<table>
<thead>
<tr>
<th>Improving the Economic and Environmental Performance of the North American Automotive Industry Supply Chain</th>
<th>Operating Year(s): 2011–2012</th>
</tr>
</thead>
</table>
| **Planned Budget:** 2011 - C$80,000  
2012 - C$120,000 | |
| **Strategic Priority/Objective:**  Greening the North American Economy/Improved private sector environmental performance in North America | |
| **Project Summary:** This project proposes to re-engage key automotive companies for the development and implementation of green supply-chain programs across North America. This builds precisely on the language within the 2010–2015 CEC Strategic Plan: “building on our success in the automotive manufacturing sector through continued efforts to green critical components of supply chains across the continent and support the ongoing recovery of this important sector.”  
Initiatives for greening the North American auto industry have been supported by the CEC, specifically in the 2009–2010 Operational Plan and Council Resolution 06-06.¹ Past CEC efforts succeeded in stimulating competitiveness to the sector and significantly reducing environmental impacts through the Suppliers’ Partnership Organization in the United States. Expansion of automotive supply chain programs into Canada and Mexico was also near completion when it was abruptly severed by the misfortune of the economic downturn.  
This project proposes now to extend work in greening the automotive supply chain throughout Canada and Mexico to create a "one window' North American program. Continuing the work already started by the CEC in the automotive sector is important to set up a successful cooperative trilateral initiative and achieve a business-driven, self-supported North American partnership that will promote greening of the automotive supply chains in North America.  
Given the success of the work started within the United States and the strong integration of the auto sector across all three countries, this project will allow both Canada and Mexico to benefit from initial efforts in the United States, level the playing field across North America, and permit trilateral cooperation. These programs can be the foundation for automotive manufacturers and their suppliers to share information and practices that will improve environmental and economic performance within this North American sector supply chain. | |
| **Environmental Outcome:** To reduce environmental impacts from the automotive manufacturing industry while enhancing competitiveness by developing and implementing formalized Automotive Green Supply Chain programs in Canada and Mexico in partnership with the United States. | |
| **Short Term (timeline: spring 2011–spring-summer 2012)**  
The commitment of core automotive manufacturers and suppliers to green their supply chains in Canada and Mexico.  
- **Measurability:** the number of manufacturers and suppliers in Canada and Mexico committed to the green supply chain program, as | |

well as their respective scale of impact in the sector.

Exchange of resources, information, and tools within the sector, to green the supply chain between manufacturers and suppliers.

- Measurability: list of tools and resources exchanged and performance survey of how useful manufacturers and suppliers found them.

**Middle Term (timeline: starting summer-fall 2012 and continuing throughout the life of this Green Supply Chain Program)**

The creation of a business-driven, self-supported supplier partnership in North America (Canada, Mexico and the United States) to green the automotive supply chain.

- Measurability: membership and numbers of small to medium-size enterprises benefiting from the supplier partnership program in Canada, Mexico, and the United States and the resources (financial and logistical) allotted to sustain the program.

Reduction in environmental impact and improvement in economic capacity through activities adopted by the supplier partnership program.

- Measurability: list of activities adopted, such as best management practices, amount of reduced impact, and improved business results reported by members, including waste reduction, lessened energy and water consumption, and increased profit margins.

**Long Term (timeline: over next five years and continuing onwards)**

The reduced environmental footprint of the automotive supply chain, along with improved automotive sector competitiveness.

- Measurability: survey to members on environmental measures and profit improvements, such as tonnage of greenhouse gas reductions, end-of-life cycle responsibility, lower toxicity of end products and manufacturing outputs, reduced energy and water consumption, increased profit margin and business growth. Additional measures could include number of stakeholders affected by supply partnership program and an increased overall competitive market of the North American automotive industry.

**Tasks necessary to reach the Environmental Outcome:**

1) Engage Canada and Mexico in developing a green automotive supply chain program
2) Unite Canada, Mexico and the United States in a self sustainable North American green supply chain program

**Budget:** Overall timeline and budget: two years (2011 - $80,000, 2012 - $120,000) – a rate of $10,000 per month for the period of May 2011 to December 2012 for costs and expenses to contractor to carry out project.

