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

Proposal To: Natural Resources Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Comments – Commentaires

Issuing Office – Bureau de distribution

Finance and Procurement Management Branch
Natural Resources Canada
Procurement Services Unit
580 Booth Street, 5th Floor
Ottawa, Ontario
K1A 0E4

Title – Sujet Extension of energy-economy-environment models to forest products used in construction for improved net-zero pathway analysis.	
Solicitation No. – No de l’invitation NRCan- 5000065092	Date 04-27-2022
Requisition Reference No. - N° de la demande 169149	
Solicitation Closes – L’invitation prend fin at – à 02:00 PM (Ottawa Time) on – le June 03, 2022	
Address Enquiries to: - Adresse toutes questions à: Mathew Star – Mathew.Star@NRCan-RNCan.gc.ca	
Telephone No. – No de telephone 613-222-9067	
Destination – of Goods and Services: Destination – des biens et services: <i>As described herein.</i>	
Security – Sécurité There are no security requirements associated with this requirement.	
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l’entrepreneur Telephone No.:- No. de téléphone: Email – Courriel :	
Name and Title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/de l’entrepreneur (taper ou écrire en caractères d’imprimerie)	
Signature _____	Date _____



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

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

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



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: includes the certifications to be provided;

Part 6 Security and Other Requirements: includes specific requirements that must be addressed by Bidders; and

Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work the Basis of Payment, Certifications, and any other annexes and attachments.

The Appendixes include the Evaluation Criteria and the Financial Proposal Form.

1.2 Summary

By means of the RFP, Natural Resources Canada (NRCan) is seeking proposals from bidders to increase capacity to define strategies for the optimal development and use of harvested wood products that enhance the Canadian forest sector's role in supporting climate targets and economic development. It aims to provide a more rigorous representation of provincial and territorial forest industries in currently available decision support models, describing them as sources of bioenergy and building materials with causal relationships to other competing sectors and industries.

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

1.3 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 from receipt of the results of the bid solicitation process. The debriefing will be done in writing, by email.



PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (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 (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation with the modifications to the text below. If there is a conflict between the provisions of 2003 and this document, this document prevails.

- **In the complete text content (except Section 1 and 3) Delete:** Public Works and Government Services Canada” and **Insert:** “Natural Resources Canada.” **Delete:** “PWGSC” and **Insert:** “NRCan”
- **Section 2: Delete:** “Suppliers are required to” and **Insert:** “It is suggested that suppliers”
- **Subsection 1 of Section 8: Delete entirely**
- **Subsection 2 of Section 8:**
Delete: The only acceptable email address to use with epost Connect for responses to bid solicitation issued by PWGSC headquarters is: tpsgc.dgareceptiondessaoumissions-abbidReceiving.pwgsc@tpsgc-pwgsc.gc.ca, or, if applicable, the email address identified in the bid solicitation. The only acceptable email address to use with epost Connect for responses to bid solicitations issued by PWGSC regional offices is identified in the bid solicitation.
Insert: The only acceptable email address to use with epost Connect for responses to bid solicitation issued by NRCan is: procurement-approvisionnement@NRCan-RNCan.gc.ca
- **Under Subsection 2 of Section 20:** Not applicable

2.2 Submission of Bids

Bidders must submit all proposals electronically. Given the current constraints on NRCan’s networks, the electronic mail system has a limit of 1GB per single message received and a limit of 20GB per conversation. NRCan encourages bidders to submit all bids earlier than the closing time.

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

Only bids submitted using epost Connect service will be accepted.

At least 48 hours before the bid solicitation closing date, it is necessary for the Bidder to send an email requesting to open an epost Connect conversation to the following address:

procurement-approvisionnement@NRCan-RNCan.gc.ca



Note: Bids will not be accepted if e-mailed directly to this address. This e-mail address is to be used to open an ePost Connect conversation, as detailed in the Standard Instructions [2003 \(Subsection 2 of Section 08\)](#), or to send bids through an ePost Connect message if the bidder is using its own licensing agreement for ePost Connect.

IMPORTANT: It is requested that you write the bid solicitation number in "Subject" of the email:
[NRCan 5000065092 – RFP](#)

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

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

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

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 7 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.

2.4 Applicable Laws

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

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

2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will



be given consideration provided they are submitted to the Contracting Authority at least 14 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.



PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

The Bidder must submit its bid electronically and in accordance with section 08 of 2003 standard instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

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

Section I: Technical Bid – Provide 1 electronic copy.

Section II: Financial Bid – Provide 1 electronic copy - in a separate file and document

Section III: Certifications – Provide 1 electronic copy.

Prices should appear in the financial bid only. No prices should 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 MSWord or PDF format; and,
- (b) use a numbering system that corresponds to the bid solicitation.

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.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Financial Proposal Form in Appendix 2. The total amount of Applicable Taxes must be shown separately.

