



<p><b>RETURN BIDS TO:</b> <b>RETOURNER LES SOUMISSIONS À:</b></p> <p><b>Mitchel.easey@canada.ca</b></p> <p><b>BID SOLICITATION</b> <b>DEMANDE DE SOUMISSIONS</b></p> <p><b>PROPOSAL TO: ENVIRONMENT CANADA</b></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><b>SOUMISSION À:</b> <b>ENVIRONNEMENT CANADA</b></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><b>Title – Titre</b> Characterization of Natural Gas, Natural Gas Liquids and Liquefied Petroleum Gas for the Purpose of Developing Annual Carbon Dioxide Emission Factors and the Collection of Fuel Properties</p>	
	<p><b>EC Bid Solicitation No. /SAP No. – N° de la demande de soumissions EC / N° SAP</b> 5000023340</p>	
	<p><b>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)</b> July 15, 2015</p>	
	<p><b>Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)</b></p> <p><b>at – à 2:00 P.M.</b> <b>on – le August 24, 2016</b></p>	<p><b>Time Zone – Fuseau horaire</b> EST</p>
	<p><b>F.O.B – F.A.B</b></p>	
	<p><b>Address Enquiries to - Adresser toutes questions à</b> Mitchel Easey Mitchel.easey@canada.ca</p>	
	<p><b>Telephone No. – N° de téléphone</b> 819-938-3816</p>	<p><b>Fax No. – N° de Fax</b></p>
	<p><b>Delivery Required (YEAR-MM-DD) – Livraison exigée (AAAA-MM-JJ)</b></p>	
	<p><b>Destination - of Services / Destination des services</b> 351 St-Joseph Blvd, Annex 5th floor, Gatineau, K1A 0H3</p>	
	<p><b>Security / Sécurité</b> There is no security requirement associated with this requirement.</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>	

## **TABLE OF CONTENTS**

### **PART 1 – INFORMATION**

1. Security Requirement
2. Statement of Work
3. Debriefings

### **PART 2 – BIDDER INSTRUCTIONS**

1. Standard Instructions, Clauses and Conditions
2. Submission of Bids
3. Former public servants – Competitive Bid
4. Enquiries – Bid Solicitation
5. Applicable Laws
6. Basis for Canada's Ownership of Intellectual Property
7. Integrity Provisions

### **PART 3 - BID PREPARATION INSTRUCTIONS**

1. Bid Preparation Instructions

### **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

1. Evaluation Procedures
2. Basis of Selection

### **PART 5 – CERTIFICATIONS**

1. Certifications Required Precedent to Contract Award

### **PART 6 - RESULTING CONTRACT CLAUSES**

1. Security Requirement
2. Statement of Work
3. Standard Clauses and Conditions
4. Term of Contract
5. Authorities
6. Proactive Disclosure of Contracts with Former Public Servants
7. Payment
8. Invoicing Instructions
9. Certifications
10. Applicable Laws
11. Priority of Documents

#### **List of Annexes:**

- Annex A Statement of Work  
Annex B Basis of Payment

## **PART 1 – GENERAL INFORMATION**

### **1. Security Requirement**

1.1 There is no security requirement associated with this requirement.

### **2. Statement of Work**

The Work to be performed is detailed under Article A, Statement of Work of the resulting contract.

### **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**

### **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 PWGSC [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

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 (2015-07-03) 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 Canada (EC) 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 Canada"

**At Section 07 Delayed Bids:**

**Delete:** "PWGSC"

**Insert:** "Environment Canada"

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

**Delete:** In its entirety

**Insert:** "Bids may be submitted by facsimile if specified in the bid solicitation."

**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. Submission of Bids**

**2.1** Bids must be sent directly to the Contracting Authority.

Bids must be sent to the following address, by the time and date indicated below:

**mitchel.easey@canada.ca**

**at – à 2:00 P.M.**

**on – le August 23, 2016**

## **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: 2012-2 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.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

## **4. Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than 5 days 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.

## **5. Applicable Laws**

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

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

## **6. Basis for Canada's Ownership of Intellectual Property**

Environment Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, on the following grounds:

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

## **7. 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.

## **PART 3 – BID PREPARATION INSTRUCTIONS**

### **1. Bid Preparation Instructions**

Canada requests that bidders provide their bid in separate attachments sections as follows:

Section I: Technical Bid (electronic copy)

Section II: Financial Bid (electronic copy)

Section III: Certifications (electronic copy)

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

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders; and
- (3) print on both sides of the paper.

