



The Role of Emission Inventories in Environmental Policy Decisions over the Next Few Years in Canada, Mexico and the U.S.

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by Paul J. Miller

Air Quality Program Coordinator

North American Commission for Environmental Cooperation



Talk Outline

1. CEC background

2. North American context

An aerial photograph of North America, showing the United States, Canada, and Mexico. The landmasses are rendered in shades of green and brown, while the surrounding oceans and seas are a deep blue. A semi-transparent blue overlay covers the right side of the image, where the text is located.

CEC Background

- 1994 Canada, Mexico, United States created CEC to better protect our shared environment
- NAAEC – parallel agreement to NAFTA

An aerial photograph of a coastal region, likely the Pacific Northwest, showing a mix of green forested land and blue water. The coastline is irregular with several bays and peninsulas. The water is a deep blue, and the land is a vibrant green, indicating a healthy natural environment.

CEC Mission

Cooperation, public participation to foster conservation, protection, and enhancement of the environment...

... In the context of increasing economic and trade links

An aerial photograph of a large, forested island, likely in the Pacific Northwest, showing a complex network of rivers and streams. The land is green and brown, with white water in the streams. The surrounding ocean is a deep blue. The text is overlaid on the right side of the image.

CEC Structure

- Council – Heads of federal environment agencies
- Joint Public Advisory Committee
- Secretariat in Montreal, Canada

An aerial photograph of a coastal region, likely the San Francisco Bay Area, showing green landmasses and blue water. The image is used as a background for the slide.

CEC Role

- Regional Cooperation
- Information and Analysis
- Forum for Participation

An aerial photograph of Mexico, showing the country's topography and coastline. The land is green and brown, with a prominent blue overlay that covers the eastern and southern parts of the country, extending into the Gulf of Mexico and the Caribbean Sea. The blue overlay has a textured, slightly grainy appearance.

CEC Inventory Work

- Mexico 1999 National Air Emissions Inventory
- Linking distributed databases
- *Taking Stock* annual report on toxic releases

An aerial photograph of a mountainous region, likely in the North American West, showing a complex network of rivers and a large central lake. The terrain is rugged and green, with a prominent river system flowing through it. The surrounding area is a mix of green and brown, suggesting a mix of forest and open land. The sky is a deep blue, and the overall scene is captured from a high altitude, providing a clear view of the landscape's topography.

North American Context



NA Policy Drivers

- Regional haze planning
- Cross-border airshed management
- Modeling transport & deposition of toxics, e.g. mercury, dioxins



NA Policy Drivers

- Basic foundation for cross-border emissions trading
- Trends analysis and tracking of control program effectiveness
- Public “right-to-know”



International Agreements



Multi-national

- Convention on Long-range Transboundary Air Pollution (1979)
 - Europe + Canada/US
 - Annual national reporting of SO₂, NO_x, NMVOC, CO, CH₄, CO₂, heavy metals and POPs
- United Nations Framework Convention on Climate Change (UNFCCC)
 - Greenhouse gases
 - Intergovernmental Panel on Climate Change (IPCC) set of Good Practices (national, sector level, common methodologies)



Canada – U.S. Bilateral Initiatives

- Ozone Annex to the 1991 Canada – U.S. Air Quality Agreement (2000)
 - Agree to exchange regularly facility-specific air emissions & other AQ information
- 2003 Canada – U.S. Border Air Quality Strategy
 - Great Lakes Basin Airshed Management Framework
 - Georgia Basin/Puget Sound International Airshed Strategy
 - Feasibility study of NO_x and SO₂ cross-border emissions trading



Mexico – U.S. Bilateral Initiatives

- 1983 La Paz Agreement
 - Cooperation may include “periodic exchanges of information and data on likely sources of pollution in their respective territory.”
- Mexico – U.S. Border Environmental Program:
Border 2012
 - To assess contributing emission sources and relative impacts
 - To develop and implement cost-effective control strategies



North America

2001 CEC Council Resolution 01-05:

“Promoting Comparability of Air Emissions Inventories”



North American Goals

Inventory Integration

- Development of consistent inventory reporting
 - Sources, seasonality, geography, pollutants
- Level of emission reporting
 - Sub-Province/county/municipio, facility, process
- Coordination of modeling
 - Grids, metadata, emission profiles, etc.