Section III: Certifications

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



PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

4.1.1 Technical Evaluation

Mandatory and point rated technical evaluation criteria are included in Appendix "1" – Evaluation Criteria.

4.2 Basis of Selection

4.2.1 Lowest Price Per Point

1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation;
 - b. meet all mandatory technical evaluation criteria; and
 - c. Obtain the required minimum of 23 points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 46.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract.



PART 5 - CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

5.1 Certifications Required with the Bid

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

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity [Provisions of the Standard Instructions \(https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/1/2003/25#integrity-provisions\)](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/1/2003/25#integrity-provisions), all bidders must provide with their bid, **if applicable**, the Integrity declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [Ineligibility and Suspension Policy \(http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

- Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder or, in the case of a private company, the owners of the company.
- Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).



- Bidders bidding as partnerships do not need to provide lists of names.

Name of Bidder: _____

OR

Name of each member of the joint venture:

Member 1: _____

Member 2: _____

Member 3: _____

Member 4: _____

Identification of the administrators/owners:

SURNAME	NAME	TITLE

5.2.2 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" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website. (https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#).

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

5.2.3 Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar



qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

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

5.2.4 Education and Experience

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

5.2.5 Former Public Servant

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 FPSs, 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 FPSs in receipt of a pension, as applicable:

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

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

Work Force Adjustment Directive

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

If so, the Bidder must provide the following information:

- a. name of former public servant; _____
- b. conditions of the lump sum payment incentive; _____
- c. date of termination of employment; _____
- d. amount of lump sum payment; _____
- e. rate of pay on which lump sum payment is based; _____
- f. period of lump sum payment including:
 - start date _____
 - end date _____
 - and number of weeks _____



- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

Professional fees	Amount
_____	_____
_____	_____

5.2.6 Aboriginal Designation

Who is eligible?

- a) An Aboriginal business, which can be:
 - i) a band as defined by the Indian Act
 - ii) a sole proprietorship
 - iii) a limited company
 - iv) a co-operative
 - v) a partnership
 - vi) a not-for-profit organization

in which Aboriginal persons have at least 51 percent ownership and control,

OR

- b. A joint venture consisting of two or more Aboriginal businesses or an Aboriginal business and a non-Aboriginal business(es), provided that the Aboriginal business(es) has at least 51 percent ownership and control of the joint venture.

When an Aboriginal business has six or more full-time employees at the date of submitting the bid, at least thirty-three percent of them must be Aboriginal persons, and this ratio must be maintained throughout the duration of the contract.

The bidder must certify in its submitted bid that it is an Aboriginal business or a joint venture constituted as described above.

- Our Company is NOT an Aboriginal Firm, as identified above.
- Our Company is an Aboriginal Firm, as identified above.

Signature

Date



PART 6 - SECURITY AND OTHER REQUIREMENTS

6.1 Security Requirements

There are no security requirements associated with this requirement.



PART 7 - RESULTING CONTRACT CLAUSES

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

7.1 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex "A" and the Contractor's technical bid entitled _____, dated _____. (*to be completed at contract award*)

7.1.1 Optional Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described at **Annex A - S.W.4.2Phase 2 (Optional Services)**, of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option at any time before the expiry of the Contract by sending a written notice to the Contractor.

7.2 Standard Clauses and Conditions

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

7.2.1 General Conditions

[2035 \(2020-05-28\)](#) General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

- As applicable, replace references to Public Works and Government Services Canada (PWGSC) with Natural Resources Canada (NRCan).

The following clauses apply to and form part of this contract:

[4006 \(2010-08-16\)](#), Contractor to Own Intellectual Property Rights in Foreground Information

7.3 Dispute Resolution

Mediation

If a dispute arising from this contract cannot be settled amicably through negotiation, then the parties agree in good faith to submit the dispute to mediation as administered by the Arbitration and Mediation Institute of Canada Inc. (AMIC). The parties acknowledge receipt of the rules of AMIC. The cost of mediation shall be borne equally by the parties.



Arbitration

If the parties cannot resolve the dispute through mediation within sixty (60) days, the parties agree to submit the dispute to arbitration pursuant to the Commercial Arbitration Act (Canada). The party requesting such arbitration shall do so by written notice to the other party/parties. The cost of the arbitration and fees of the arbitrator shall be borne equally by the parties. The arbitration shall take place in the city where the contractor carries on business before a single arbitrator to be chosen jointly by the parties. If the parties cannot agree on the choice of arbitrator within thirty (30) days of written notice to submit the dispute to arbitration, each party will choose a representative who will select the arbitrator.

The parties may determine the procedure to be followed by the arbitrator in conducting the proceedings, or may ask the arbitrator to do so. The arbitrator shall issue a written award within thirty (30) days of hearing the parties. The award may be entered in any court having jurisdiction and enforced as a judgment of that court.

