

3.1.1 Cooperation on North American Air Quality Issues

Project Summary

This project focuses on improving communications and interactions among the air quality management agencies of North America, establishing improved mechanisms for exchanging technical data, and developing strategies to address air quality issues of common concern. The action areas for 2003 are:

- Strategic direction for cooperative air quality programs in North America;
- Exchange opportunities for air quality professionals in North America;
- North American air emissions and greenhouse gas inventories;
- Cross-border air issues set forth in the 2002 CEC Council Final Communiqué; and
- Common methodologies for assessing population exposures to vehicle emissions in congested trade corridors.

Goals and Objectives

The goal of this project is to improve both the exchange of technical information and also the level of cooperation/coordination in air quality improvement activities between the air quality management agencies of the three countries.

The objectives include:

- fostering a greater awareness and understanding of the air quality management systems in North America;
- promoting compatibility in approaches to air quality management;
- establishing a regular exchange of technical information and air quality improvement strategies among North American air quality management officials;
- strengthening the overall capacity of air quality management;
- improving the quality, comparability, and accessibility of environmental information across North America, with a focus on air emissions inventories; and
- developing common methodologies to assess public health impacts from exposure to air pollution in trade corridors across North America.

Expected Results

- Improved understanding and interaction among North American air program administrators through meetings of the North American Working Group and through CEC program-related exchange opportunities.
- Continued progress in developing a North American air emissions inventory with an emphasis on national inventory development in Mexico, including a status report on data gaps and methodology development.
- Development and publication of a North American report on air emissions from the electricity generation sector.
- A scope-of-work plan to assess transboundary air issues identified in the 2002 CEC Council Final Communiqué, and initial assessments performed subject to available resources.
- Convergence on a common set of methodologies to investigate population exposure to air pollution along NAFTA trade corridors.

Rationale

The development of North American strategies to reduce air pollution and its long-range transport through the atmosphere can best be accomplished through cooperative partnerships among air quality management agencies and experts. Increased knowledge and understanding of the priorities and programs of the various air agencies in North America are keys for increased cooperation on a North American level. Greater exchange of information will lead to improved air quality management in North America and, at the same time, maximize resources and avoid duplicating efforts of other institutions.

As a medium, air generates environmental action across the borders of the three North American nations. Timely and accurate environmental information is essential for rational decisionmaking and the development of sound

public health and environmental policies. Strengthening the NAFTA partners' capacity to acquire and share knowledge among all sectors of society is fundamental to the ability of citizens to take informed actions.

Credible and timely information is crucial to addressing air pollution problems within transboundary airsheds. In order to enhance effective cooperation across borders, a fundamental starting point for a number of transboundary airshed management tools is easy access to a comprehensive, transparent, and comparable set of air emissions inventories among the North American jurisdictions. Each country has air emissions inventory information but the data are at varying levels of detail and accessibility, and in some cases are tabulated using different or unknown methods. Through the CEC, the countries are working together to improve the quality, comparability and accessibility of basic air emissions inventory information that will create the foundation for future transboundary air quality management programs.

Traffic in busy NAFTA trade corridors can also have a significant impact on public health and the environment in North America. For example, according to estimates in the northeastern United States, diesel exhaust from trucks comprises 33 percent of all nitrogen oxides and 80 percent of all particulate emissions from mobile sources. Nitrogen oxides contribute to the formation of smog (ground-level ozone) that causes lung scarring and aggravates lung disease. The US EPA has labeled diesel particulates as a likely human carcinogen, and diesel exhaust contains 40 known carcinogens, including benzene, 1,3-butadiene, formaldehyde, and acrolein.

In light of these health concerns, the CEC is supporting the development of common methodologies along major North American trade corridors and at selected border crossings to establish a consistent basis for evaluating potential health impacts from exposure to diesel exhaust and other vehicle pollution. This is being done through the development of a toolbox of common methodologies applicable across North America that will provide a shared frame of reference for assessing potential differences in public health responses. This will facilitate intercomparisons of the results across a number of different locations and help decision makers identify particular components within a given urban or corridor air pollution mixture that may call for different pollution control strategies relative to other locations.

