

Project 2: North American Black Carbon Emissions Estimation Guidelines		Operating Year(s): 2013–2014
Planned Budget for two years: \$310,000		
Year 1: \$185,000		
Year 2: \$125,000		
Strategic Priority/Objective: Climate Change/Low-Carbon Economy		
<p>Project Summary</p> <p>The project consists of a trilaterally coordinated identification/development of methodologies to improve the accuracy of black carbon and co-pollutant emissions estimates, with the goal of providing reliable inventories for establishing baselines and determining reduction priorities by source category or location. Once consensus on estimation methodologies is reached, the project calls for completion of a guidance document on estimating black carbon from certain sources. Incorporating the completed methodological and inventory data into the North American Online, Interactive Informational Platform on Climate Change (being developed through a separate CEC project) will assist in meaningful data exchange and cross-border emissions reductions planning.</p>		
<p>Short-term Outcomes (at halfway point)</p> <ul style="list-style-type: none"> • Partnership with the European Monitoring and Evaluation Programme of the Convention on Long-range Transboundary Air Pollution (LRTAP/EMEP), the Climate and Clean Air Coalition (CCAC) and other relevant entities. • Identification of key research needed to improve North American black carbon emissions estimates. • Trinational consensus on best available approaches and assumptions for estimating black carbon and its co-pollutants from all source categories. 		
<p>Long-term Outcomes (by the end of the project)</p> <ul style="list-style-type: none"> • Completed guidance document for estimation of emissions from key sources. • Improved North American emissions inventories for black carbon and co-pollutants, which can be used to establish baselines and determine reduction priorities by source category or location. • Guidance incorporated into the North American Online, Interactive Informational Platform on Climate Change. 		
<p>Longer-term, environmental outcome (post project)</p> <ul style="list-style-type: none"> • Comparability among North American black carbon and co-pollutant inventories. • Identification of best available approaches for controlling emissions of black carbon and associated co-pollutants. • Ongoing, meaningful data exchange and cross-border emissions reductions planning, through availability in a transparent Online Platform. • A robust set of comparable emissions estimation methodologies for black carbon and co-pollutants could also be adopted by countries beyond North America. 		

Tasks necessary to reach the environmental outcome:				
<ul style="list-style-type: none"> Assess work to date and planned work related to methodologies/guidelines with which to estimate black carbon and co-pollutants emissions. Coordinate with the LRTAP/ EMEP, CCAC, and other relevant entities identified by the assessment, and build on black carbon and co-pollutant emissions estimation efforts to date to develop an accepted common set of methodologies for use by the three countries. Develop estimations guidelines for North America, to be made available through the North American Online, Interactive Informational Platform on Climate Change. 				
Task 1) Assess work to date and planned work related to methodologies/guidelines for estimating black carbon emissions				
Subtask	Project outputs	How does the subtask/output move the project towards the environmental outcome	Timing	Budget (activities)
1.1 Conduct an exhaustive review, within North America and globally, of black carbon emissions methodologies being used, current efforts in developing methodologies, and black carbon inventories that have been completed. Include other particulate matter (PM) components, and related co-pollutants for key source categories and potential mitigation options.	Report compiling methodologies.	Knowing methodologies currently being used or in development will provide a basis for developing an acceptable estimation methodology.	July 1, 2013–September 30, 2013	Year 1: \$50,000 Year 2: \$0
1.2 Compare and analyze methodologies to determine their robustness, viability and commonalities, to identify a solid foundation	The second portion of the report, with analyses of methodologies.	A solid understanding will further inform development.	October 1, 2013–November 30, 2013	Year 1: \$20,000 Year 2: \$0

from which to build methodologies/ guidelines.				
1.3 Provide options and recommendations for a path forward.	Third portion of report providing a set of options and recommendations.	Recommendations set the stage for actual development.	November 30, 2013–January 15, 2014	Year 1: \$15,000 Year 2: \$0
Task 2) Coordinating with the LRTAP/ EMEP, CCAC, and other relevant entities identified by the assessment, build on black carbon emissions estimation efforts to-date to develop an accepted common set of methodologies for use by the three countries (to also include other particulate matter (PM) components and related co-pollutants for key source categories, and potential mitigation options)				
Subtask	Project outputs	How does the subtask/output move the project towards the environmental outcome	Timing	Budget (activities)
2.1 Convene black carbon estimation experts representing LRTAP/ EMEP, CCAC, and others, as relevant, to share options and recommendations of the Task 1 assessment, and to strive for agreement on a strategy for developing a robust black carbon and co-pollutant estimation methodology that can be used by the three countries. Follow-up in Year 2 regarding methodology development.	Presuming agreement by these entities, a common strategy for developing the estimation methodology, which could be used to update the methodological information, as well as the emissions estimates for the United States, Mexico and Canada.	A strategy agreed upon by the major global organizations invested in a common black carbon and co-pollutant estimation methodology sets the stage for developing a truly robust product that will have widespread support.	2–3 sessions between February 1, 2014 and October 31, 2014	Year 1: \$60,000 Year 2: \$30,000