**Task 1: Engage Canada and Mexico in developing a green automotive supply chain program**

<table>
<thead>
<tr>
<th>Subtask</th>
<th>Project outputs</th>
<th>How does the subtask/output move the project towards the Environmental Outcome?</th>
<th>Timing</th>
<th>Budget (C$) (activities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The commitment of core automotive manufacturers and suppliers in Canada to participate in a green supply chain program</td>
<td>Engaging Canada and Mexico in a green automotive supply chain allows short-term environmental outcomes to be met (see Environmental Outcome section).</td>
<td>Summer 2011–Summer 2012</td>
<td>$80,000 (activities include meetings with key stakeholders, organizing working groups, designing the green supply chain program for both Canada and Mexico)</td>
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</table>
### Task 2: Unite Canada, Mexico and the United States in a self-sustainable North American green supply chain program

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<thead>
<tr>
<th>Subtask</th>
<th>Project outputs</th>
<th>How does the subtask/output move the project towards the Environmental Outcome?</th>
<th>Timing</th>
<th>Budget (C$) (activities)</th>
</tr>
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<tbody>
<tr>
<td>2.1 Build a trinational communications gateway to create a “one-window,” self-sustainable North American green automotive supply chain program.</td>
<td>A collaborative framework for automotive manufacturers and suppliers to mentor and share information and practices, leading to improved environmental and economic capacity of small and medium-size enterprises in the supply chain</td>
<td>Developing and implementing a supply chain program that is North American in scope and self-sustaining allows for middle-term and long-term environmental outcomes to be reached (see Environmental Outcome section).</td>
<td>2 years</td>
<td>$120,000 (activities include trinational meetings, conference calls, strengthening working group functionality, surveys, compiling annual CEC reports, forming logistics for self sustainability)</td>
</tr>
<tr>
<td>2.2 Collect and share of results-oriented information that highlights progress within the automobile sector.</td>
<td>Annual, web-based CEC North American Automotive Supply Chain Efficiency reports detailing how companies in the automotive supply chain are improving the environment and creating economic opportunity in the manufacturing process</td>
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<tr>
<td>2.3 Develop and implement a self-sustaining automotive</td>
<td>A self-sustained coalition of auto suppliers and</td>
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supply chain program across North America that will benefit the environment, trade and the economy, and encourage sustainable consumption, production and trade.

manufacturers in Canada, Mexico, and the United States, in partnership with their governments to improve the environment and the economies of their respective countries through greening the automobile supply chain.

Explain how this project meets the selection criteria adopted by Council in the Strategic Plan (See below)

The goal of all projects funded by the CEC will be to support the efforts of the Parties to conserve, protect and/or enhance the North American environment. The following criteria will guide the Secretariat, Working Groups, Committees, and other appropriate officials of the Parties in considering cooperative activities for Council approval under operational plans. These selection criteria do not apply to activities funded through the NAPECA grant program.

- Does the project contribute to achieving Council’s strategic objectives as described within the current Strategic Plan, or as related to other priorities subsequently confirmed by Council? How?

In the Strategic Plan, Strategic Objective # 1 under the third Council priority (“Greening the Economy of North America”) is “Improved private sector environmental performance in North America.

This project aims to improve private sector environmental performance by forging partnerships between automotive manufacturers and suppliers across North America to ‘green the automotive supply chain.’ The competitive advantage of the approach is that it aims to simultaneously reduce costs/increase profits while saving the environment, offering a sustainable business model that will reap long-term benefits. In addition, it will provide a self-sustaining forum for continued improvement, innovation and success.

In the “Greening the Economy in North America” priority, there is also emphasis on “Engaging experts and strengthening information and data-sharing to assess and promote private sector environmental performance in North America as a tool to support the Strategic Objective”. A Green Supply Chain or Supplier Partnership program initiative creates an environment to carry this out through engaging private sector experts with support of a facilitator to organize, develop and implement green supply chain programs in Canada and Mexico in partnership with automotive manufacturers and key suppliers. Continued efforts in the US will promote forward momentum. In establishing a trilateral platform for partnership and communication, a foundation will be built that will allow suppliers to participate in a “one-window” program. Automotive manufacturers and their suppliers across North America will be able to share information and practices that will improve the environmental and economic performance capacity of small and medium-size enterprises within this sectoral supply chain.

- Are the proposed objectives North American in scope? In other words, how are the proposed results relevant to protecting the environment in North America?

Yes, the automotive supply chain is a vital and integrated component of the economy in Canada, Mexico, and the United States. It is anticipated that the supply chain programs will create a foundation for suppliers across North America to participate on a level playing field, enhancing their capacity in a shared economic and environmental context. It also provides resources to build interest and engage suppliers that are deeper in the supply chain and thus harder to reach (such as tier-3 companies). In expanding communication and interest, the supply partnership will be able to encompass a wider embodiment of the automotive supplier-manufacturer realm across North America.
In its approach, this initiative aims to generate measurable progress on greening the automotive supply chain in Canada and Mexico, and lay the foundation for a sustainable North American automotive supply chain organization in Canada and Mexico. These new organizations will be given the logistical resources to be self-sustainable and fund future activities of their organizations with independent funding of the CEC. They will work collaboratively and supportively with the Suppliers Partnership for the Environment that is now operating with company funding in the United States.