Meaning of "Dispute"

The parties agree that the word "dispute" in this clause refers to a dispute of fact or of law, other than a dispute of public law.

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will, on request or consent of the parties to participate in an alternative dispute resolution process to resolve any dispute between the parties respecting the interpretation or application of a term and condition of this contract and their consent to bear the cost of such process, provide to the parties a proposal for an alternative dispute resolution process to resolve their dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.

7.4 Security Requirements

7.4.1 There is no security requirement applicable to the Contract.

7.5 Term of Contract

7.5.1 *Period of the Contract*

The period of the Contract is from date of Contract to _____ inclusive (*To be completed at contract award*).

7.5.3 *Option to Extend the Contract*

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to one additional 1 year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 7 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.



7.6 Comprehensive Land Claims Agreements (CLCAs)

The Contract is not subject to any Comprehensive Land Claims Agreements.

7.7 Authorities

7.7.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Mathew Star
Title: Procurement Specialist
Organization: Natural Resources Canada
Address: 580 Booth Street, 5th Floor
Ottawa, Ontario K1A 0G4
Tel: (613)222-9067
Email: Mathew.Star@NRCan-RNCan.gc.ca

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

7.7.2 Project Authority *(to be provided at contract award)*

The Project Authority for the Contract is:

Name:
Title:
Organization:
Address:
Telephone:
E-mail address:

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

7.7.3 Contractor's Representative *(to be provided at contract award)*

Name:
Title:
Organization:
Address:
Telephone:
E-mail address



7.9 Payment

7.9.1 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, as specified in in Annex B – Basis of payment, for a cost of \$ _____ (*inserted 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.

7.9.2 Method of Payment

Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

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

Milestone Payments

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

- a. an accurate and complete claim for payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

7.10 Invoicing Instructions

Invoices shall be submitted using **one of the following methods**:

E-mail:

Invoicing-Facturation@nrcan-rncan.gc.ca

Note: Attach “PDF” file. No other formats will be accepted



Please do not submit invoices using more than one method as this will not expedite payment.

Invoices and all documents relating to a contract must be submitted on the Contractor's own form and shall bear the Contract number: _____ (inserted at contract award)

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

7.11 Certifications and Additional Information

7.11.1 Compliance

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

7.12 Applicable Laws

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

7.13 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 4006 (2010-08-16), Contractor to Own Intellectual Property Rights in Foreground Information;
- c) the general conditions 2035 (2020-05-28) – Higher Complexity – Services;
- d) Annex A, Statement of Work;
- e) Annex B, Basis of Payment;
- f) The Contractors Technical Bid dated: (inserted at contract award)

7.14 Foreign Nationals (Canadian Contractor OR Foreign Contractor)

SACC Manual clause [A2000C](#) _____ (insert date) Foreign Nationals (Canadian Contractor) (inserted at Contract award)

SACC Manual clause [A2001C](#) _____ (insert date) Foreign Nationals (Foreign Contractor) (inserted at Contract award)

7.15 Insurance

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor



is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

7.16 Contract Administration

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1(1) of the *Department of Public Works and Government Services Act* will review a complaint filed by the Contractor respecting administration of this contract if the requirements of Subsection 22.2(1) of the *Department of Public Works and Government Services Act* and Sections 15 and 16 of the *Procurement Ombudsman Regulations* have been met, and the interpretation and application of the terms and conditions and the scope of the work of this contract are not in dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa-opo.gc.ca.



ANNEX “A” - STATEMENT OF WORK

S.W.1.0 Title

Extension of energy-economy-environment models to forest products used in construction for improved net-zero pathway analysis

S.W.2.0 Background

The forest sector is an important sector of the Canadian economy. In 2019, this sector contributed \$23.7 billion to Canada’s GDP and provided direct employment for approximately 205,000 Canadians in 2018. It is also a major source of export earnings (value of exports about \$33 billion in 2018). This sector also provides a wide range of social and environmental benefits.

Given Canada’s extensive forests (9% of the world’s forests is in Canada), the forest sector represents a major opportunity for carbon sequestration from the atmosphere. One of the most promising options is for development and use of long life harvested wood products (HWPs) for buildings. By increasing use of lumber, oriented strand-board and other wood products, the carbon in such wood products is retained for a long period of time. There are also additional benefits from increasing use of HWPs in buildings. Wood-based construction can displace other emission intensive materials, such as concrete and steel. It is recognized, for example, that steelmaking and cement production are among the most carbon emissions intensive industries in the world. The “displacement” option, through increasing the use of wood in building construction has the overall potential for reducing embodied GHG emissions in buildings. The trend to increasing use of wood in construction, and more generally low-carbon building materials, is observed globally. Canada is in an excellent position for responding to this potential global market opportunity.