Progress to Date

In 2002, the CEC supported a number of activities to bring together air quality experts in North America. Among these, the CEC convened an informal meeting of the top federal air quality administrators in each country during April 2002 in Dallas, Texas. This was the first time ever that the top federal air quality administrators have met in an informal setting to learn from each other about some of the chief air quality problems in each country. One successful outcome of this meeting was the development of Council Resolution 02-04 to establish a North American Air Working Group that can provide a continuing forum for discussion of air quality issues shared by the three North American countries.

The CEC also continued support for a network of air quality professionals in Mexico in collaboration with the *Fundación México-Estados Unidos para la Ciencia* (FUMEC). The network expanded on activities initiated in 2001 with the inauguration of the group. These activities included a public workshop on Mexico City air quality progress held during January 2002 in Ixtapan de la Sal, state of Mexico. The team of Nobel laureate Professor Mario Molina and Luisa Molina coordinated the meeting as part of an active research program on Mexico City air quality problems.

The CEC supported work through the Western Governors' Association to begin developing the basic elements of a national air emissions inventory in Mexico. This effort involved technical developments in estimating emissions from major pollution sources in Mexico, including detailed traffic studies of different-sized cities in Mexico to better characterize pollution from cars and trucks on Mexican roadways. The activity also supported a series of workshops in Mexico on air emissions inventory development that included participation from government, industry, and environmental groups in Mexico.

In coordination with the CEC PRTR program, the CEC air quality program also supported a number of consultations among Canada, Mexico and US officials with the goal of sharing expertise in developing reporting rules that will assist implementation of new reporting requirements in Mexico. These new requirements include not only mandatory reporting of toxic substance releases, but also emissions reporting of criteria air contaminants and greenhouse gases. This effort therefore has been able to take advantage of natural linkages between activities in the CEC air quality and PRTR programs.

The CEC organized a workshop on Best Available Technologies (BAT) for the control of air pollution from sources in North America. The workshop presented existing information sources containing data and evaluations of feasible control technologies collected through federal, state, province, and local efforts. The workshop provided participants with the opportunity to learn of information resources that will be useful to air quality planners when evaluating feasible control technology options for pollution sources located in their jurisdictions.

In March 2002, the CEC helped bring together key stakeholders to develop a common understanding and mutual recognition of key principles for identifying and remediating excess pollution from malfunctioning heavy duty trucks travelling along trade corridors. Experts and stakeholders from across North America participated in a workshop to share experiences from various truck inspection programs in different jurisdictions. As a result of the workshop, the participants identified key areas of cooperation, opportunities for extending current programs, and a potential for mutual recognition across borders of the common elements of these programs.

The CEC continued support during 2002 for the Ciudad Juárez pilot project assessing public exposure to air pollution at a congested border crossing, and initiated a complementary assessment along the Canada/US border to evaluate the potential for the lessons learned in Ciudad Juárez to be applied along the Canada/US border. Based on the work along these two borders, the CEC organized a workshop that brought together experts in the field to discuss the key features of a common methodology for doing pollution exposure assessments along busy trade corridors in North America.

Actions 2003

Overview

Actions in this project can be broken down as follows:

Establish strategic direction for cooperative air quality programs in North America

At the June 2002 CEC Council meeting in Ottawa, the CEC Council adopted Resolution 02-04, which establishes a “North American Air Working Group.” The mandate of the Working Group is to provide the CEC with advice and commentary related to the development of the annual CEC work plan for the Air Quality Program and other related activities. The Working Group will be a forum for active exchange of experiences among Working Group members regarding air programs in each member’s country and to inform members on a continuing basis of CEC activities that involve air issues. In 2003, the CEC will work with the Parties to establish the North American Air Working Group and develop a strategic direction for enhancing cooperation.

Exchange opportunities for air quality professionals in North America

This effort improves the overall capacity of air quality management within North America through the exchange of technical and strategic knowledge between the staffs of the three countries. The exchange program, begun in 1999, provides opportunities for technical and planning staff to meet with their counterparts from the other North American countries. These opportunities allow for the exchange of knowledge on specific issues of importance to each country.