- Does the project identify specific clear and tangible results that will be achieved and how progress toward each result will be measured over time?

Yes, through the development and implementation of green supply chain programs, small and medium-size suppliers will collaborate in sharing information and practices. Important areas for economic and environmental improvements include creating systems to identify and utilize automotive manufacturing environmental technology opportunities to improve the environment and the financial viability of the automobile supply chain. Furthermore, activities will be undertaken to enhance the automotive industry and its supply chain by reducing energy consumption, addressing solid waste, materials efficiency, chemicals in products and water sustainability issues.

In order to evaluate the success of the supply chain program, two web-based annual CEC North American Automobile Supply Chain Efficiency Reports will be created that will provide detail on how companies in the automobile supply chain are improving the environment and creating economic opportunity in the manufacturing process. Measurable and identifiable results will include much of the following metrics:

<table>
<thead>
<tr>
<th>Economic Metrics</th>
<th>Energy Metrics</th>
<th>Environment Metrics</th>
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<tbody>
<tr>
<td>- number of manufacturers engaged</td>
<td>- energy conserved</td>
<td>- air emissions reduced</td>
</tr>
<tr>
<td>- number of medium-size and small</td>
<td>- energy intensity per unit of production</td>
<td>- solid waste reduced</td>
</tr>
<tr>
<td>businesses engaged</td>
<td>- carbon reductions</td>
<td>- material intensity per unit of production</td>
</tr>
<tr>
<td>- percentage of small businesses engaged</td>
<td>- carbon intensity per unit of production</td>
<td>- hazardous waste reduced</td>
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<tr>
<td>- jobs created</td>
<td></td>
<td>- hazardous materials reduced</td>
</tr>
<tr>
<td>- jobs retained</td>
<td></td>
<td>- water pollution reduced</td>
</tr>
<tr>
<td>- individuals trained</td>
<td></td>
<td>- water used/conserved</td>
</tr>
<tr>
<td>- number and value of loans granted</td>
<td></td>
<td>- water intensity per unit of production</td>
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<tr>
<td>- capital dollars invested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- hours of counseling provided</td>
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<tr>
<td>- total annual potential impact identified</td>
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</tr>
<tr>
<td>- savings identified (environmental, &quot;lean,&quot; and</td>
<td></td>
<td></td>
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<tr>
<td>other)</td>
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- Is the CEC the most effective vehicle for the Parties to undertake the project, considering:

  o The value-added of doing it under the CEC cooperative program

    This project precisely addresses the 2010–2015 CEC Strategic Plan work directive: “Building on our success in the automotive manufacturing sector through continued efforts to green critical components of supply chains across the continent and support the ongoing recovery of this important sector”.

    Previous efforts by the CEC have proven the success of reducing environmental impacts by the automotive industry in the United States. In continuing its involvement with greening the automotive supply chain it will allow the momentum to continue and expand into Mexico and Canada, leveling the playing field and allowing the industry to build a trilateral foundation upon which it may continue to flourish. Therefore, this is an excellent opportunity for The CEC to be the catalyst for expanding a supplier partnership across North America.
Any other public, private or social organizations that work on such activities

In its efforts to date, the CEC has supported the Suppliers Partnership as a vehicle to build partnership with the industry and implement activities within the automotive sector; a direct goal outlined in the Council Resolution 06-06. This organization is unique as it is a group that benefits all automobile suppliers, is member-driven, proactive, and self sustained. It is also the only automobile environmental supply chain entity that directly collaborates with the federal environment agency (US EPA). The principles of this group had been the foundation on building a green automotive supply chain program in both Canada and Mexico in 2008-2009 that had nearly succeeded before the economic crisis hit the sector. In order to successfully carry-out the goals in this project and build partnership with the automotive industry, work will continue to focus on with the principles and foundations of the Suppliers Partnership.

Opportunities to cooperate and/or leverage resources with such organizations

Opportunities to cooperate and leverage resources exist in continuing previous CEC work with the Suppliers Partnership. This organization has engaged the US Environmental Protection Agency, large OEM’s in the North American market, and thousands of medium-size and small suppliers and manufacturers. Furthermore, as the tasks involved in engaging Canada and Mexico, and creating a North American program require delicate and strategic execution, it is recognized that expertise required and available to implement these targets will include a series of unique skills including: knowledge of the automobile industry and the supply chain; relationships with key leaders within the automobile manufacturing industry, the supply chain, and the governmental units represented in the CEC; the ability to facilitate and execute the results of strategic planning activities in Canada and Mexico; the ability to work seamlessly with Canadian, Mexican and United States auto-related supply chain organizations; and the capacity to enable Canada and Mexico the ability to facilitate, create and support work groups activities that will address issues with measurable results that will meet the objectives of the CEC’s greening the automotive sector. Through arduous work previously supported by the CEC, the appropriate cooperation and expertise has been established. Given the opportunity to continue with this initiative and the ability to rely on these resources to build upon, a green automotive supply chain can emerge into Canada and Mexico and be achieved across North America.