Within Natural Resources Canada (NRCan), there are state of the art forest carbon models, such as Carbon Budget Model of the Canadian Forest Sector (CBM-CFS) and the Generic Carbon Budget Model (GCBM) for representing forest biophysical processes and for national carbon accounting. Outside NRCan, there are “decision support” models that can be applied for deriving optimum levels of activity in the different sectors of the Canadian economy, and for analyzing interplays between competing sectors for meeting overarching economic and GHG mitigation goals. Such decision support models include optimization and simulation models that have been developed and applied for comprehensive representation of the Canadian economy. However, given their focus on energy flows and associated GHG emissions, they mainly portray the forest sector as a supplier of bioenergy. Hence, those models do not yet fully represent material flow interactions between the forest sector and other sectors, as pertaining specifically to construction, and the associated optimal use of forest fibre for a combination of short life HWPs, such as biofuels, and long life HWPs, such as construction materials.

S.W.3.0 Objectives

The main objective of this project is to increase NRCan’s capacity to define strategies for the optimal development and use of HWPs that enhance the Canadian forest sector’s role in supporting climate targets and economic development. It aims to provide a more rigorous representation of provincial and territorial forest industries in currently available decision support models, describing them as sources of bioenergy and building materials with causal relationships to other competing sectors and industries.

This project will be carried out in two consecutive phase: i) extending the capability of existing integrated energy-economy-environment models and ii) updating recent net-zero pathways scenarios using the extended energy-economy-environment model. The following section describes the specific objectives of each part.



S.W.3.1 Phase 1: Extending modelling capacity of energy-economy-environment model for determining optimal use of long-lived HWPs in buildings

In Phase 1, the focus will be on extending the capability of existing integrated energy-economy-environment models for assessing the optimal use of long-lived HWPs in building construction in term of costs, GHG emission reductions and carbon storage. The new capabilities must comprehensively represent the market competition in each of the 13 provinces and territories, as well as interactions between them, including forest products, used for energy or in construction, and other industries or technologies with direct or indirect causal relationship.

Through a simplified proof-of-concept, the first phase of this project must also demonstrate the practical benefit of the extended modelling capacity. The outcomes must contribute to the assessment of optimal use of short- and long-lived HWPs for the Canadian economy for meeting growing demands of wood fibre (including export potential) and increasingly stringent GHG mitigation targets.

S.W.3.2 Phase 2 – Optional Services: Updating recent net-zero pathways scenarios using the extended energy-economy-environment model

Phase 2 directly builds on the foundations put in place during Phase 1. This work is conditional on NRCan's approval based on the ability of the model developed in Phase 1 to meet NRCan's requirements.

Phase 2 of the project will consist of a detailed analysis of the role of long-lived HWPs in buildings for GHG mitigation under three core scenarios that explore potential Canada's socio-techno-economic transformation scenarios over the next 50 years: a reference scenario, an evolving scenario and a net-zero scenario. As the Canadian forest sector provides multiple commodities, with major variations between and within jurisdictions, the second phase also includes a more extensive data collection and calibration to represent the market competition within Canada and its 13 provinces and territories.

The work resulting from the second phase is intended to demonstrate the optimal role for use of HWPs in construction, considering demand for wood fibre for other GHG reduction opportunities such as bioenergy. It is also intended to provide support for developing strategies for optimal use of HWPs, support for defining supporting policies such as codes and standards, regulations (including carbon pricing) and incentives.

S.W.4.0 Project requirements

SW.4.1 Phase 1

SW.4.1.1 Extending representation of long-lived HWPs for building construction in energy-economy-environment models

The main requirement of this phase is to improve the representation of long-lived HWPs for building construction (lumber, oriented strand board, engineered wood products used in mass timber construction, etc.) in energy-economy-environment model with more detailed and calibrated production-consumption chains and system interactions. This requires improving the representation of wood fibre supply chains to capture tree harvest, processing facilities (e.g. sawmills), domestic distribution and exports, building construction, as well as demolition and use of recovered materials for different applications including bioenergy production. The increased production and use of HWPs in Canada also represents an opportunity for increased export of HWPs. Thus, it will be necessary to differentiate the interactions between supply and demand in the domestic and export markets.



Table 1 lists the important elements in the supply chains of construction materials for building to be represented in the new modeling capacity.



