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	<p><b>ECCC Bid Solicitation No. /SAP No. – N° de la demande de soumissions ECCC / N° SAP</b></p>	
	<p>500070130</p>	
	<p><b>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)</b></p>	
	<p>2023-03-21</p>	
	<p><b>Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)</b></p>	<p><b>Time Zone – Fuseau horaire</b></p>
	<p>at – à 2:00 P.M / 14H00</p>	<p>Eastern Daylight Time (EDT)</p>
	<p>on – le 2023-05-22</p>	
	<p>F.O.B – F.A.B See herein</p>	
	<p><b>Address Enquiries to - Adresser toutes questions à</b> Michel Lariviere at <a href="mailto:michel.lariviere@ec.gc.ca">michel.lariviere@ec.gc.ca</a></p>	
	<p><b>Delivery Required - Livraison exigée</b> See herein</p>	
	<p><b>Destination of Services / Destination des services</b> See herein</p>	
	<p><b>Security / Sécurité</b> There are no security requirements associated with this solicitation</p>	
	<p><b>Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l'entrepreneur</b></p>	
<p><b>Telephone No. – N° de téléphone</b></p>	<p><b>Fax No. – N° de Fax</b></p>	
<p><b>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)</b></p>		
<p><b>Signature</b></p>	<p><b>Date</b></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 (ECCC) requires the **assessment of the greenhouse gas emissions generated from the various stages in the life cycle of light-duty vehicles from cradle to grave. This work will support the general understanding of the emissions associated with different propulsion types of vehicles** 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 not subject of the Trade Agreements.

### **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 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 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

- (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 must be submitted ONLY to the following email address:

Email Address: [soumissionsbids@ec.gc.ca](mailto:soumissionsbids@ec.gc.ca)

Attention: Michel Larivière

Solicitation Number: 5000070130

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 Leader	<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>				
<b>TOTAL EVALUATED BID PRICE</b> (The sum of all Total in Column C)				\$ <BIDDER TO COMPLETE>
<b>APPLICABLE TAXES</b> (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 **\$80,000.00 (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 **46 points** overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of **66 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 70/30 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$500,000.

<b>Basis of Selection - Highest Combined Rating of Technical Merit (70%) and Price (30%)</b>				
		<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>
<b>Overall Technical Score</b>		116/135	118/135	114/135
<b>Bid Evaluated Price</b>		\$600,000.00	\$550,000.00	\$500,000.00
<b>Calculations</b>	<b>Technical Merit Score</b>	$116/135 \times 70 = 60.15$	$118/135 \times 70 = 61.19$	$114/135 \times 70 = 59.11$
	<b>Pricing Score</b>	$50/60 \times 30 = 25.00$	$50/55 \times 30 = 27.27$	$50/50 \times 30 = 30.00$
<b>Combined Rating</b>		85.15	88.46	89.11
<b>Overall Rating</b>		3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>



### 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
<b>M1</b>	<p>The Bidder must propose one (1) Project Leader with three (3) years of experience in leading a project, within the last five (5) years from bid closing date,</p> <p>The bidder must provide project descriptions and each project must have a minimum duration of three (3) months.</p> <p>Each project description should include the following:</p> <ul style="list-style-type: none"> <li>a. Name of client organization</li> <li>b. Contract number and project title</li> <li>c. Client contact name and phone number and/or email address</li> <li>d. Resource category and level (if applicable)</li> <li>e. Resource's role and responsibilities</li> <li>f. Start and end date (month-year format)</li> <li>g. Brief project description</li> </ul>		
<b>M2</b>	<p>The Bidder must provide a listing - of the project team members that will be performing the work. The listing must include the following information:</p> <ul style="list-style-type: none"> <li>I. First and last name of each of the project team members;</li> <li>II. A detailed résumé for EACH of the project team members; and</li> <li>III. A description of the roles and responsibilities of each project team members</li> </ul>		