Does the project propose a clear timeline for implementation of the activities, including a target end date for CEC’s involvement? Where applicable, describe how the work will continue after CEC involvement ends?

Yes there is a clear timeline for implementation of the activities including the target end date for the CEC’s involvement. The Supply Chain program development and implementation requires two years. This two-year proposal aims to establish involvement in greening the automotive supply chain within Canada and Mexico and strengthen partnership between Canada, U.S.A. and Mexico to forge a coalition that will take on challenges and sprout solutions for key environmental issues impacting the automobile supply chain in North America. These initiatives will continue on through industry participation and fee structures to be self sustainable.

Where applicable, does the project identify with reasonable specificity:

- Linkages with other relevant CEC projects, past or present, in order to create synergies, capitalize on experience, or avoid duplication?

This project builds on previous CEC automotive and small and medium-size "lean and clean" activities that occurred in Mexico. However, the economic downturn brought to a standstill the Green Supply chain activities that had occurred in Mexico, and were beginning in Canada. This is reflected in the language on page 11 of the 2010–2015 Strategic Plan of the CEC: “building on our successes in the automotive manufacturing sector, through continued efforts to green critical components of supply chains across the continent and support the ongoing recovery of this important sector.”
In addition, the CEC Roadmap was a key deliverable from the ‘Greening the North American Auto Industry’ project in the 2009–2010 Operational Plan. This roadmap identified practical insights into the sector’s drivers and barriers and innovative elements that would provide competitiveness and environmental sustainability to the automotive supply chain. This project, in continuing to engage Mexico and Canada to create a North American green supply chain organization, will be able to draw from the concepts envisioned in the CEC Roadmap towards competitiveness and improved environmental performance.

On a broader scale and larger timeframe, this project gives CEC the potential to continue to honor the Strategic Priority, “Greening the Economy in North America,” by applying a similar project approach to different sectors. The approach outlined in this project will lay the foundation for the auto-sector supply chain to move forward with their own organizations and also then allow the CEC to identify another business sector to focus resources and strategies. Therefore, it will be possible for CEC to systematically provide resources for different business sectors each of which will focus on ways to green their sector specific supply chains in North America.

- The target audience, as well as its receptivity and capacity to use the information that may be produced as a result of the project?

The automotive manufacturers and the automotive supply chain – the target audience - are receptive to this project in forming partnership to green the automotive supply chain while reducing costs/making money. In 2009, the target audience was receptive to forming a green automotive supply chain program. While activity has since ceased due to the unexpected economic crisis, receptivity has continued. Automotive manufacturers and suppliers have been receptive in recent discussions, expressing interest in the elements of the Roadmap and the dynamics of the Suppliers Partnership formed in the United States to green the automotive supply chain.

Information that may be produced by this project through Working Groups, reports, surveys, and overall knowledge sharing, is intended to be shared and used by the target audience who will directly benefit from it.

- The beneficiaries of capacity building activities that the project may include?

The automotive industry and the small and medium suppliers of the three countries will be direct beneficiaries. Consumers of automotive products and ultimately, all citizens within North America will subsequently benefit from the resulting improvement in the supply chain both by the reduced environmental impact and availability of improved automotive products.

- The relevant stakeholders, with particular attention to communities, academia, NGOs and industry, and their involvement and contribution to a successful outcome.

The relevant stakeholders include:

- the North American automotive manufacturers and the thousands of small and medium-size suppliers within the sector, who may be involved in, or benefit from, the green supply chain program to improve their environmental and economic performance capacity.

- business associations, whose members would benefit from the supply chain programs. For example: the Canadian Automotive Parts Manufacturers Association, and the Asociación Mexicana de la Industria Automotriz (AMIA).
- **environmental government agencies**, who will work in partnership with the green supply chain program to provide information, tools and resources.
  
  *Environment Canada*
  
  Secretaría de Medio Ambiente y Recursos Naturales (Semarnat), Procuraduría Federal de Protección al Ambiente (Profepa)
  
  *Environmental Protection Agency (EPA)*
  
- **trade associations** with common goals in environmental protection and greening the automotive supply chain
  
  (currently in the United States, the Green Suppliers Network and the US Suppliers’ Partnership for the Environment).
  
- **NGOs, green technology providers**, and other entities that would benefit from involvement in the supply chain program
  
  *For example:* Good Will and Green Tree Products Technologies are active members in the Suppliers Partnership in the United States
  
*It is anticipated that supply chain programs will be fee-structured initiatives once CEC support ends.*