Table 1: Supply chains of building construction material

item	Description
Supply chain for HWPs for building construction and representation for export of HWPs	<ul style="list-style-type: none"> • This includes the log harvesting (including haulage) for a representative forest management unit (FMU); transport of logs to sawmill; sawmill operation for producing HWPs; transport of HWPs to distribution centre; and transport to representative building sites. Each of these elements will include unit costs and unit emissions per unit of log or HWP. • For wood-based material being exported, it will be necessary to differentiate between the export market “United States” and “Rest of World”.
Supply chain for concrete for building construction	<ul style="list-style-type: none"> • This includes the production of cement; transport of cement to concrete production centres; extraction of aggregates and transport of aggregates to concrete production centres; concrete production; and transport of ready-mix concrete to building sites. • The production of cement will include mining of limestone; raw material preparation; crushing, grinding and burning the raw mix; production of clinker; clinker grinding with gypsum; and packaging. Each of these elements will include unit costs and unit emissions per unit of cement, or concrete produced, as applicable. • Since clinker production requires temperatures as high as 1350 to 1450 degrees C, the selection of fuels is also important. The options that should be represented include currently used fuels (coal, petcoke, natural gas) as well as alternative fuels such as construction and demolition waste or hydrogen.
Supply chain for steel for building construction	<ul style="list-style-type: none"> • This includes the extraction and processing of iron ore, extraction and processing of coking coal; transport for both iron ore and coking coal to steel mills; production of steel; secondary steelmaking into finished products for buildings; and transport to building sites. • Processes for steel making require temperatures up to 1300 degrees C. The energy input options that should be included in the primary steel making process should include the various types on fossil fuels for the different processes, as well as use of hydrogen. For electric arc furnaces, the dominant energy source is electricity. • For each of the elements for primary steel production and secondary steel production, there will be unit costs and unit emissions derived per unit of primary steel or secondary steel output, respectively. For extraction of iron ore and coking coal, there will be unit costs and unit emissions per unit of iron ore or coking coal delivered, respectively.
Representation for building construction	<ul style="list-style-type: none"> • This activity is based on the premise that all materials will have been delivered to the building site. Costs and emissions for actual construction will be aggregated for each building type and method of construction.

S.W.4.1.2 Capturing the interplay between building construction materials

In addition, when deriving optimal cost-minimum solutions while satisfying GHG emission constraints, the model must be able to supply HWPs for meeting building construction material demand and capture the substitution effect of other GHG-intensive building materials, such as concrete and steel. Special attention must be given to relative costs, GHG emissions, jurisdiction-specific production capacity, wood fibre availability and transport requirements.

To ensure a fair representation of differential economic and GHG mitigation impacts from substituting concrete and steel construction with wood-based assemblies, a comparable detailed representation of the supply chains of these conventional building materials must be carried.



Table 1 lists the important elements in the supply chains of the three building construction industries that must be represented in the new modeling capacity.

S.W.4.1.3 Capturing the interplay between short- and long-lived HWPs for construction

This requirement is intended to ensure that the capacity of the extended model captures the direct or indirect causal relationship and market interactions between the production and use of HWPs for bioenergy (i.e., thermal and electrical energy production) as well as for building construction on a mutually exclusive basis. For example, on the one hand, an increase in the conversion of wood fiber for building materials might lead to a reduction in the availability of wood fiber for bioenergy that shall be compensated by other energy sources to meet a given demand, in relation to jurisdiction-specific market and grid characteristics. On the other hand, the model must also be able to capture that an increased production and use of HWPs for building material leads to a substantial production of co-products (chip, sawdust, bark) that can be used for bioenergy that would also avoid/displace other energy sources.

S.W.4.1.4 Capturing the interplay between Canadian jurisdictions

The new capabilities must comprehensively represent the market interactions between the Canadian jurisdictions, the U.S. and the Rest-of-World regions, inclusive of products in the energy and construction sectors. For this first phase, the regionalization will focus on expanding the capabilities to the province of Quebec and British Columbia. Each jurisdiction must be represented by its various competing building materials, in addition to the existing representation of energy markets.

S.W.4.1.5 Extending capacity to track carbon retention profiles of HWPs over time

In addition, the proposed work must complement current NRCan modeling efforts in assessing the carbon balance over time of the forest sector. There are significant time-dependent considerations for the forest sector. Economic benefits from harvesting occur many years after costs for tree planting. Similarly, over the landscape, carbon sequestration from the atmospheres occurs progressively over many years after harvesting through forest regeneration.

On this basis, there is a need to ensure effective linkage between the extended energy-economy-environment model and existing biophysical forest models, such as the CBM-CFS3. The CBM-CFS model can derive carbon fluxes and harvesting scenarios for each FMU for each year. To account for such effects, the future time duration of the model must be expanded to the year 2070, with multiple time-periods to reflect changing conditions over time. The framework for harvested wood products association with the CFS-CBM also tracks carbon in HWPs throughout their entire life and includes volumes of harvested trees allocated to the different HWPs and bioenergy production. The tracking of carbon stored in HWPs the extended energy-economy-environment model will need to be consistent with the framework for harvested wood products. Specifically, this step will help examine how the use of HWPs in the building construction industry can potentially affect the forest carbon balance in Canada over time.