### 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><b>BIDDER EXPERIENCE</b></p> <p>The Bidder experience in life-cycle analysis (LCA) of GHG emissions within the last 10 years of bid closing date.</p> <p>The bidder should provide project descriptions and each project should have a minimum duration of three (3) months.</p> <p>Each project description should include the following:</p> <ul style="list-style-type: none"> <li>a. Name of client organization</li> <li>b. Contract number and project title</li> <li>c. Client contact name and phone number and/or email address</li> <li>d. Role and responsibilities</li> <li>e. Start and end date (month-year format)</li> <li>f. Brief project description</li> </ul> <p><b>Points Allocation:</b></p> <ul style="list-style-type: none"> <li>1 project = 2 pts</li> <li>2 projects = 4 pts</li> <li>3 projects = 6 pts</li> <li>4 projects = 8 pts</li> <li>5 projects = 10 pts</li> </ul> <p><b>Maximum points = 10 points</b></p>		
R2	<p><b>PROJECT LEADER EXPERIENCE</b></p> <p>The proposed Project Leader experience in greenhouse gas emissions from the transportation sector.</p> <p>The Bidder should provide project descriptions and each project must have a minimum duration of three (3) months.</p> <p>Each project description should include the following:</p> <ul style="list-style-type: none"> <li>a. Name of client organization</li> <li>b. Contract number and project title</li> <li>c. Client contact name and phone number and/or email address</li> <li>d. Resource category and level (if applicable)</li> <li>e. Resource's role and responsibilities</li> <li>f. Start and end date (month-year format)</li> </ul>		



Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
	<p>g. Brief project description</p> <p><b>Points Allocation:</b></p> <p>1 project = 5 pts  2 projects = 10 pts  3 projects = 15 pts  4 projects = 20 pts  5 projects = 25 pts</p> <p>2 additional points if one of the projects was related to Light - Duty Vehicles (LDV)</p> <p><b>Maximum points = 27 points</b></p>		
R3	<p><b>PROJECT LEADER QUALIFICATIONS</b></p> <p>The Bidder should demonstrate, using project descriptions, the proposed Project Leader experience in managing or supervising a team in the delivery of projects in:</p> <p>1) one or more of the following categories:  (a) data collection and analysis, or  (b) life cycle analysis, preferably related to the transportation sector</p> <p><b>AND</b></p> <p>2) one or more of the following fields:  (i) GHG emissions related to the transportation sector, or  (ii) Fuel and energy consumption related to the transportation sector</p> <p>For each project cited, the reference should include the following information:</p> <p>a. Client Organization  b. Project Name (if applicable)  c. Brief Project Description and Summary of Duties  d. Client Contact Name and phone number and/or email address  e. Position title (if applicable)  f. Duration (mm-yyyy to mm-yyyy)</p> <p><b>Points Allocation:</b></p> <p>1 project = 2 pts  2 projects = 4 pts  3 projects = 6 pts  4 projects = 8 pts  5 projects = 10 pts</p> <p>2 additional points if one of the projects was related to Light - Duty Vehicles (LDV)</p> <p><b>Maximum points = 12 points</b></p>		





Criteria #	Rated Criteria	Points Awarded	Cross Reference to Proposal
R4	<p><b>PROJECT TEAM EXPERIENCE</b></p> <p>The Bidder's proposal demonstrating each proposed team members listed in M2 that has experience in the research and data analysis for all of the following three (3) subject areas:</p> <ul style="list-style-type: none"> <li>a. Canadian automotive sector, and</li> <li>b. On-road GHG emissions from different type of technologies, and</li> <li>c. GHG emissions from Fuel and energy consumption of on-road transportation</li> </ul> <p>For each project listed, the Bidder should provide:</p> <ul style="list-style-type: none"> <li>a. Name of the project team member</li> <li>b. Name of client organization (or description of client organization if name cannot be disclosed due to confidentiality, such as, automakers, ENGO, etc)</li> <li>c. Client Contact Name and phone number and/or email address</li> <li>d. Project description/scope of the work performed</li> <li>e. Role and contribution of the project team member(s)</li> </ul> <p><b>Points Allocation:</b></p> <ul style="list-style-type: none"> <li>1 project – 3 pts</li> <li>2 projects – 6 pts</li> <li>3 projects – 9 pts</li> <li>4 projects – 12 pts</li> <li>5 projects – 15 pts</li> </ul> <p>2 additional points if one of the projects was related to Light - Duty Vehicles (LDV)</p> <p><b>Maximum points = 17 points</b></p>		
<p><b>Total Maximum Points Available (R1+R2+R3+R4): 66 points</b>  <b>Minimum Passing Mark Required (R1+R2+R3+R4): 46 points</b></p>		<p><b>Total Points Awarded</b></p>	



## **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 Method of Payment**

### **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 Invoicing Instructions**

6.9.1 The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

6.9.2 Invoices must be distributed as follows:

The original and one (1) copy must be forwarded to the address shown under the title "Invoices / Factures" of page 1 of the Contract for certification and payment.