North American air emissions and greenhouse gas inventories

In 2001, the CEC Council adopted Council Resolution 01-05 “Promoting Comparability of Air Emissions Inventories” in North America. The Council recognized a need for air emissions information to support regional transboundary air quality planning activities, and that the CEC could assist in addressing this need by building upon its experience with pollutant release and transfer register reporting in North America. To this end, the CEC is supporting efforts to develop professional capacity, grow critical infrastructure, and fill data gaps with the goal of increasing air emissions inventory comparability among the three NAFTA countries for a number of key air pollutants, including sulfur dioxide, nitrogen oxides, volatile organic compounds, particulate aerosols, and greenhouse gases. Activities will include an evaluation of the best approaches for estimating mobile source emissions in Mexico, providing power plant emissions data, and supporting infrastructure development for a distributed electronic database of North American emissions information. The CEC air quality program will also continue close cooperation with the CEC PRTR program through participation in PRTR Consultative Group meetings and other meetings of PRTR program administrators convened through the CEC.

Assessments of transboundary air issues under the 2002 CEC Council Final Communiqué

At its Ninth Regular Session in June 2002, the CEC Council issued a Final Communiqué in which the Parties agreed to undertake several activities relating to air issues in North America. These activities consist of the following:

- Conduct a comparative study of the air quality standards, regulations, planning, and enforcement practices at the national, state/provincial, and local levels in the three countries, building on previous research and work undertaken by the CEC on air management systems of the three countries.
- Conduct a survey to obtain information on the comparability of North American environmental standards governing construction and operation of electricity generating facilities.
- Identify, explore and address issues related to barriers, challenges, opportunities and principles under which emissions trading systems might evolve.

During 2003, the CEC air quality program will begin assessing the scope of these activities through consultations with the governments and the public and, with the guidance and advice from the Air Working Group, begin initial work that will address each of these areas. Portions of this work will build upon previous CEC activities, including a 2000 draft report on air management systems in North America, and environmental information comparability and exchange activities within the CEC air quality, PRTR, and SMOC programs, as well as work related to market-based approaches to carbon sequestration, energy efficiency, and renewable energy.

There is strong interest worldwide in developing comparable air emission inventories across continents, and enhancing the international exchange of the information. The CEC will engage with comparable activities occurring elsewhere, such as with the OECD, relevant UN bodies, the Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), and related activities under the Convention on Long-range Transboundary Air Pollution (LRTAP).

Population exposure to vehicle emissions along trade and transportation corridors

The CEC is continuing work initiated in 2001 and 2002 to assess public exposure to diesel and other vehicle exhaust along congested transportation corridors in North America. Activities will be to sponsor one or more workshops to facilitate agreement on a common set of indicator criteria for exposure assessment methodologies applied along congested trade routes in North America, with an emphasis on diesel exhaust.

Second workshop on information clearinghouse for best available technologies for air pollution control

The CEC will convene a second workshop among experts from the three countries to continue defining the scope and functions of an electronic clearinghouse for information exchange on the best available technologies for air pollution control. This action will be a follow-up to the initial workshop held in 2002.

2003	Estimated Resources Required (C\$)
Action 1: Establish strategic direction for cooperative air quality programs in North America	69,000
• Activity 1: Prepare background paper for Working Group to set strategic direction for their mandate.	5,000
• Activity 2: Hold the first meeting of the North American Air Working Group pursuant to Council Resolution 02-04.	64,000
Action 2: Exchange opportunities for air quality professionals in North America. The exchange program provides travel support to air quality officials for meetings that satisfy established criteria and is subject to available funding.	35,000
Action 3: North American air emissions and greenhouse gas inventories	325,000