<p>2.2 Based on assessment in Task 1 and coordination with the above entities, develop methodologies for more accurately estimating emissions of black carbon and co-pollutants</p>	<p>Common definitions of black and brown carbon components of PM that are relevant for both chemical and radiative properties. Common North American methodology for conducting reliable inventories, with which to establish baselines and determine reduction priorities by source category or location.</p>	<p>This subtask is the crux of the project, in that it develops the common methodology for estimating black carbon and co-pollutant emissions, which can be used by each of the three countries to estimate their emissions and develop robust black carbon and co-pollutant inventories.</p>	<p>February 1, 2014–January 31, 2015</p>	<p>Year 1: \$40,000 Year 2: \$45,000</p>
<p>Task 3) Develop estimations guidelines for North America, which address methodological challenges</p>				
<p>Subtask</p>	<p>Project outputs</p>	<p>How does the subtask/output move the project towards the environmental outcome</p>	<p>Timing</p>	<p>Budget (activities)</p>
<p>3.1 Once consensus on estimation methodologies is reached, complete a guidance document on estimating black carbon and co-pollutants from certain sources.</p>	<p>A document on how to use the robust methodology for estimating emissions.</p>	<p>Assists in development of best practices for measuring and estimating emissions for specific source categories (e.g., on and off-road transport) and improving National GHG emissions inventory reports; illustrates clean energy and mitigation strategies; and further informs work in achieving co-benefits.</p>	<p>February 1, 2015–April 30, 2015</p>	<p>Year 1: \$0 Year 2: \$35,000</p>

<p>3.2 Incorporate the completed methodological and inventory data into the Online Platform, and disseminate guidance document through collaborators and other groups.</p>	<p>Widespread availability of the resulting data via the Online Platform and additional dissemination of the guidance document.</p>	<p>Will assist in meaningful data exchange and cross-border black carbon and co-pollutant emissions reductions planning.</p>	<p>May 1, 2015– June 30, 2015</p>	<p>Year 1: \$0 Year 2: \$15,000</p>
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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 for activities to be funded through the NAPECA grant program.

- **How 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?**

This project contributes to the Council’s strategic objective of addressing climate change and advancing a low-carbon economy in North America by providing a technical foundation for further control of black carbon emissions, a powerful short-lived climate pollutant. This project also builds upon the CEC’s experience in developing emissions inventories and emissions inventory capacity, which has been a focus of CEC work since 2001.

- **Are the proposed objectives North American in scope? In other words, how are the proposed results relevant to protecting the environment in North America? (For example, what would Council members announce to the press at the successful completion of this project?)**

The project’s objectives are focused on developing common methodologies for use in North America. However, this project is taking place in a global context. All three parties are engaged in global efforts to decrease black carbon emissions. Therefore this project must take into account developments and implications of the work outside of North America. The results of the project, an international agreement on methodologies for estimating black carbon emissions, may be seen as a contribution from North America to the broader global efforts, such as the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, of which all three Parties are members.

- **What are the specific, clear and tangible results that will be achieved and how will progress toward each result be measured over time? Identify performance measures to be used to indicate success at reaching all outcomes and/or performance.**

The primary output of this project is a set of guidelines for estimating black carbon (and associated pollutants) emissions that is accepted and applied by the three Parties. Success of the project will be measured on the basis of the application of the methods by the three countries and the provision of comparable inventories (which will be presented in the Online Information Platform). Adoption of the methods by other countries or by subnational governments will be an additional metric for the success of the project.

- **Explain why the CEC is the most effective vehicle for the Parties to undertake the project, considering:**
 - **The value-added of doing it under the CEC cooperative program**
 - **Any other public, private or social organizations that work on such activities**
 - **Opportunities to cooperate and/or leverage resources with such organizations**

There are several international efforts to address the issue of black carbon emissions but none of them are ideally suited to address the methodological and definitional issues regarding black carbon. All three CEC Parties are members of the Climate and Clean Air Coalition, but this initiative is focused more on mitigation demonstration efforts, rather than science and technical work. The United States and Canada are part of the LRTAP Convention, which is attempting to develop guidelines for black carbon emissions estimation, but Mexico is not part of this process. The CEC has a history of working on emissions inventory development and is an effective convener of stakeholders across North America. The CEC can also convene experts from around the world to provide technical advice to the three Parties, leveraging the efforts in other cooperative forums. Therefore, the CEC is an effective venue for addressing this issue, and by doing so, North America can make a contribution to the broader global efforts on black carbon.

- **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.**

This project does include a clear timeline for the development of the emissions guidelines. At the conclusion of the project, the implementation of the guidelines will be the responsibility of the Parties. However, the CEC will continue to make the guidelines available to the Parties and the public.

- **Where applicable, 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 upon a long history of CEC investment in improving the comparability of emissions inventories in North America dating back to Council Resolution 01-05 (2001). It directly builds upon efforts under the previous operational plan to assess the comparability of GHG and black carbon emissions inventories and to design an Online Information Platform.

- **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 primary target audience for the guideline is emissions inventory developers and policy analysts working at the national and subnational scale in North America. Based on the comparability study performed last year, we believe that the audience will be interested and able to use the information provided.

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

The main beneficiaries of the project in terms of capacity building will be national and subnational experts who have been working on developing black carbon emissions inventories.

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

Once we make the guidelines available to emissions and policy experts at the national and subnational level, it will also be available to a wide range of other audiences, including community groups, academia, industry, and advocacy groups. Eventually, we expect that these groups will be significant consumers of the guidelines.