



Request for Information	Date: August 2, 2019
Issuing Office	Natural Resources Canada 580 Booth ST Ottawa, ON K1A 0E4
Contracting Authority	Name: Abbas Khokhar  Title: Procurement Officer Organization: Natural Resources Canada Address: 580 Booth ST Ottawa, ON K1A 0E4 Telephone: 343-292-8319 E-mail: abbas.khokhar@canada.ca
Closing Date and Time	September 04, 2019 @ 14:00 EDT
Email address for submitting your response by the closing date	abbas.khokhar@canada.ca



**REQUEST FOR INFORMATION (RFI) REGARDING THE IMPLEMENTATION OF AFTERMARKET TECHNOLOGY TO REDUCE GREENHOUSE GAS EMISSIONS IN GOVERNMENT OF CANADA FLEET VEHICLES**

**1. Purpose and Nature of the Request for Information (RFI)**

Natural Resources Canada (NRCan) is requesting industry feedback regarding the provision and installation of aftermarket technology in fleet vehicles for the purposes of increasing fuel efficiency and reducing greenhouse gas emissions of government operations. The responses provided will contribute to further defining the Statement of Work which may be used to establish a supply arrangement in a manner that is understandable by industry and meaningful to the Greening Government Operations context.

The information sought is for the provision and installation of the following four technology categories. The technology category numbers in the table below are used for reference purposes only.

<p><b>1. Hybrid Electric Vehicle Conversion</b></p> <p>Involves adding an electric motor and battery pack to the existing vehicle’s powertrain in order to increase fuel efficiency and reduce emissions.</p> <p>Hybrid <b>features</b> are:</p> <ul style="list-style-type: none"> <li>• Regenerative Braking</li> <li>• Stop/ Start idling reduction</li> <li>• Launch assist and low-speed/ range EV only running</li> <li>• Acceleration assist</li> <li>• Energy flow and energy efficiency gauge promoting fuel-efficient driver behaviour</li> </ul>
<p><b>2. Plug-in Hybrid Electric Vehicle Conversion</b></p> <p>Involves adding a battery pack and on-board charging equipment to the existing vehicle’s powertrain in order increase fuel efficiency and reduce emissions.</p> <p>PHEV <b>features</b> are:</p> <ul style="list-style-type: none"> <li>• Grid rechargeable battery pack Level 1 and Level 2 compatible using SAE J1772</li> <li>• Regenerative Braking</li> <li>• Stop/ Start idling reduction</li> <li>• Extended range EV only operation</li> <li>• Acceleration assist</li> <li>• Energy flow and energy efficiency gauge promoting fuel-efficient driver behaviour</li> </ul>
<p><b>3. Battery-Electric Conversions</b></p> <p>Involves the replacement of the vehicle’s internal combustion engine with a fully-electric propulsion system. All of the vehicle’s power is derived from regenerative braking and external electric chargers that supply the high-capacity battery with energy.</p>
<p><b>4. Idle-Management System</b></p> <p>Involves the installation of a system into the vehicle’s internal communications network that shuts the engine off during idling events to reduce emissions and preserve fuel. Systems can include auxiliary capabilities such as cabin temperature control, battery monitoring and anti-theft functions and more durable start-up components.</p>
<p><b>All technology categories must have</b></p> <p><b>Warranty:</b> At least a 5-year component warranty is required.</p>



**Certifications:** The technology is **approved for use in Canada**, meaning equipment has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the applicable standards ex: CSA, cUL, cETL, etc.

## 2. The objectives of this RFI are:

- To collect information on the operational and logistical considerations necessary to equip fleet vehicles with aftermarket emissions reduction technology
- To identify the level of market readiness and scope of aftermarket vehicle technology
- To determine the hardware and installation costs of said technology
- To assist in the development of a potential Supply Arrangement (SA) for the project

This RFI is neither a call for tender nor a Request for Proposal (RFP). No agreement or contract will be entered into based on this RFI. The issuance of this RFI is not to be considered in any way a commitment by the Government of Canada, nor as authority to potential respondents to undertake any work that could be charged to Canada. This RFI is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the work described herein. The procurement of any of the services described in this RFI will not necessarily follow this RFI. This RFI is simply intended to solicit feedback from industry with respect to the matters described in this RFI.

Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.

Respondents are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary, third party or personal information. Please note that Canada may be obligated by law (e.g. in response to a request under the Access of Information and Privacy Act) to disclose proprietary or commercially-sensitive information concerning a respondent (for more information: <http://laws-lois.justice.gc.ca/eng/acts/a-1/>).

Respondents are asked to identify if their response, of any part of their response, is subject to the Controlled Goods Regulations.

Participation in this RFI is encouraged, but is not mandatory. There will be no short-listing of potential suppliers for the purposes of undertaking any future work as a result of this RFI. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.

Respondents will not be reimbursed for any cost incurred by participating in this RFI.

The RFI closing date published herein is not the deadline for comments or input. Comments and input will be accepted any time up to the time when/if a follow-on solicitation is published.

## 3. Background Information

In December 2016, Canada endorsed the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) – a plan to enable clean economic growth, reduce GHG emissions, and build resilience to a changing climate. The PCF sets Canada on a path to meet its target under the Paris Agreement of reducing emissions by 30% from 2005 levels by 2030. The framework includes a comprehensive strategy



to reduce emissions from the transportation sector through improved efficiency, greater electrification, fuel switching, and the development of a clean fuel standard among other actions.

The PCF's approach to government leadership includes modernizing the federal fleet by adopting low-carbon mobility solutions and scaling up clean procurement. Leveraging new innovative technologies to reduce emissions in areas that have historically been difficult to address will be instrumental in meeting these objectives.

NRCAN has identified several aftermarket alternatives that can help bridge the Federal Fleet's pathway to significant and immediate decarbonization. Idling reduction systems as well as hybrid and electric conversion technology can provide federal fleets with the means to significantly reduce the greenhouse gas emissions and fuel consumption of their light trucks.

## Appendix A – Category Specific Questions

### Category 1 - Hybrid Electric Vehicle Conversion

- a. What is the cost of the technology and corresponding installation?
- b. How is the technology implemented into the vehicle?
  - a. Please supply a sample work order
- c. Does the cost vary depending on the make and model of the vehicle being converted?
  - a. Please provide a cost list broken down by model year and powertrain for the following vehicles:
    - i. Ford F-150
    - ii. Chevrolet Silverado 1500
    - iii. Ram 1500
- d. What vehicle makes/models/years are compatible with the conversion technology?
- e. What type of warranty comes with the technology?
- f. Does the implementation of the technology affect the OEM vehicle warranty?
- g. Is there a pre-installation vehicle inspection to ensure that technology will be successfully integrated with each particular vehicle?
- h. How long does installation take?
- i. Are installations performed at the supplier's facilities, or at third party work sites?
- j. What is the regional scope of the installation services (please provide a list of Canadian cities in which installation services can be provided)?
  - j2: Should Installations be required outside of the cities listed above, please explain how vehicles and/or technicians are relocated to ensure project completion.
- k. What is the emissions reduction potential of the technology once implemented?
- l. Does the technology interfere with the vehicle's OBD2 system?
  - a. The vehicles will need to be equipped with a telematics device (supplied by the Government of Canada) to track fuel consumption and other vehicle duty cycle parameters.
- m. Is the technology **approved for use in Canada** (equipment has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the applicable standards)?