S.W.4.1.6 Calibration, preliminary results and proof of concept

This step aims to demonstrate the feasibility and the practical potential of the new system methodology capacity through the selection and analysis of simplified scenarios. The extended energy-economy-environment model will be run under various streamlined set of conditions and assumptions, for exploring the new modeling outcomes, with documentation of results, and to confirm that the previous five modeling requirements (4.1.1 to 4.1.5) are met. The results obtained in the proof of concept need to shed light on the following questions:

- (Related to requirement 1) What is the systemic benefit when deriving optimal solution with an enhanced representation of HWPs in the energy-economy-environment model (e.g. with and without long-life HWPs)?
- (Related to requirement 2) How long-lived HWPs interact with other more carbon-intensive building materials, such as concrete and steel in the model?
- (Related to requirement 3) What are the direct and indirect effects of the use of wood-based building construction on the energy sector in term of cost and carbon emissions?
- (Related to requirement 4) What are the direct and indirect effects of the use of HWPs on domestic and exports markets?



- (Related to requirement 5) How do HWPs contribute to domestic and foreign GHG mitigation over time, in terms of emissions and carbon storage and how will the use of HWPs in the building construction industry potentially affect the forest carbon balance of Canada over time?

S.W.4.2 Phase 2 (Optional services)

S.W.4.2.1 Expanding provincial and territorial jurisdiction coverage

The requirement of this phase is to further expand the modeling and data capacity to represent the HWPs market competition and interactions in the 13 Canadian provincial and territorial jurisdictions. Each jurisdiction must be represented by its various competing building materials for building construction, in addition to the existing representation of energy markets.

S.W.4.2.2 Assessment of the role of long-lived HWPs in buildings for GHG mitigation

This work is intended to demonstrate the optimal pathways for use of HWPs in each jurisdiction for meeting growing demands of energy and construction materials (including export potential) and support the GHG mitigation efforts. The representation should include region-specific time varying changes, with the objective of deriving the minimum present worth cost for the cumulative period from 2020 to 2070, while satisfying both overall economic growth and more stringent GHG mitigation targets.

Three main scenarios for Canada's socio-techno-economic future will be explored for the next 50 years. Example scenarios that could be explored are a reference scenario, an evolving scenario and a net-zero scenario (Table 2).

Table 2: Suggestion of Canada's socio-techno-economic transformation scenarios up to 2070

Scenario ID	Description
Reference	This scenario assumes climate change actions limited to only the measures that are currently in place. Technological development is modest, generally limited to those with existing momentum and/or market share.
Evolving scenario (net-zero in 2070)	This scenario assumes a greater adoption of low carbon technologies beyond the pace in place today, achieving 80% reductions in 2050 and net-zero in 2070. It implies less global demand for fossil fuels.
Ambitious scenario (net-zero in 2050)	This scenario assumes climate change actions to reach a net-zero emissions by 2050, remaining at net-zero up to 2070, in the Canadian economy.

Deliverables resulting from this requirement will be used firstly, to assess, in general, whether development and use of HWPs in building construction is economic, and under what conditions. Secondly, the deliverables will be used to consider GHG implications of utilizing these materials in a variety of applications compared to business-as-usual energy production options. A series of model runs for the selected scenarios, with documentation of results, will be carried out to examine (year by year) of substitution effects associated with long-live HWP use, for up to 50 years in the future.

This study is of special importance for assessing differential temporal effects associated with different product pathways; extended use of wood products sequesters carbon on longer timescales than bioenergy. This study is also of special importance for assessing CO2 sequestration in HWPs for buildings, as well as for production of GHG emissions from pulp and paper operations. The approach for this special investigation is to include comprehensive accounting of GHG emissions from harvesting through various conversion processes and ultimately to its end of life. There is also net sequestration in exported HWPs, which needs to be accounted.

S.W.5.0 Deliverables, Milestones and Schedule

The primary deliverable for this project is a report and presentation deck that meets the objectives stated in section 3.

For phase 1, the contractor must:



- a) Plan and lead a project kickoff meeting, to be held via a video conference.
- b) Develop and finalize a **project plan**, for NRCan’s approval, that includes a **report outline** and a **timeline showing** how the contractor will complete the project on time.
- c) After the **project plan** has been approved, the contractor must prepare and submit a detailed block diagram showing how buildings and the construction sector must be integrated in the proposed energy-economy-environment model, with data requirements for each component of the model.
- d) Host a virtual **workshop**, with the support of NRCan, to discuss data requirements and priorities with data providers within and outside NRCan.
- e) Prepare a **draft report** for discussion with the project authority, and an accompanying **PowerPoint presentation** providing a high-level overview of the final report, highlighting the objectives, methodology, and key findings of the study.
- f) Present the findings of the proof-of-concept (via videoconference) and answer questions from meeting participants at a one hour briefing to be organized by NRCan.