2. Proposals should be concise and should address, but not necessarily be limited to, the Statement of Work and Evaluation Criteria. It is suggested that these criteria be addressed in sufficient depth in the proposals. Simply repeating the statements contained in the Statement of Work is not sufficient; the proposals must explain and demonstrate the bidder's knowledge on issues relevant to the study, that the work requirements have been understood, how they will be carried out and any proposed changes. The proposal must include a detailed schedule with a breakdown showing time allocated for specific tasks as well as the resources assigned to each task.

To be awarded points, a project description must contain at a minimum the following information:

- Project title, client name and industry sector;
- Planned and actual dollar values;



- Planned start and finish dates;
- Nature of services provided for the project or study, methodologies and approaches employed;
- Project team members involved and their roles;
- Summary of the project; and
- Name of contact who may be contacted as a reference.

The proposal should describe in sufficient detail the technical qualifications and relevant experience of the contractor and key professional staff and sources of reference data/information.

### **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 carry out the Work

### **Section II: Financial Bid**

1. Bidders must submit their financial bid in accordance with the Basis of Payment in Annex B. The total amount of Applicable Taxes must be shown separately.

#### **1.1 Price Breakdown**

In their financial bid, the bidders are requested to provide a detailed breakdown of the price for the following elements for *each task* 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.
- (g) Applicable Taxes: The bidders should indicate the Applicable Taxes separately.

- 1.2 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**

1. **Certifications Required Precedent to Contract Award**

Bidders must provide the required certifications Part 5.

## PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

### 1. Evaluation Procedures

Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

#### 1.1 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.

The proposals submitted will be evaluated in accordance with the following criteria: personnel and expertise, understanding, strategy and methodology, quality of the proposal and best value for the Crown.

If no acceptable bids are received, Environment Canada reserves the right to not award this contract.

#### 1.2 Technical Evaluation

##### 1.2.1 Mandatory Technical Criteria

All mandatory requirements must be met. Failure to meet any mandatory requirement will result in the Bidder's proposal regarded as non-responsive and given no further consideration.

Item	Description	Met	Not Met
MT1	The Project Manager must demonstrate, or provide certification of, a relevant engineering or science degree. Relevant degree is defined to mean one in the following disciplines - mechanical engineering, chemical engineering, environmental engineering, civil engineering, mining engineering, geological engineering, earth science, or environmental science from a recognized university.		
MT2	The Project Manager must demonstrate experience leading 2 projects relevant to the statement of work within the past 10 years. Relevant projects are those that pertain to the natural gas industry, analytical techniques (fuel sampling and testing), greenhouse gases and/or air pollutants, emission factors development, emission inventories and data collection.		
MT3	The Project Manager must demonstrate a minimum of 10 years' experience in the natural gas industry, analysis of natural gas, NGLs and/or LPG, natural gas combustion technologies, data		

	analysis and emission factor development.		
Project Team			
MT4	All members of the project team must have a relevant engineering or science degree. Relevant degree is defined to mean one in the following disciplines - mechanical engineering, chemical engineering, environmental engineering, civil engineering, earth science, or environmental science.		
MT5	Select members of the team must demonstrate a minimum of 5 years' experience developing estimates of GHGs, or other air emissions and knowledge of the natural gas, NGL and/or LPG industry, natural gas combustion technologies, emission factor development and analytical techniques		

### 1.2.2 Point Rated Technical Criteria

The Proponent with the highest combined number of points for technical/management components (75%) and price (25%) will be recommended for award of the contract. The combined total points will be determined using Equation 1 below. A proposal must receive at least 130 points out of a possible 200 of the evaluation criteria to be deemed acceptable. An item not covered by the proposal will be considered as not meeting the requirements or no points will be awarded in grading the proposal.

### 1.2.3 Point Rated Technical Criteria

For a proposal to be technically acceptable it must receive a minimum score of 65%.

	Criteria	Max Score
<b>EXPERIENCE OF FIRM AND PROPOSED RESOURCES</b>		<b>200</b>
The proposal should identify resources to be assigned to the project, experience in relevant work, relevant company experience, and familiarity with and established contacts in regulatory, industry-based partner organizations required for execution of the project.		
<b><u>PR1 – Contractor Experience</u></b>		<b>28</b>
<b>a.</b>	<i>Number of projects related to combustion technologies, fuel analysis and measurement techniques, and emission factor development associated GHG emissions</i> – the contractor should provide a list of the projects with a brief description of the work that was done (6 points for NG, LNG, NGLs and LPG combustion, emission factor analysis, fuel analysis and measurement projects and 3 points for other fuel combustion projects, maximum of 18 points)	18
<b>b.</b>	<i>Development of emission inventory or emission factors methodology</i> – the contractor should briefly describe any emission inventory methodology or emission factors developed by the firm for any fuel (2 points per method, maximum of 10 points)	10
<b><u>PR 2 – Proposed Resources’ Collective Experience</u></b>		<b>22</b>
<b>a.</b>	<i>Experience in developing an industrial or energy industry emissions inventory</i> – the contractor should identify manufacturing and energy industry emissions inventories that the proposed resources for this project have worked on (6 points for GHG inventories and 3 points for other air emissions inventories, maximum of 12 points)	12
<b>b.</b>	<i>Experience in quantifying uncertainty</i> – the contractor should identify any experience of the proposed resources in quantifying uncertainty of industrial data such as emission factors, fuel consumption information, combustion equipment, etc. (5 points per instance, maximum of 10 points)	10