North American Agenda for Action: 2003–2005
Pollutants and Health

<ul style="list-style-type: none"> Activity 1: Continue support for developing capacity, infrastructure, and data for a national air emissions inventory in Mexico, including stationary, mobile, and other important emission sources, in cooperation with the Western Governors' Association. 	105,000
<ul style="list-style-type: none"> Activity 2: Support North American air emissions inventory meeting in cooperation with NARSTO, to be held in fall 2003. 	60,000
<ul style="list-style-type: none"> Activity 3: Compile and provide emissions data on North American power plants aimed at developing data and infrastructure for a distributed electronic database of emissions information, with a data status report for review by the Parties. 	75,000
<ul style="list-style-type: none"> Activity 4: Continue ongoing collaboration with CEC PRTR program activities through participation in PRTR Consultative Group meetings and consultations of PRTR program administrators in each country. 	20,000
<ul style="list-style-type: none"> Activity 5: Support infrastructure development for a distributed electronic database of North American emissions information. 	65,000
Action 4: Assessments of transboundary air issues under the 2002 CEC Council Final Communiqué.	75,000
<ul style="list-style-type: none"> Activity 1: Consultations with government and public on the scope of activities. 	25,000
<ul style="list-style-type: none"> Activity 2: Initial assessments in accordance with consultations and available resources. 	50,000
Action 5: Common methodologies to assess population exposures to vehicle emissions in congested trade corridors, with an emphasis on diesel exhaust.	50,000
Action 6: Second workshop on information clearinghouse for best available technologies for air pollution control.	35,000
Total Resources Required	589,000

2004–2005

2004–2005
Action 1: North American Air Working Group
Action 2: Exchange opportunities for air quality professionals in North America
Action 3: North American air emissions and greenhouse gas inventories
Action 4: Assessments of transboundary air issues under the 2002 CEC Council Final Communiqué
Action 5: Common methodologies to assess population exposures to vehicle emissions in congested trade corridors
Other actions to be determined

Public Participation

The North American Air Working Group will provide a new venue for involving the public in air issues of concern in North America. The North American air emissions inventory meeting co-sponsored with NARSTO will be open to the public. All inventory reports developed through efforts supported by the CEC will also be made available to the public. As the technical bases develop through the described activities, the CEC will be soliciting public input to

identify and assess emissions inventory reporting and accessibility issues, including through participation in the PRTR Consultative Group meetings. All results developed through the transportation corridors health assessments are to be publicly disseminated through CEC publications and the peer-reviewed scientific literature.

Capacity Building

Greater exchange of information and experience among air quality officials will increase the overall quality, availability and accessibility of air quality data within North America. This will greatly expand the present capacity for cooperative air quality management throughout the North American region. Comparable, transparent and accessible air emission inventories will improve basic understandings of pollution sources and the amount of pollution they emit, thus helping to improve air quality strategies within transboundary airsheds.

The public health assessment brings together members of the public health research community with air quality planners in addressing air pollution impacts associated with high traffic-volume trade corridors. It is developing a general methodology that can be used by researchers when performing comparable studies elsewhere in North America, thus improving the capacity of air quality and public health experts to acquire and manage ambient air monitoring and public health databases for use in population exposure studies.

Expected Partners and/or Participants

The CEC will work with the following groups and organizations in the context of the air quality activities:

- Senior policy people in the three governments related to air quality management;
- Representatives of national air emissions inventory and PRTR programs, and inventory developers at the state; provincial and local government levels;
- Interested nongovernmental organizations, industry associations, companies, researchers, academics and citizens;
- The Western Governors' Association;
- Investigators and other interested participants involved in air quality studies in Mexico through an initiative headed by Nobel laureate Mario Molina; and
- The Pan American Health Organization (PAHO) and the Centers for Disease Control (CDC).

Linkages to other CEC Projects

Information shared through exchange and networking activities among air quality professionals in all three countries overlaps with inventory development, pollution prevention and information access activities within the SMOC and PRTR projects.

The assessments of transboundary air issues, particularly that of infrastructure and technical capacity needed for cross border emissions trading, will benefit from close cooperation with the CEC Law and Policy and Environment, Economy, and Trade program areas.

The population exposure assessments in NAFTA trade corridors links with the Children's Health project as the air pollution exposure assessments will include as a sensitive subpopulation children living along congested trade corridors. Linkages with the Environment, Economy and Trade program area can help better elucidate the trade growth pressures that may exacerbate air pollution and congestion along trade routes, particularly in border airsheds with existing air pollution problems.