Following the completion and review of the draft report and presentation, the contractor must:

- a) Prepare and submit a **final report** that would address all of *Section 3.1 Phase 1: Extending modelling capacity of energy-economy-environment model for determining optimal use of long-lived HWPs in buildings* and incorporates comments received from the client on the **draft report**.
- b) Prepare and submit a **final PowerPoint presentation** providing a high-level overview of the final report, highlighting the objectives, methodology, and key findings of the study.
- c) Submit all supporting documents for the final report.

For phase 2 (optional services), the contractor must:

- a) Plan and lead a project kickoff meeting, to be held via a video conference.
- b) Develop and finalize a **project plan**, for NRCan’s approval, that includes a **report outline** and a **timeline showing** how the contractor will complete the project on time.
- c) Host a **workshop** with CFS carbon accounting team to discuss the linking of the extended energy-economy-environment model with CBM-CFS.
- d) Prepare a **draft report** for discussion with the project authority, and an accompanying **PowerPoint presentation** providing a high-level overview of the final report, highlighting the objectives, methodology, and key findings of the study.
- e) Present the findings (via videoconference) for the three core scenarios identified in this document and answer questions from meeting participants at a one hour briefing to be organized by NRCan.

Following the completion and review of the draft report and presentation, the contractor will be required to:

- d) Prepare and submit a **final report** that would address all of section 3.2 *Phase 2 – Optional Services: Updating recent net-zero pathways scenarios using the extended energy-economy-environment model* and incorporates comments received from the client on the **draft report**.
- e) Prepare and submit a **final PowerPoint presentation** providing a high-level overview of the final report, highlighting the objectives, methodology, and key findings of the study.
- f) Submit all supporting documents for the final report.

Deliverables/Milestones	Time Schedule
<i>Phase 1</i>	
Project kickoff meeting	May 2 nd 2022
Presentation of block diagram and workshop on data requirements	Week of May 23 rd , 2022
Draft report and presentation of preliminary results	August 8 th , 2022
Final Report and presentation	September 5 th , 2022



<i>Phase 2 – Optional services</i>	
Project kickoff meeting	October 3 rd , 2022
Workshop with CFS carbon accounting team on linking the extended energy-economy-environment with CBM-CFS	October 31 st , 2022
Draft report and presentation of results	February 13 th , 2023
Final report and presentation	March 13 th , 2023

S.W.6.0 Reporting requirements

The contractor must meet with the client on a bi-weekly basis to provide an update on the project, progress against the research plan, discuss any feedback the client may have etc. Monthly discussions with the Task Team will also be scheduled as appropriate to discuss key deliverables and provide feedback to the contractor. Meetings must be via video-conference. Short written updates or the draft in progress may be requested in advance of these meetings.

S.W.7.0 Other Terms and Conditions of the SOW

S.W.7.1 Contractor’s Obligations

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

- keep proprietary information confidential, when applicable;
- submit all written reports in electronic Microsoft Office Word format;
- submit all input data and output results in electronic Microsoft Office Excel format.
- consult with key stakeholders identified by the Task Team, where necessary;
- attend virtual meetings with project team, when scheduled;
- participate in teleconferences, as needed.

S.W.7.2 NRCan’s Scientific Integrity Policy

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

S.W.7.3 NRCan’s Obligations

NRCan will provide the following support to the contractor:

- provide access to a staff member who will be available to coordinate activities with other NRCan contributors;
- provide further background information, as required;
- support engagement with key stakeholders, as required;
- provide comments on drafts and other documents within five (5 working days); and/or
- provide other assistance or support.

S.W.7.4 Location of Work, Work Site and Delivery Point

Work is to be preformed at the contractor’s place of business and/or the place of business of any sub-contractors or other members of the team assembled by the contractor.



ANNEX "B" - BASIS OF PAYMENT

(to be completed at contract award)



APPENDIX “1” - EVALUATION CRITERIA

Bidders are advised to address these criteria in the following order and in sufficient depth in their proposals to enable a thorough assessment. NRCan’s assessment will be based solely on the information contained within the proposal. NRCan may confirm information or seek clarification from bidders.

Bidders are advised that only listing experience without providing any supporting data to describe responsibilities, duties and relevance to the criteria will not be considered demonstrated for the purpose of this evaluation.

The Bidder should provide complete details as to where, when (month and year) and how (through which activities/responsibilities) the stated qualifications/experience were obtained. Experience gained during formal education shall not be considered work experience. All criteria for work experience shall be obtained in a legitimate work environment as opposed to an educational setting. Co-op terms are considered work experience provided they are related to the required services.

Bidders are also advised that the month(s) of experience listed for a project whose time frame overlaps that of another referenced project will only be counted once. For example: project one time frame is July 2001 to December 2001; project two time frame is October 2001 to January 2002; the total months of experience for these two project references is seven (7) months.