<b><u>PR 3 – Understanding of NG, NGL and LPG Combustion Technologies and Emission factors</u></b>		<b>48</b>
The Contractor should demonstrate their expert understanding of: (Rating guide: 0-unsatisfactory, 3-poor, 6-satisfactory, 9-good, 12-excellent)		
<b>a.</b>	natural gas and NGL combustion technologies	12
<b>b.</b>	sector-specific technology use, testing protocol and/or testing techniques	12
<b>c.</b>	data collection	12
<b>d.</b>	emission factor development	12
<b>METHODOLOGY PROPOSED</b>		
The proposal will be evaluated based upon the technical approach and methodology presented to achieve the identified project objectives within the timelines indicated.		
<b><u>PR 4 – Method Assessment</u></b>		<b>72</b>
The methodology will be evaluated based on its potential to fulfill the study objectives and obtain the required information as follows: (Rating guide: 0-unsatisfactory, 3-poor, 6-satisfactory, 9-good, 12-excellent)		
<b>a.</b>	suitability of method to gather relevant information from industry sources and government agencies, including proposed data sources	12
<b>b.</b>	suitability of techniques and methods for gathering information and data for use in determining relevant emission factors, including proposed data sources	12
<b>c.</b>	suitability of Canadian sources of information including techniques and measurements use in testing of fuel properties and in developing emission factors and uncertainty estimates	12
<b>d.</b>	level of effort consistent with complexity of the work	12
<b>e.</b>	quality of literature proposed for review and/or sources of reference material for such things as emission factors, etc.	12
<b>f.</b>	provisions for unforeseen circumstances	12
<b><u>PR 5 – Quality Management</u></b>		<b>18</b>
The proposal will be evaluated based on the quality assurance and control measures to be implemented. (Rating guide: 0-unsatisfactory, 2-poor, 5-satisfactory, 7-good, 9-excellent)		
<b>a.</b>	<b><u>Quality Control</u></b> The program will be evaluated based on its potential in reducing errors as well as finding and correcting any errors throughout the data analysis.	9

<b>b.</b>	<b><u>Quality Assurance</u></b> The program will be evaluated based on its potential in ensuring that accurate and up-to-date information will be obtained. The extent of the program must be consistent with the importance and complexity of issues.	9
<b>PR 7 – Work Breakdown Structure</b> The proposal will be evaluated upon the work breakdown structure presented. (Rating guide: 0-unsatisfactory, 0.25-poor, 0.75-acceptable, 1.25-good 1.5-excellent)		<b>12</b>
<b>a.</b>	work plan identified	1.5
<b>b.</b>	proposed resources allocation, role and level of effort	1.5
<b>c.</b>	schedule identified	1.5
<b>d.</b>	major milestones addressed	1.5
<b>e.</b>	identification of key steps in the project	1.5
<b>f.</b>	identification of key activities	1.5
<b>g.</b>	prioritization of activities in preparation for data collection	1.5
<b>h.</b>	deliverables identified	1.5

**Table 4 - Rating Guide**

Excellent	The consultant's qualifications or proposal on this factor are exceptional and should ensure extremely effective performance on this aspect of the contract.
Good	The consultant's qualifications or proposal on this factor are above the average needed for satisfactory performance on this aspect of the contract.
Satisfactory	The consultant's qualifications or proposal on this factor meet the minimum needed for adequate performance on this aspect of the contract.
Poor	The consultant's qualifications or proposal on this factor are inadequate in certain areas and are likely to be ineffective in performing this aspect of the contract.
Unsatisfactory	The consultant's qualifications or proposal on this factor are insufficient for the effective performance of this aspect of the contract.

### 1.3 Financial Evaluation

#### 1.3.1 Mandatory Financial Criteria

A maximum of \$60,000.00 (excluding GST) will be paid for the completion of the project. Total value of contract is not to exceed \$60,000 (excluding GST).

## 2. Basis of Selection

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

The Contractor selection will be based on the highest combined rating of technical merit (proposal, qualifications and experience) and price proposal. The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be 75% for the technical merit and 25% for the price. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 75%.

