Emissions by 2050 7.3.1.2 Scenario Evaluation: Net-zero GHG Emissions by 2050 for Critical Mineral mining and processing projects	8 weeks after completion of 7.2.3	3
7.3.2	Revised draft reports: 7.3.2.1 BAT/BEPs for Achieving Net-zero Emissions by 2050 7.3.2.2 Scenario Evaluation: Net-zero GHG Emissions by 2050 for Critical Mineral mining and processing projects	5 weeks after completion of 7.3.1	
7.4 Task 4: Report			
7.4.1	Complete draft report, based off 7.2.3 and 7.3.2	4 weeks after completion of 7.3.2	4
7.4.2	Summary presentation and delivery of the presentation	5 weeks after completion of 7.4.1	
7.4.3	Final report	5 weeks after completion of 7.4.1	