1. Technical Criteria

1.1 Mandatory Evaluation Criteria

The Mandatory Criteria listed below will be evaluated on a simple pass/fail basis. Proposals which fail to meet the mandatory criteria will be deemed non-responsive.

Criterion ID	Mandatory Criteria	Proposal Page #	Pass/Fail
M1	The Bidder MUST submit a Project List, demonstrating they have a minimum of 5 years experience in energy-economy-environment modelling and/or analysis of climate change mitigation strategies.		
M2	The Bidder MUST provide a methodological approach of the work to be performed, including a preliminary block diagram.		
M3	The Bidder MUST provide a work plan that includes at least, a schedule and a task breakdown.		



1.2 Evaluation of rated criteria

The criteria contained herein will be used by NRCan to evaluate each proposal that has met all of the mandatory criteria.

Proposals must achieve the stated minimum points required overall for the rated criteria to be assessed as responsive under the point rated technical criteria section; proposals not meeting the minimum required points will be deemed non-responsive.

Proposals will be evaluated based on the following criteria:

Req. ID	Rated Requirement	Evaluation Criteria Scoring Method	Bidder Score	Proposal Page #	Comments
R1	The Bidder's proposed methodological approach should address each element of SW.4.1 Phase 1 including: SW.4.1.1 SW.4.1.2 SW.4.1.3 SW.4.1.4 SW.4.1.5 SW.4.1.6	Up to 2 points will be awarded for each *detailed and **feasible element of the methodological approach: 1 Point will be awarded for the *detailed description of each element that will be undertaken to meet the objectives of Phase 1. 1 Point will be awarded for the **feasibility of each *detailed description of each element that will be undertaken to meet the objectives of Phase 1. *Detailed is defined as: providing enough information to substantiate the proposed methodological approach for Phase 1. **Feasible is defined as: The methodological approach is realistic in terms of timelines and required resources to complete Phase 1.	/12		
R2	The Bidder's proposed Work Plan should address all aspects of S.W.5.0 Deliverables, Milestones and Schedule, with the following sections:	2 points will be awarded for each aspect as follows: a. Scheduling of deliverables and milestones; b. Task breakdown and identified resources assigned to each task; c. Reporting arrangements; d. Identify potential risks; and, e. Provide a realistic plan with actions for mitigating the risks.	/10		



Req. ID	Rated Requirement	Evaluation Criteria Scoring Method	Bidder Score	Proposal Page #	Comments
R3	The Bidder's proposed preliminary block diagram.	<p>Up to 2 points will be awarded for each component of the preliminary block diagram:</p> <ul style="list-style-type: none"> a. How the use of harvested wood products in building construction will be integrated to the existing entities in the proposed energy-economy-environment model structure; b. How the interplay between building construction materials (wood and non-wood) will be integrated to the existing energy-economy-environment model structure; c. How the interplay between short- and long-lived HVPs will be integrated to the existing energy-economy-environment model structure; and d. How the timing of GHG emissions and carbon stocks associated with forest products will be considered in the assessment of optimal climate change mitigation pathways. 	/8		
R4	The bidder has experience developing and implementing energy-economy-environment models with jurisdictions	<p>A maximum of 2 completed projects can be submitted as evidence. 4 Points per Project.</p> <p>Bidder's should provide the following details for each project:</p> <ul style="list-style-type: none"> • Project description; • Length of Project (from – to); and, • Client information for validation purposes only. 	/8		
R5	The bidder has experience conducting national analysis on optimal climate change mitigation pathways in the energy sector.	<p>A maximum of 2 completed projects can be submitted as evidence. 4 Points per Project.</p> <p>Bidder's should provide the following details for each project:</p> <ul style="list-style-type: none"> a. Project description; b. Length of Project (from – to); and, c. Client information for validation purposes only. 	/8		
Total Points: Total Points Needed To Be Considered Compliant: 23 Points			/46		



APPENDIX “2” - FINANCIAL PROPOSAL FORM

1. Firm Price – Phase 1

Bidder tendered all-inclusive firm price to perform the work in Canadian funds, applicable taxes excluded. Any Travel and Living Expenses and other miscellaneous expenses must be included in the firm price.

Description	Firm Price (Applicable Taxes Excluded)
Phase 1 – Final Report – corresponds to ANNEX A – Statement of Work	\$ _____
Total Firm Price for Financial Proposal Evaluation (Taxes Extra):	\$ _____

2. Optional Work - Firm Price – Phase 2

Bidder tendered all-inclusive firm price to perform the work in Canadian funds, applicable taxes excluded. Any Travel and Living Expenses and other miscellaneous expenses must be included in the firm price.

Description	Firm Price (Applicable Taxes Excluded)
Phase 2 – Final Report - corresponds to ANNEX A – Statement of Work	\$ _____
Total Firm Price for Financial Proposal Evaluation (Taxes Extra):	\$ _____