To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 25%. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The Table 4 illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 75/25 ratio of technical merit and price, respectively. The total available points equal 86 and the lowest evaluated price is \$41,000.

**Table 4. Basis of Selection - Highest Combined Rating Technical Merit (75%) and Price (25%)**

	Bidder		
	Bidder 1	Bidder 2	Bidder 3
<b>Overall Technical Score</b>	80/86	72/86	70/86
<b>Bid Evaluated Price</b>	\$48,000.00	\$45,000.00	\$41,000.00
<b>Calculations</b>			
<b>Technical Merit Score</b>	$80/86 \times 75 = 69.77$	$72/86 \times 75 = 62.79$	$70/86 \times 75 = 61.05$
<b>Pricing Score</b>	$41/48 \times 25 = 21.35$	$41/45 \times 25 = 22.78$	$41/41 \times 25 = 25.00$
<b>Combined Rating</b>	91.12	85.57	86.05
<b>Overall Rating</b>	<b>1st</b>	<b>3rd</b>	<b>2nd</b>

**BIDDER #1 WOULD BE RECOMMENDED FOR CONTRACT AWARD**

## **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.

### **1. Certifications Required Precedent to Contract Award**

#### **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.

#### **1.2 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list at the time of contract award.

### **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.

#### **2.1 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's



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

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

## **PART 6 - RESULTING CONTRACT**

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

**Title:** Collection, evaluation and characterization of biogeochemical background concentration data to inform metals assessments

### **1. Security Requirement**

1.1 There is no security requirement applicable to this Contract.

### **2. Statement of Work**

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

### **3. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the 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.

#### **3.1 General Conditions**

2010B (2015-09-03), General Conditions - Professional Services (Medium Complexity), as modified below, apply to and form part of the Contract.

General conditions 2010B is modified as follows:

#### **At Section 12 Transportation Costs**

**Delete:** In its entirety

**Insert:** "Deleted"

#### **At Section 13 Transportation Carriers' Liability**

**Delete:** In its entirety.

**Insert:** "Deleted"

#### **At Section 18, Confidentiality:**

**Delete:** In its entirety

**Insert:** "Deleted"

Insert Subsection: "35 Liability"

"The Contractor is liable for any damage caused by the Contractor, its employees, subcontractors, or agents to Canada or any third party. Canada is liable for any damage caused by Canada, its employees or agents to the Contractor or any third party. The Parties agree that no limitation of liability or indemnity provision applies to the Contract unless it is

specifically incorporated in full text in the Articles of Agreement. Damage includes any injury to persons (including injury resulting in death) or loss of or damage to property (including real property) caused as a result of or during the performance of the Contract.”

**A. For professional services requirements where the deliverables are copyrightable works:**

**At Section 19 Copyright**

**Delete:** In its entirety

**Insert:**

1. In this section:  
"Material" means anything that is created or developed by the Contractor as part of the Work under the Contract, and in which copyright subsists.  
"Background Information" means all Intellectual Property that is not Foreground Information that is incorporated into the Work or necessary for the performance of the Work and that is proprietary to or the confidential information of the Contractor, its subcontractors or any other third party;  
"Foreground Information" means all Intellectual Property first conceived, developed, produced or reduced to practice as part of the Work under the Contract;
2. Material that is created or developed by the Contractor as part of the Work under the Contract belongs to Canada. The Contractor must incorporate the copyright symbol and either of the following notices, as appropriate: © Her Majesty the Queen in right of Canada (year) or © Sa Majesté la Reine du chef du Canada (année).
3. At the request of the Contracting Authority, the Contractor must provide to Canada, at the completion of the Work or at such other time as the Contracting Authority may require, a written permanent waiver of moral rights as defined in the [Copyright Act](#), R.S., 1985, c. C-42, in a form acceptable to the Contracting Authority, from every author that contributed to the Work. If the Contractor is an author, the Contractor permanently waives the Contractor's moral rights.
4. All Intellectual Property Rights in the Material belongs to Canada as soon as they come into existence. The Contractor has no right in or to any such Intellectual Property except any right that may be granted in writing by Canada.
5. The Contractor also grants to Canada a non-exclusive, perpetual, irrevocable, worldwide, fully-paid and royalty-free license to use the Background Information to the extent that this information is required by Canada to exercise its rights to use the Material. This license cannot be restricted in any way by the Contractor providing any form of notice to the contrary, including the wording on any shrink-wrapped license attached to any deliverable.