## **6.10 Certifications and Additional Information**

### **6.10.1 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.

### **6.11 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*)

### **6.12 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)).*

### 6.13 Insurance

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

### 6.14 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

Life-cycle analysis of the GHG emissions from light-duty vehicles by province in Canada.

#### 2 Background

In the 2030 Enhanced Climate Plan, Canada stated its intention to achieve an emissions reduction target of 40 to 45% below 2005 levels by 2030 and put us on a path to achieve net-zero emissions by 2050. Achieving this requires Canada to address light-duty vehicle transportation emissions, which comprise about 7% of Canada’s annual emissions on their own. As part of this effort, the Government of Canada announced a mandatory target for all new passenger car and light-duty truck sales to be zero-emission by 2035, accelerating from Canada’s previous goal of 100 percent sales by 2040. Since making that commitment, electric car sales have risen in Canada and abroad, following similar global efforts to achieve air quality and climate change targets.

As part of its regulatory work to reduce greenhouse gas emissions in the transportation sector, Environment and Climate Change Canada (ECCC) is seeking to conduct a life-cycle analysis (LCA) of the GHG emissions from light-duty vehicles from internal combustion engine and zero-emissions vehicles in order to measure the net GHG emissions reduction to shift to electric vehicles. The various stages in the life cycle include vehicle manufacturing, operation, and vehicle after-life management. Vehicle production involves the material procurement, processing and manufacturing phase. The operational cycle includes fuel production (petroleum or electricity based on the vehicle) and fuel consumption in the vehicle. Vehicle after-life management includes vehicle and powertrain disposal, reuse, and recycling, including recycling of batteries (in the case of electric vehicles).

#### 3 Objectives

ECCC needs to assess the greenhouse gas emissions generated from the various stages in the life cycle of light-duty vehicles from cradle to grave. This work will support the general understanding of the emissions associated with different propulsion types of vehicles.

#### 4 Scope

The work consist of conducting a LCA of the GHG emissions from light-duty vehicles by province and territory in Canada and must follow ISO standards.

#### 5 Terminology

- 5.1 ICE – Internal Combustion Engine, referring to a vehicle whose sole source of propulsion involves combusting a non-renewable fuel source, resulting in the emission of carbon dioxide and criteria air pollutants during operation (this includes conventional hybrids that cannot be charged by an external power source).
- 5.2 LDV – Light-Duty Vehicle, referring to any automobile classified as a passenger automobile or a light truck under the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations.



- 5.3 Propulsion type refers to the component(s) of the vehicle responsible for providing the energy to move the vehicle, including:
  - 5.3.1 Internal combustion engines
  - 5.3.2 Rechargeable electric batteries
  - 5.3.3 Internal combustion engines + Rechargeable electric batteries
  - 5.3.4 Fuel cells
  
- 5.4 Segment refers to the market category in which a particular vehicle is classified as per Wards Automotive, which consists of:
  - 5.4.1 Passenger cars (PC)
  - 5.4.2 Crossovers (CUV)
  - 5.4.3 Sport utility vehicles (SUV)
  - 5.4.4 Light-duty trucks (LDT)
  
- 5.5 ZEV – a Zero Emission Vehicle, referring to a vehicle that is capable of operating on a fully electric power source for at least part of its operation, including:
  - 5.5.1 BEV – Battery Electric Vehicles, referring to vehicles powered solely by a rechargeable electric battery
  - 5.5.2 PHEV– Plug-in Hybrid Electric Vehicles, referring to vehicles possessing both an ICE and a rechargeable electric battery, both of which are capable of propelling the vehicle either in tandem or separately
  - 5.5.3 Fuel Cell Vehicle, or any vehicle powered by electricity produced by an internal hydrogen fuel cell and fueled by hydrogen fuel

## 6 TASKS

The life-cycle analysis is broken into five (5) tasks based on today's light-duty vehicles registered in Canada:

- 6.1 Task A: The Contractor will provide a methodology proposal including data sources and analytical approaches to conduct the LCA and any analytic work before the kick-off meeting. In a kick-off meeting, the Project Authority and the Contractor will mutually agree upon the methodology, key elements and data used in assessing the LCA for vehicle and fuel cycles. In addition, the Contractor must follow *ISO 14040:2006 Environmental management — Life cycle assessment — Principles and framework*.
  