Domestic Reporting Rules



Reporting Rules

- Canada
 - *Canadian Environmental Protection Act, 1999*
 - 2002 - Criteria air contaminants added to toxics in NPRI
- Mexico
 - *Ley General del Equilibrio Ecológico y la Protección al Ambiente*
 - 2001 – Proposed changes to RETC would require mandatory reporting toxics/public access to criteria and toxics
- United States
 - *Consolidated Emissions Reporting Rule (2002)*
 - Annual reporting for largest point sources
 - Comprehensive state-wide inventories every 3 years



National Inventory Year*

	Canada	Mexico	U.S.
Current/ Update year	1995/ 2000	1999	1999/ 2002
Frequency	Every 5 years	?	Every 3 years

***Major facilities generally report annually**



Data Sources for Facilities

Type of pollutant	Canada	Mexico	U.S.
Criteria air contaminants	<ul style="list-style-type: none"> -Provincial, regional, and national inventories -2002 NPRI facility level 	<ul style="list-style-type: none"> -1999 CFE power plants -Some city inventories -Some COAs (not public) 	<ul style="list-style-type: none"> -NEI -State and regional inventories -Egrid power plants -EPA Scorecard
Toxics	<ul style="list-style-type: none"> -NPRI 	<ul style="list-style-type: none"> -A few facilities voluntarily report to RETC (not public) 	<ul style="list-style-type: none"> -approx. 200 HAPs in NEI -TRI facility-level
Greenhouse Gases	<ul style="list-style-type: none"> -Mostly sector level nationally -Proposal to add to NPRI for 2004? 	<ul style="list-style-type: none"> -Nationally at sector level 	<ul style="list-style-type: none"> -National sector level -CO₂ in EPA Scorecard



Facility-specific Pollutants

	Canada (NPRI)	Mexico (NEI)	U.S. (NEI)
CO	X	X	X
NO _x (NO ₂)	X	X	X
PM _{2.5}	X	X	X
PM ₁₀	X	X	X
SO ₂	X	X	X
VOC	X	X	X
NH ₃	X	X	X



Comparability Issues

- Methodologies, e.g. CEM vs. AP-42
- VOC speciation
- Confidentiality restrictions
- Level of detail, e.g. stack parameters
- Category definitions
- Inventory year and update frequency
- Reporting formats (NIF trend)



Lessons Learned



Lessons Learned

- Numerous policy drivers creating pressure for international exchange of air emission inventories
- Matching emission inventories is a challenge
- More data at sectoral level than facility level
- Criteria air contaminants data have different years



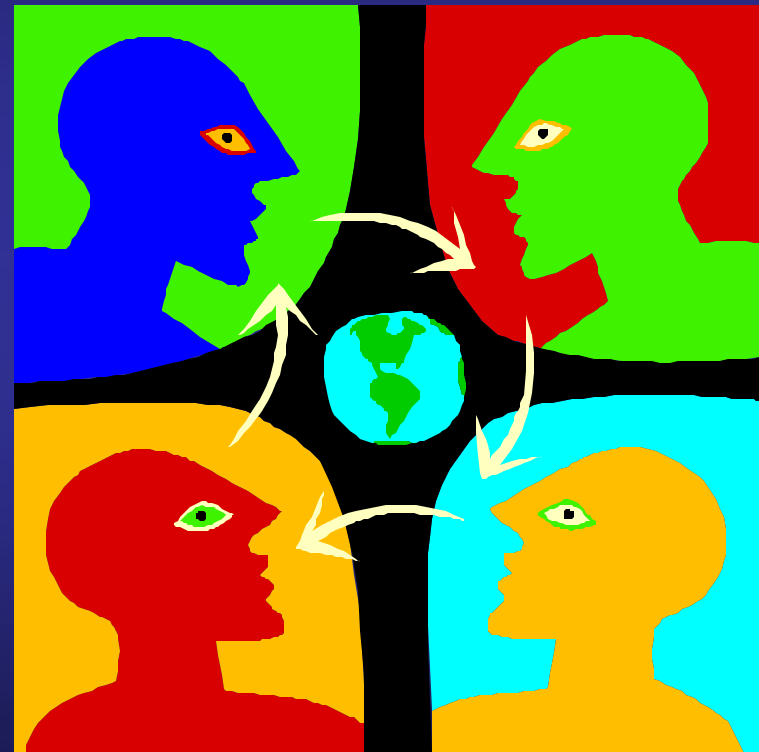
Lessons Learned cont.

- Greenhouse gas inventories have greatest amount of common methodology
- Toxic inventories match for Canada and US
- Information can be difficult to get, but trend is towards greater public access



CEC Goal: Public Accessibility

- Consider ways to increase public accessibility to data
- Encourage increased access to methodology and background documents
- Encourage increased reporting at facility level





2001 CEC Report

*“Enhancing the Comparability of the Air
Emission Inventories in Canada,
Mexico, and the United States”*

<http://www.cec.org>

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