**B. For standard service requirements (ex.: manual services, snow or garbage removal, cleaning, window washing, maintenance, etc.) the general conditions 2010 B General Conditions [Professional Services \(Medium Complexity\)](#), must be modified as follows:**

**At Section 06 Subcontracts**

**Delete:** paragraphs 1, 2, and 3 in their entirety.

**Insert:** “The Contractor may subcontract the supply of goods or services that are customarily subcontracted by the Contractor. Subcontracting does not relieve the Contractor from any of its obligations under the Contract or impose any liability upon Canada to a subcontractor. In any subcontract, the Contractor agrees to bind the subcontractor by the same conditions by which the Contractor is bound under the Contract, unless the Contracting Authority agrees otherwise, with the exception of requirements under the Federal Contractors Program for employment equity which only apply to the Contractor.”

#### **At Section 19 Copyright**

**Delete:** In its entirety

**Insert:** “Deleted”

### **4. Term of Contract**

#### **4.1 Period of the Contract**

The period of the Contract is from date of Contract to March 31, 2017 inclusive.

### **5. Authorities**

#### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: Mitchel Easey  
Title: Regional Manager  
Environment Canada  
Procurement and Contracting  
Address: 200 Sacre Coeur

Telephone: 819-938-3816

E-mail address: [mitchel.easey@canada.ca](mailto:mitchel.easey@canada.ca)

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

## 5.2 Technical Authority

The Technical Authority for the Contract is:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

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.

## 5.3 Contractor's Representative

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

E-mail address: \_\_\_\_\_

## 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: 2012-2 of the Treasury Board Secretariat of Canada.

## 7. Payment

### 7.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ \_\_\_\_\_ (*insert the amount at contract award*). Customs duties are \_\_\_\_\_ (*insert "included", "excluded" OR "subject to exemption"*) and Applicable Taxes are extra.

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

## **7.2 Limitation of Expenditure**

- (a) Canada's total liability to the Contractor under the Contract must not exceed \$ \_\_\_\_\_. Customs duties are (*insert "included", "excluded" or "subject to exemption"*) and Applicable Taxes are extra.
- (b) No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
  - (i) when it is 75 percent committed, or
  - (ii) four (4) months before the contract expiry date, or
  - (iii) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,whichever comes first.
- (c) If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

## **8 Invoicing Instructions**

### **8.1 Milestone Payment**

- (a) Canada will make milestone payments in accordance with the Schedule of Milestones detailed below and the payment provisions of the Contract if:
  - (i) 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;
  - (ii) all such documents have been verified by Canada;

- (iii) all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

**Milestone Payment**

15% of the total professional fees will be paid following completion, delivery and acceptance of milestone #1.

35% of the total professional fees will be paid following completion, delivery and acceptance of milestone #2.

50% of the total professional fees will be paid following completion, delivery and acceptance of milestone #3.

**8.2 Schedule of Milestones**

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Table 1

<b>Item</b>	<b>Description of Deliverable</b>	<b>Schedule</b>
<b>1.</b>	<b><i>Kick-off Meeting via Conference Call</i></b>	No later than ten (10) business days after award of this contract.
<b>2.</b>	<b><u>Milestone #1: Draft Outline of Project Report, and Progress Report on Data Collection</u></b> A proposed draft outline of the project report, and draft structure of the final database. Preliminary data collection results. Areas needing more work should be highlighted. The report is to be provided in English and in electronic form in Microsoft Word, and is required for review and comment by EC.	12 weeks from date of contract award
<b>3.</b>	<b><u>Milestone #2: Draft report and draft data tables</u></b> A draft report and a draft database are required which include <u>all</u> elements of the Scope of Work for review and comment by EC. Comments will be prepared and	21 weeks from date of contract award

Item	Description of Deliverable	Schedule
	delivered to the Contractor for inclusion in final documentation within 3 weeks of receipt of the drafts.	
4.	<p><b><u>Milestone #3: Final Report &amp; Final Data Tables</u></b></p> <p>The final report and a final database will be submitted to EC in English, in hard copy (four copies, double sided and printed on recycled paper certified by the Environmental Choice Program) and in electronic form in Microsoft Word and in Adobe PDF. Database tables and application will be in MS Access. Background data files collected on equipment and their associated greenhouse gas emissions or penetration rate as well as fuel characteristics will also be provided in electronic form.</p>	25 weeks from date of contract award

## 9. Certifications

### 9.1 Compliance

Compliance with the certifications provided by the Contractor in its bid is a **condition** of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## 10. Applicable Laws

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

## 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) Modified 2010B General Conditions - [Professional Services \(Medium Complexity\)](#) (04-04-2016)
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated \_\_\_\_\_, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: "as clarified on \_\_\_\_\_" or "as amended on \_\_\_\_\_" and insert date(s) of clarification(s) or amendment(s).*)



## ANNEX A

### STATEMENT OF WORK

#### *Characterization of Natural Gas, Natural Gas Liquids and Liquefied Petroleum Gas for the Purpose of Developing Annual Carbon Dioxide Emission Factors and the Collection of Fuel Properties*

#### **CONFIDENTIALITY**

The parties anticipate that it may be necessary to transfer information relating to the Licensed Process, Patents, Trade-mark, Know-How or other information relating to this Agreement, of a confidential nature. The parties shall keep all such information confidential during and after the life of this Agreement.