- 6.2 Task B1: To evaluate and assess the energy use and GHG emissions for ICE, PHEV, BEV and FCV segment and propulsion types at each stage of the vehicle cycle (from raw material extraction to end of life disposal and recycling) including battery manufacturing.
  
- 6.3 Task B2: To evaluate and assess the GHG emissions from fuel and energy consumptions to operate ICE, ZEVs (including BEV, PHEV and FCV) segment and propulsion types at each stage of the fuel cycle (from raw material extraction to vehicle operation) by province and territory in Canada.
  
- 6.4 Task B3: To assess the net GHG emissions reduction while considering both GHG emissions associated with the vehicle and fuel cycle for each segment and propulsion types and by province and territory.
  
- 6.5 Task C: Present the final reporting containing the key findings for the LCA of vehicle, fuel cycles and the net GHG emission reductions along with the final datasets and recommendations.





## 7 Deliverables & Schedule

The contractor shall submit each of the following deliverables to the Project Authority according to the below table schedule.

The proposed timelines for each deliverable in the table below may be modified with the Project 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.

DELIVERABLES	DEADLINES (subject to change upon awarding of the contract)
<b>7.1 Deliverable 1: LCA Methodology Approach – The Project Plan</b>	
<p>The Contractor will provide a methodology proposal including all of the information outlined under section 6.1, Task A related to the gathering of information and provide at minimum:</p> <p>7.1.1 A general overview of LCA principles, an overview of methodologies and approaches to LCA that have been peer-reviewed and published in relevant technical journals; and an overview of and rationale for the approach that will be taken under this contract.</p> <p>7.1.2 A list of all of the life cycle stages considered for the vehicle cycle, including, at a minimum:</p> <ul style="list-style-type: none"> <li>7.1.2.1 Raw material extraction;</li> <li>7.1.2.2 Material processing and fabrication;</li> <li>7.1.2.3 Vehicle component production;</li> <li>7.1.2.4 Vehicle assembly;</li> <li>7.1.2.5 Disposal and recycling, including reuse.</li> </ul> <p>7.1.3 A list of all of the life cycle stages considered for the fuel cycle, including, at a minimum:</p> <ul style="list-style-type: none"> <li>7.1.3.1 Fuel extraction and mining;</li> <li>7.1.3.2 Fuel refinement and processing;</li> <li>7.1.3.3 Fuel distribution;</li> <li>7.1.3.4 Fuel/energy consumption during vehicle operation.</li> </ul> <p>7.1.4 The sources of information used in this project, including:</p> <ul style="list-style-type: none"> <li>7.1.4.1 Any data sources (public or commercial);</li> <li>7.1.4.2 Modelling software or simulation tools;</li> <li>7.1.4.3 Scientific papers used to support the assumptions (such as emissions factors or emissions intensity values).</li> </ul>	<p>3 weeks after contract award</p>