### Category 2 – Plug-in Hybrid Electric Vehicle Conversion

- a. What is the cost of the technology and corresponding installation?
- b. How is the technology implemented into the vehicle?
  - a. Please supply a sample work order
- c. Does the cost vary depending on the make and model of the vehicle being converted?
  - a. Please provide a cost list broken down by model year and powertrain for the following vehicles:



- i. Ford F-150
  - ii. Chevrolet Silverado 1500
  - iii. Ram 1500
- d. What vehicle makes/models/years are compatible with the conversion technology?
- e. What type of warranty comes with the technology?
- f. Does the implementation of the technology affect the OEM vehicle warranty?
- g. Is there a pre-installation vehicle inspection to ensure that technology will be successfully integrated with each particular vehicle?
- h. How long does installation take?
- i. Are installations performed at the supplier's facilities, or at third party work sites?
- j. What is the regional scope of the installation services (please provide a list of Canadian cities in which installation services can be provided)?
  - j2: Should Installations be required outside of the cities listed above, please explain how vehicles and/or technicians are relocated to ensure project completion.
- k. What is the emissions reduction potential of the technology once implemented?
- l. What level of charger is the converted vehicle compatible with?
- m. How long does the battery take to fully charge?
- n. Does the technology interfere with the vehicle's OBD2 system?
  - a. The vehicles will need to be equipped with a telematics device (supplied by the Government of Canada) to track fuel consumption and other vehicle duty cycle parameters.
- o. Is the technology **approved for use in Canada** (equipment has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the applicable standards)?

### Category 3 – Battery Electric Vehicle Conversion

- a. What is the cost of the technology and corresponding installation?
- b. How is the technology implemented into the vehicle?
  - a. Please supply a sample work order
- c. Does the cost vary depending on the make and model of the vehicle being converted?
  - a. Please provide a cost list broken down by model year and powertrain for the following vehicles:
    - i. Ford F-150
    - ii. Chevrolet Silverado 1500
    - iii. Ram 1500
- d. What vehicle makes/models/years are compatible with the conversion technology?
- e. What type of warranty comes with the technology?
- f. Does the implementation of the technology affect the OEM vehicle warranty?
- g. Is there a pre-installation vehicle inspection to ensure that technology will be successfully integrated with each particular vehicle?
- h. How long does installation take?
- i. Are installations performed at the supplier's facilities, or at third party work sites?
- j. What is the regional scope of the installation services (please provide a list of Canadian cities in which installation services can be provided)?
  - j2: Should Installations be required outside of the cities listed above, please explain how vehicles and/or technicians are relocated to ensure project completion.
- k. What is the emissions reduction potential of the technology once implemented?
- l. What level of charger is the converted vehicle compatible with?
- m. How long does the battery take to fully charge?
- n. Does the technology interfere with the vehicle's OBD2 system?
  - a. The vehicles will need to be equipped with a telematics device (supplied by the Government of Canada) to track fuel consumption and other vehicle duty cycle parameters.



- o. Is the technology **approved for use in Canada** (equipment has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the applicable standards)?

#### Category 4 – Idle-Management System

- a. What is the cost of the technology and corresponding installation?
- b. How is the technology implemented into the vehicle?
  - a. Please supply a sample work order
- c. Does the cost vary depending on the make and model of the vehicle?
  - a. Please provide a cost list broken down by model year and powertrain for the following vehicles:
    - i. Ford F-150
    - ii. Chevrolet Silverado 1500
    - iii. Ram 1500
- d. What vehicle makes/models/years are compatible with the technology?
- e. What type of warranty comes with the technology?
- f. Does the implementation of the technology affect the OEM vehicle warranty?
- g. Is there a pre-installation vehicle inspection to ensure that technology will be successfully integrated with each particular vehicle?
- h. How long does installation take?
- i. Are installations performed at the supplier's facilities, or at third party work sites?
- j. What is the regional scope of the installation services (please provide a list of Canadian cities in which installation services can be provided)?
  - j2: Should Installations be required outside of the cities listed above, please explain how vehicles and/or technicians are relocated to ensure project completion.
- k. What is the emissions reduction potential of the technology once implemented?
- l. Does the technology interfere with the vehicle's OBD2 system?
  - a. The vehicles will need to be equipped with a telematics device (supplied by the Government of Canada) to track fuel consumption and other vehicle duty cycle parameters.
- m. Is the technology **approved for use in Canada** (equipment has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the applicable standards)?