Subject to the *Access to Information Act*, R.S. 1985, c.A-1, the parties agree that the terms of this Agreement are confidential and each party shall use the same degree of care to prevent disclosure of the terms of this Agreement to third parties as it uses to protect its own confidential information of similar nature.

The contractor will undertake to obtain individual non-disclosure agreements with all industry participants in this study.

#### **OBJECTIVE**

The purpose of this study is to collect fuel properties and based on these properties to compile carbon dioxide (CO<sub>2</sub>) emission factors associated with the combustion of natural gas (NG), liquefied natural gas (LNG), natural gas liquids (NGL), and liquefied petroleum gas (LPG) by provincial and territorial regions from 1990 onwards. When determining fuel properties and CO<sub>2</sub> emission factors, the contractor is required to take into account the mix of each type of fuel, and its variation over time, supplied to each region (via internal supply, interregional transfer and import) . As part of this work, an analysis of the applicability of fuel properties and CO<sub>2</sub> emission factors for the corresponding fuel types, categories and consumption patterns presented by Statistics Canada in its Report on Energy Supply and Demand must also be completed. The aim is to use the best information available and to be as rigorous as practicable within the budgeted level of effort.

#### **BACKGROUND**

The Government of Canada is required under the United Nations Framework Convention on Climate Change (UNFCCC) to report an annual inventory of GHG emissions and removals following the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories for fuel combustion sources. The implementation of continuous improvements to the national GHG inventory is a key component of the UNFCCC reporting guideline and their international review process.

Given that the national GHG inventory currently relies on fuel properties and CO<sub>2</sub> emission factors that were developed in 2000<sup>1</sup> based only on 1998 data, and that natural gas accounts

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<sup>1</sup> MaCann T.J. 2000. 1998 Fossil Fuel and Derivative Factors

for close to 40% (about 200 Mt CO<sub>2</sub>) of the national inventory's total carbon dioxide emissions from all combustion sources in 2013<sup>2</sup>, the implementation of this study will increase the overall quality of CO<sub>2</sub> emissions by tracking changes in fuel properties for NG, LNG,, NGL and LPG on a yearly basis.

## STATEMENT OF WORK

The evaluation criteria for ranking proposals are detailed in Table 2.

The tasks set out in the following Statement of Work will proceed as outlined below. The work is presented in a sequential fashion herein; however, the Contractor is free to suggest in the project proposal any sequence of steps that would be more efficient.

### ▪ **Task 1 – Project Management and Client Liaison**

Management of this contract will reside with Environment Canada (EC), but will be done in close consultation with the Contractor. Regular communication will be maintained with EC technical experts throughout the project with scheduled progress/review meetings and informal consultations as needed. Brief monthly progress reports shall be submitted to EC technical representatives.

A meeting shall be conducted at the start of the project and another following the submission of the final draft report. The early meeting will introduce the study team to EC staff, raise any initial concerns or issues, and identify specific assistance that EC technical experts can offer. The later meeting will include a full presentation of the study results, a review of key elements of the draft report, and responses to any related questions by EC.

It is assumed that all meetings will either be conducted by teleconference or held in Gatineau, Quebec. Costs of any other travel or incremental expenses shall be included as part of the project costs.

### ▪ **Task 2 – Background Data Collection**

The Contractor, in consultation with EC, will collect, evaluate and analyze detailed fuel information.

The information shall consist of annual fuel properties, by representative consumption regions from 1990 to the latest year in which information is available, for the following fuels:

- marketable NG and LNG
- non-marketable NG,
- marketable propane<sup>3</sup>, butane & ethane,
- and non-marketable NGL and LPG, as consumed by producers.

Annual average fuel properties should include (but not be limited to):

- carbon content,

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<sup>2</sup> Environment Canada. 2015. National Inventory Report 1990-2013: Greenhouse Gas Sources and Sinks in Canada

<sup>3</sup> Sometimes referred to as LPG

- carbon dioxide content
- moisture/water content
- for propane, butane and ethane only:
  - concentration of *other* fuel components (propane, butane, ethane, and condensates)
  - methane concentration
- for marketable NG, LNG and non-marketable NGL and LPG only:
  - concentration of miscellaneous components or elements<sup>4</sup>
- high and low heating values,

These properties are to be provided in both physical and energy units. Where applicable the (standard) condition (i.e. temperature, and pressure) at which a volume was determined is to be indicated. Density shall also be provided wherever possible.