<b>7.2 Deliverable 2: LCA of Vehicle Cycle GHG Emissions – Draft Dataset</b>	
<p>7.2.1 The contractor will determine and assess the energy use and the GHG emissions for each life cycle stage identified under 7.1.2 of Deliverable 1. The contractor will perform this analysis for an ICE and ZEVs for each segment listed under 7.1.1 of Deliverable 1. In the case of the ZEVs, the Contractor will also provide an estimate for each life cycle stage detailing what share of the emission and energy use comes from the vehicle's battery.</p> <p>7.2.2 The contractor will provide all of the assumptions used to assess LCA of the GHG emissions for the vehicle cycle including but not limited to:</p> <p style="margin-left: 20px;">7.2.2.1 The battery chemistry for each vehicle type (ICE, and ZEVs)</p> <p style="margin-left: 20px;">7.2.2.2 The vehicle characteristics for each segment and propulsion type including:</p> <p style="margin-left: 40px;">7.2.2.2.1 The average weight (Equivalent Test Weight (ETW), Gross Vehicle Weight Rating (GVWR), or Curb Weight)</p> <p style="margin-left: 40px;">7.2.2.2.2 The average dimensions (length, width, height)</p> <p style="margin-left: 40px;">7.2.2.2.3 The vehicle lifetime</p> <p style="margin-left: 40px;">7.2.2.2.4 Other relevant parameters</p> <p>7.2.3 The contractor will provide a summary of these findings. It should include graphs that show GHG emissions at each stage of the vehicle cycle by segmentation and by propulsion type and identify the key differences between ICE and ZEVs that contributes to higher overall GHG emissions.</p>	<p>9 weeks after contract award</p>
<b>7.3 Deliverable 3: LCA of Fuel Cycle GHG Emissions – Draft Dataset</b>	
<p>7.3.1 The contractor will determine and assess the energy use and the GHG emissions for each life cycle stage identified under 7.1.3 of Deliverable 1. The contractor will perform this analysis for an ICE and ZEVs for each segment listed under 7.1.1 of Deliverable 1, as well as by province.</p> <p>7.3.2 The contractor will provide all of the assumptions used to assess LCA of the GHG emissions for the fuel cycle including but not limited to:</p> <p style="margin-left: 20px;">7.3.2.1 The type of fossil fuel used by the ICE vehicles.</p> <p style="margin-left: 20px;">7.3.2.2 For each province and territory, the fuel mix used to produce electricity for the BEVs and PHEVs, as well as the grid carbon intensity.</p> <p style="margin-left: 20px;">7.3.2.3 The average range of each vehicle. This must be</p>	<p>13 weeks after ECCC provided comments and agreed upon under 7.2</p>



<p>based on the most available models for each segment sold in Canadian market in 2022.</p> <p>7.3.2.4 For the PHEV vehicle, the average usage between its internal combustion engine and its battery, as established by relevant test cycles. The test cycles must be referenced in the report.</p> <p>7.3.2.5 The average distance travel during each vehicle segment lifetime.</p> <p>7.3.2.6 A qualitative life-cycle analysis on FCV based on available data and literature.</p> <p>7.3.3 The contractor will provide a summary of these findings. It must include graphs that show GHG emissions at each stage of the fuel cycle by segmentation and by propulsion types and identify the key differences between ICE, PHEV and ZEVs that contributes to higher overall GHG emissions.</p>	
<b>7.4 Deliverable 4: Net GHG Emissions Reduction – Draft of Final Report</b>	
<p>7.4.1 The Contractor will determine the change in GHG emissions between ICE and ZEVs by segment and by province/territory in Canada.</p> <p>7.4.2 Where appropriate and feasible, the Contractor will conduct a sensitivity analysis on the emissions and energy use associated with the battery manufacturing if battery chemistry were to change.</p> <p>7.4.3 The Contractor will provide a brief overview and assessment of emerging technologies, processes, and other innovations with the potential to significantly reducing emissions from vehicle and battery production.</p> <p>7.4.4 The Contractor will provide a draft dataset to the Project Authority containing all of the relevant data for review and comments under subsection 6.2 to 6.4 (Task B1 to B3) of section 6 Tasks. The Project Authority will provide any comments or issues identified in the draft and final dataset. The final dataset will contain all relevant data while also addressing any comments or issues the Project Authority identifies with the draft dataset.</p>	<p>17 weeks after ECCC provided comments under 7.3</p>
<b>7.5 Deliverable 5: Final Report</b>	
<p>7.5.1 Contractor will provide a final report summarizing:</p> <p>7.5.1.1 The key findings for both LCA of vehicle and fuel cycles.</p> <p>7.5.1.2 The conclusions revealed by the analysis conducted under subsection 6.2 to 6.4 (Tasks B1 to B3) of section 6.0 Tasks.</p> <p>7.5.1.3 The high-level findings and factors that will influence</p>	<p>20 weeks after ECCC provided comments and agreed under 7.4</p>



<p>the net GHG emissions associated with favoring ZEV instead of ICE for each province and territory.</p> <p>7.5.1.4 Strategies that would reduce the net GHG emissions associated with ZEV.</p> <p>7.5.1.5 Key information gaps left unanswered and recommendations for further research or action.</p> <p>7.5.2 The Contractor will provide a draft of this report to the Project Authority for review and comment. The Contractor will prepare a Final Report that will include all suggested revisions from the Project Authority in addition to all information required for the draft report. The Contractor will be required to summarize all results and findings of the Final Report in a PowerPoint presentation.</p>	
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### 8 Acceptance of the deliverables criteria

- 8.1 All deliverables, and successful completion of the project, are subject to approval by the Project Authority.
- 8.2 The contractor will submit each individual deliverable to the Project Authority by its associated deadline. The Project Authority must receive all deliverables no more than 20 weeks after the start of the contract, extending over two fiscal years.
- 8.3 All deliverables shall be submitted in electronic format (reports and data will be provided in Microsoft Office Suite Version 2016 or later) to the Project Authority for review and comment. In addition, the report will be provided to the Project Authority in "PDF" format.
- 8.4 All relevant datasets will be provided to the Project Authority in Microsoft Excel 2016 compatible format. Appropriate revisions will be made based on the input received from the Project Authority. The Project Authority may make use of the assistance of a project team during review and comment.
- 8.5 The work and associated deliverables must be provided in English.

### 9 Communication

To assist with coordination of this project, the Contractor must communicate bi-weekly by email and/or by telephone with the Project Authority with updates on the project. The Contractor must describe briefly the status of each deliverable 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

All travel related expenses incurred due to the completion of this project will be at the expense of the Contractor.

### 11 Security

There is no security clearance required for this project.



**ANNEX "B"**

**BASIS OF PAYMENT**

<b>Milestone No.</b>	<b>Deliverable</b>	<b>Percentage of the Firm Price</b>	<b>Amount</b>
1	After receiving the deliverables from 7.1 to 7.3 of the SOW	<b>50.0 %</b>	\$ <i>(ECCC to insert at contract award)</i>
2	After receiving the deliverables from 7.4 to 7.5 of the SOW	<b>50.0 %</b>	\$ <i>(ECCC to insert at contract award)</i>



**ANNEX “C”**

**SCHEDULE OF MILESTONES**

DELIVERABLE	DEADLINES	MILESTONE No.
<b>7.1 Deliverable 1: LCA Methodology Approach – The Project Plan</b>		<b>1</b>
<p>The Contractor will provide a methodology proposal including all of the information outlined under section 6.1, Task A related to the gathering of information and provide at minimum:</p> <p>7.1.1 A general overview of LCA principles, an overview of methodologies and approaches to LCA that have been peer-reviewed and published in relevant technical journals; and an overview of and rationale for the approach that will be taken under this contract.</p> <p>7.1.2 A list of all of the life cycle stages considered for the vehicle cycle, including, at a minimum:            7.1.2.1 Raw material extraction;            7.1.2.2 Material processing and fabrication;            7.1.2.3 Vehicle component production;            7.1.2.4 Vehicle assembly;            7.1.2.5 Disposal and recycling, including reuse.</p> <p>7.1.3 A list of all of the life cycle stages considered for the fuel cycle, including, at a minimum:            7.1.3.1 Fuel extraction and mining;            7.1.3.2 Fuel refinement and processing;            7.1.3.3 Fuel distribution;            7.1.3.4 Fuel/energy consumption during vehicle operation.</p> <p>7.1.4 The sources of information used in this project, including:            7.1.4.1 Any data sources (public or commercial);            7.1.4.2 Modelling software or simulation tools;            7.1.4.3 Scientific papers used to support the assumptions (such as emissions factors or emissions intensity values).</p>	3 weeks after contract award	
<b>7.2 Deliverable 2: LCA of Vehicle Cycle GHG Emissions – Draft Dataset</b>		
7.2.1 The contractor will determine and assess the energy use and the GHG emissions for each life cycle stage identified under 7.1.2 of Deliverable 1. The contractor will perform this analysis for an ICE and ZEVs for each	9 weeks after contract award	



DELIVERABLE	DEADLINES	MILESTONE No.
<p>segment listed under 7.1.1 of Deliverable 1. In the case of the ZEVs, the Contractor will also provide an estimate for each life cycle stage detailing what share of the emission and energy use comes from the vehicle's battery.</p> <p>7.2.2 The contractor will provide all of the assumptions used to assess LCA of the GHG emissions for the vehicle cycle including but not limited to:</p> <ul style="list-style-type: none"><li>7.2.2.1 The battery chemistry for each vehicle type (ICE, and ZEVs)</li><li>7.2.2.2 The vehicle characteristics for each segment and propulsion type including:<ul style="list-style-type: none"><li>7.2.2.2.1 The average weight (Equivalent Test Weight (ETW), Gross Vehicle Weight Rating (GVWR), or Curb Weight)</li><li>7.2.2.2.2 The average dimensions (length, width, height)</li><li>7.2.2.2.3 The vehicle lifetime</li><li>7.2.2.2.4 Other relevant parameters</li></ul></li></ul> <p>7.2.3 The contractor will provide a summary of these findings. It should include graphs that show GHG emissions at each stage of the vehicle cycle by segmentation and by propulsion type and identify the key differences between ICE and ZEVs that contributes to higher overall GHG emissions.</p>		