During the development of the data collection approach, the Contractor must take into consideration that all properties and factors:

- are compatible with the fuel availabilities and regional distributions recorded in the dataset from Statistics Canada’s Report on Energy Supply and Demand (RESD), as noted in Task 3 and
- account for the mix of fuel characteristics and compositions from all sources that are supplied for consumption in each region, as noted in Task 4

The Contractor shall specify his proposed data sources for all identified fuels and document those data sources. Where no data source exists for a particular fuel and/or region, the Contractor will develop, seek approval for and use a sampling methodology to obtain those missing data points. Where data exists for some period of time but does not for another period, the contractor will apply appropriated numerical and/or statistical techniques for interpolation of the data.

▪ **Task 3 – Alignment of collected data to Statistics Canada’s fuel data**

An analysis of the data collected in Task 2 is needed to access consistency with data presented in Statistics Canada’s Report on Energy Supply and Demand (RESD). The Contractor shall align the available data to representative regions shown in the RESD. Collaboration with Statistics Canada and other stakeholders will assure compatibility in terms of fuel portion, supply mix, composition and compatibility with RESD fuel types and categories.

▪ **Task 4 – Quantification of heating values, CO<sub>2</sub> Emission Factors and corresponding uncertainty estimates**

Using data collected and obtained in Task 2 and aligned in Task 3, the Contractor will develop higher and lower heating values, carbon content, and CO<sub>2</sub> emission factors based on complete combustion (100% oxidation) in both energy and in physical units (using the same units presented in the RESD) while taking into consideration the impact of regional variations in fuel characteristics and composition for:

- marketable NG and LNG,

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<sup>4</sup> For example, oxygen or nitrogen. Miscellaneous components of lower concentration, i.e., below 1% in total, need not be listed.

- non-marketable NG,
- marketable propane, butane and ethane,
- non-marketable NGL and LPG, as consumed by producers.

This task also requires the development of uncertainty estimates for all calculated and collected data. Development of CO<sub>2</sub> emission factors and uncertainty estimates shall be consistent with the 2006 IPCC Guidelines for National GHG Emissions Inventories (<http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>).

It is assumed that at least an IPCC Tier 1 uncertainty analysis (see above reference) will be undertaken. The assumptions and inputs used for the analysis shall be reported, as well as the results of the uncertainty study. In general, and notwithstanding any confidentiality agreements, all raw data used in this study will be provided to Environment Canada and Climate Change (ECCC).

▪ **Task 5 - Database development**

The Contractor is to develop a methodology and a database to annually update fuel properties and emission factors for NG (including LNG), NGLs and LPG. The methodology should be consistent with the method presented in Task 2 to 4.

▪ **Task 6 - Preparation of Preliminary, Draft and Final Report**

The report should at minimum cover elements outlined in item 3 of the Guidelines to Report Preparation and Presentation along with the following items:

- Background on the production and consumption of NG (including LNG), NGL and LPG,
- Background on domestic and foreign supply of NG (including LNG), NGL and LPG,
- Sources of fuel information and techniques used in the determination of fuel properties,
- Documentation of data collection and emission factor methodologies,
- Fuel variation within a region for each fuel type and its impact on determining representative data for each region,
- Analytical techniques used to collect and determine fuel properties,
- Tables with weighted fuel properties and CO<sub>2</sub> emission factors for each region

Any databases, spreadsheets and reports will be MS Office 2010 compatible and reports will also be provided in Adobe Acrobat PDF format. All graphics, charts and figures shall be embedded directly in the word-processed document wherever practical. This will allow easy distribution and use of the document by e-mail.

This Statement of Work is intended to be detailed enough to ensure that the Department receives, as a minimum, the information requested above but, at the same time, flexible enough to permit innovation and initiative by the candidate firms in the interests of the Department.

Deliverables, including reports and database application, are described in this Scope of Work and according to the Schedule, Deliverables & Reporting Format section. The reports will contain the required information, responses, findings, data, analysis, observations, and professional opinions.

## **GUIDELINES**

Using data from direct measurement, surveys and the Scientific Authority, and without limiting the scope of work, the Contractor shall follow these subsequent guidelines as they apply and as described below:

### **International Standards**

Fuel properties (i.e. heating values and carbon content), CO<sub>2</sub> emission factors and uncertainty estimates developed shall be prepared in accordance with the 2006 IPCC Guidelines for National GHG Emissions Inventories (<http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>), and the United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for inventories ([http://unfccc.int/national\\_reports/reporting\\_and\\_review\\_for\\_annex\\_i\\_parties/items/5689.php](http://unfccc.int/national_reports/reporting_and_review_for_annex_i_parties/items/5689.php)).

Notwithstanding this, it is recognized that some methodological refinements may be required to deal with specific data gaps and data quality issues that become apparent as the actual work is performed. All noteworthy assumptions and approximations shall be clearly documented.

### **Quality Control / Quality Assurance**

During the development of the inventory the Contractor shall undertake quality control checks in accordance with international guidelines as described in the 2006 IPCC Guidelines for National GHG Emissions Inventories (<http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>).

### **Report Preparation and Presentation**

The contractor shall include a report documenting, in detail, the methodology, assumptions, data sources, fuel information (i.e. heating values and carbon content), emission factors, uncertainty estimates, references and QA/QC procedures used to produce all deliverables. The report shall include a table of contents, a list of figures, a list of tables, a general overview of NG, NGL and LPG usage for combustion in Canada, a glossary of key terms and acronyms, QA/QC and a complete bibliography. Also, refer to Task 5 for additional elements for inclusion in the report. The report shall include an assessment of the completeness and accuracy of the data and emission factors. The report shall also include conclusions and recommendations for future improvements.

## **Record Keeping**

As part of record keeping activities the Contractor shall maintain, except where precluded by confidentiality or proprietary-ownership restrictions, all relevant information and documentation on how these data were generated and gathered. This information shall be detailed and organized and provided to Environment Canada.

## **Uncertainty**

As described in Task 4, a quantitative assessment of the uncertainties about fuel properties and fuel mix and the emission factors proposed shall be prepared in accordance with the approach specified in the 2006 IPCC Guidelines for National GHG Emissions Inventories (<http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>). This will include efforts to minimize uncertainties by focusing the budgeted resources on the areas of greatest potential contribution to this uncertainty.

## **GENERAL INSTRUCTIONS**

All reports shall be written in English, and both draft and final reports shall be written in a clear and logical fashion and shall be submitted in a format compatible with Microsoft Word 2010. The consultant shall report all the sources of information. Key uncertainties should be identified and the source explained.

The tasks above are not necessarily exhaustive. The consultant is encouraged to provide any additional information discovered during the course of this work and deemed relevant to fulfilling the objectives of this contract.

## **SCHEDULE, DELIVERABLES & REPORTING FORMAT**

All deliverables and successful completion of the project are subject to the acceptance and/or approval of the project authority. Table 1 outlines the schedules, deliverables and formats required for completion of this contract. All reports and databases are to be provided in English and in electronic format compatible with Microsoft Word, Excel and Access 2010.

## **Progress Reports**

Throughout the duration of the contract, the Contractor shall advise the Scientific Authority via email or telephone, on a monthly basis, of the status of the work currently underway. This may include the progress to date on the elements of the Statement of Work, any expected or unforeseen delays, challenges encountered, and ability to meet the timelines and schedule proposed.

## **Teleconference Calls**

After each deliverable identified below in Table 1, a conference call will be arranged for the Contractor and the Departmental Representative to discuss the information provided and the questions and feedback provided by the Scientific Authority. The teleconference call should occur within ten (10) calendar days of the delivery of a document.

## ANNEX B

### BASIS OF PAYMENT

#### Schedule of Milestones

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

15% of the total professional fees will be paid following completion, delivery and acceptance of milestone #1.

35% of the total professional fees will be paid following completion, delivery and acceptance of milestone #2.

50% of the total professional fees will be paid following completion, delivery and acceptance of milestone #3.

Milestone No.	Description / Deliverable	Firm Amount	Delivery Date
1	<p><b><u>Milestone #1: Draft Outline of Project Report, and Progress Report on Data Collection</u></b></p> <p>A proposed draft outline of the project report, and draft structure of the final database. Preliminary data collection results. Areas needing more work should be highlighted. The report is to be provided in English and in electronic form in Microsoft Word, and is required for review and comment by EC.</p>		12 weeks from date of contract award
2	<p><b><u>Milestone #2: Draft report and draft data tables</u></b></p> <p>A draft report and a draft database are required which include <u>all</u> elements of the Scope of Work for review and comment by EC. Comments will be prepared and delivered to the Contractor for inclusion in final documentation within 3 weeks of receipt of the drafts.</p>		21 weeks from date of contract award
3	<p><b><u>Milestone #3: Final Report &amp; Final Data Tables</u></b></p> <p>The final report and a final database will be submitted to EC in English, in hard copy (four copies, double sided and printed on recycled paper certified by the Environmental Choice Program) and in electronic form in Microsoft Word and in Adobe PDF. Database tables and application will be in MS Access. Background data files collected on equipment and their associated greenhouse gas emissions or penetration rate as well as fuel characteristics will also be provided in electronic form.</p>		25 weeks from date of contract award
		<b>Grand Total</b>	