DELIVERABLE	DEADLINES	MILESTONE No.
<b>7.3 Deliverable 3: LCA of Fuel Cycle GHG Emissions – Draft Dataset</b>		
<p>7.3.1 The contractor will determine and assess the energy use and the GHG emissions for each life cycle stage identified under 7.1.3 of Deliverable 1. The contractor will perform this analysis for an ICE and ZEVs for each segment listed under 7.1.1 of Deliverable 1, as well as by province.</p> <p>7.3.2 The contractor will provide all of the assumptions used to assess LCA of the GHG emissions for the fuel cycle including but not limited to:</p> <p>7.3.2.1 The type of fossil fuel used by the ICE vehicles.</p> <p>7.3.2.2 For each province and territory, the fuel mix used to produce electricity for the BEVs and PHEVs, as well as the grid carbon intensity.</p> <p>7.3.2.3 The average range of each vehicle. This must be based on the most available models for each segment sold in Canadian market in 2022.</p> <p>7.3.2.4 For the PHEV vehicle, the average usage between its internal combustion engine and its battery, as established by relevant test cycles. The test cycles must be referenced in the report.</p> <p>7.3.2.5 The average distance travel during each vehicle segment lifetime.</p> <p>7.3.2.6 A qualitative life-cycle analysis on FCV based on available data and literature.</p> <p>7.3.3 The contractor will provide a summary of these findings. It must include graphs that show GHG emissions at each stage of the fuel cycle by segmentation and by propulsion types and identify the key differences between ICE, PHEV and ZEVs that contributes to higher overall GHG emissions.</p>	<p>13 weeks after ECCC provided comments and agreed upon under 7.2</p>	
<b>7.4 Deliverable 4: Net GHG Emissions Reduction – Draft of Final Report</b>		
<p>7.4.1 The Contractor will determine the change in GHG emissions between ICE and ZEVs by segment and by province/territory in Canada.</p> <p>7.4.2 Where appropriate and feasible, the Contractor will conduct a sensitivity analysis on the emissions and energy use associated with the battery manufacturing if battery chemistry were to change.</p>	<p>17 weeks after ECCC provided comments under 7.3</p>	<p><b>2</b></p>





DELIVERABLE	DEADLINES	MILESTONE No.
<p>7.4.3 The Contractor will provide a brief overview and assessment of emerging technologies, processes, and other innovations with the potential to significantly reducing emissions from vehicle and battery production.</p> <p>7.4.4 The Contractor will provide a draft dataset to the Project Authority containing all of the relevant data for review and comments under subsection 6.2 to 6.4 (Task B1 to B3) of section 6 Tasks. The Project Authority will provide any comments or issues identified in the draft and final dataset. The final dataset will contain all relevant data while also addressing any comments or issues the Project Authority identifies with the draft dataset.</p>		
<b>7.5 Deliverable 5: Final Report</b>		
<p>7.5.1 Contractor will provide a final report summarizing:</p> <p>7.5.1.1 The key findings for both LCA of vehicle and fuel cycles.</p> <p>7.5.1.2 The conclusions revealed by the analysis conducted under subsection 6.2 to 6.4 (Tasks B1 to B3) of section 6.0 Tasks.</p> <p>7.5.1.3 The high-level findings and factors that will influence the net GHG emissions associated with favoring ZEV instead of ICE for each province and territory.</p> <p>7.5.1.4 Strategies that would reduce the net GHG emissions associated with ZEV.</p> <p>7.5.1.5 Key information gaps left unanswered and recommendations for further research or action.</p> <p>7.5.2 The Contractor will provide a draft of this report to the Project Authority for review and comment. The Contractor will prepare a Final Report that will include all suggested revisions from the Project Authority in addition to all information required for the draft report. The Contractor will be required to summarize all results and findings of the Final Report in a PowerPoint presentation.</p>	<p>20 weeks after ECCC provided comments and agreed under 7.4</p>	