

Air Quality Management System



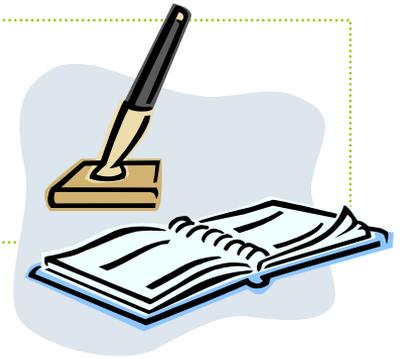
Ministry of the Environment

Presentation to:

Greater Toronto Area – Clean Air Council

September 27, 2013

Presentation Overview



- Background
 - Air Quality in Ontario
- National Air Quality Management System (AQMS)
- Opportunities for Collaboration with the GTA-CAC

Air Quality in Ontario

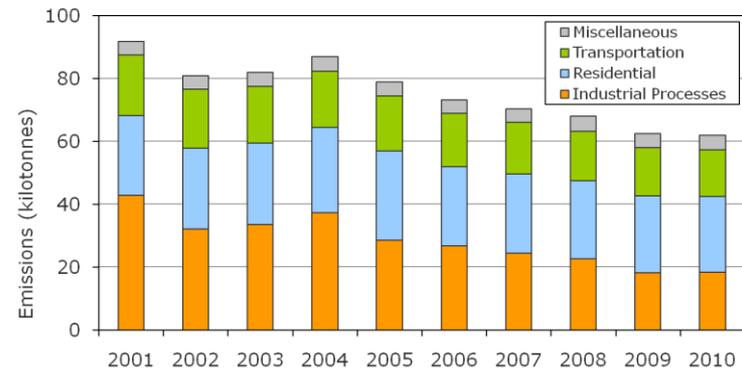
Air quality improvements:

- Air quality in Ontario has steadily improved since the late 1980's
- Levels of ozone and particulate matter are continuing to decrease

More work is required:

- Non-industrial sources of emissions, such as mobile and residential, should be addressed to further improve air quality
- The U.S. is a major contributing source of smog due to transboundary air pollution

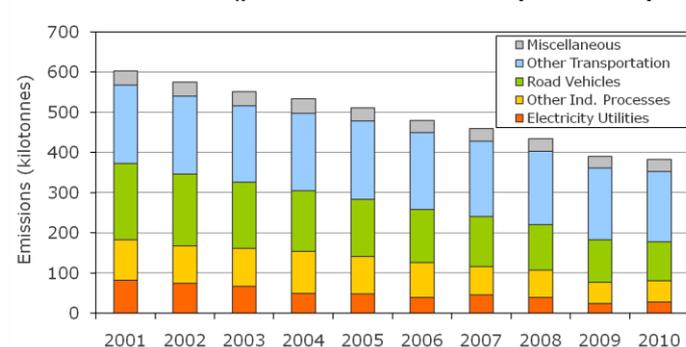
Trend of Ontario PM_{2.5} Emissions in Kilotonnes (2001-2010)



Note: Excludes open and natural sources.

References: NPRI, 2012; NPRI, 2010; and P. Georges, personal communication, April 1, 2010.

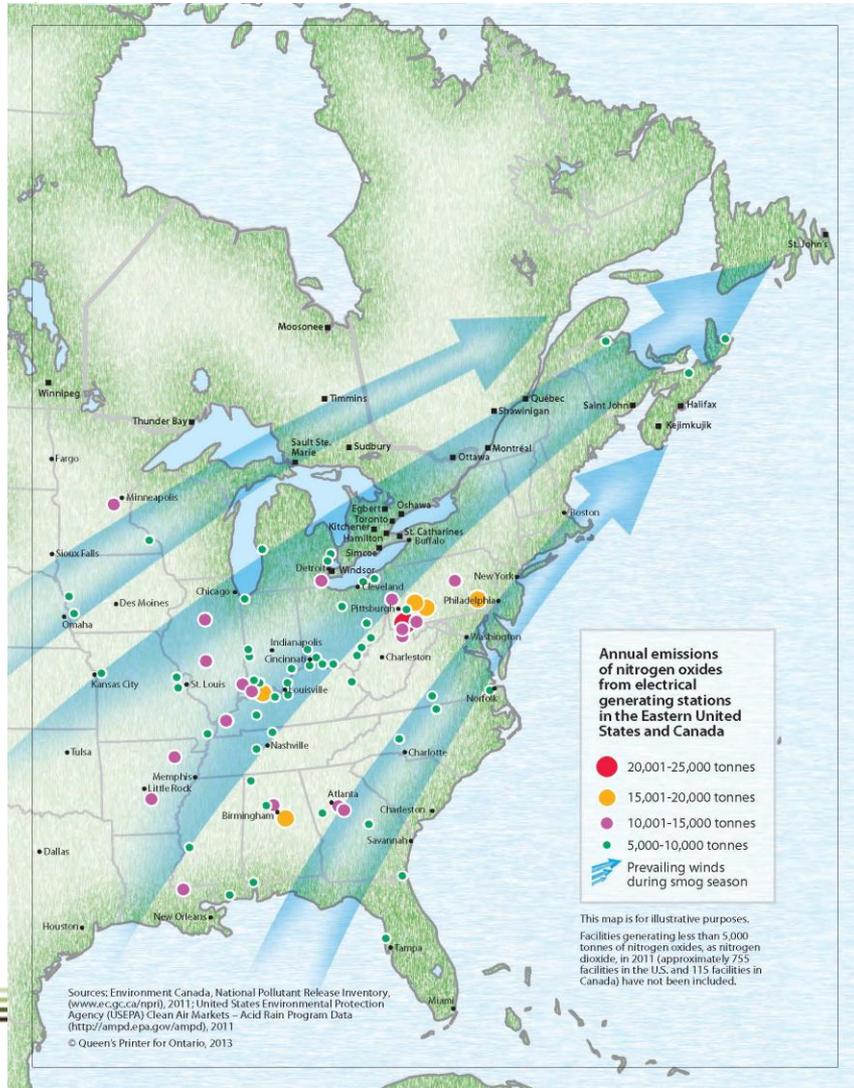
Trend of Ontario NO_x Emissions in Kilotonnes (2001-2010)



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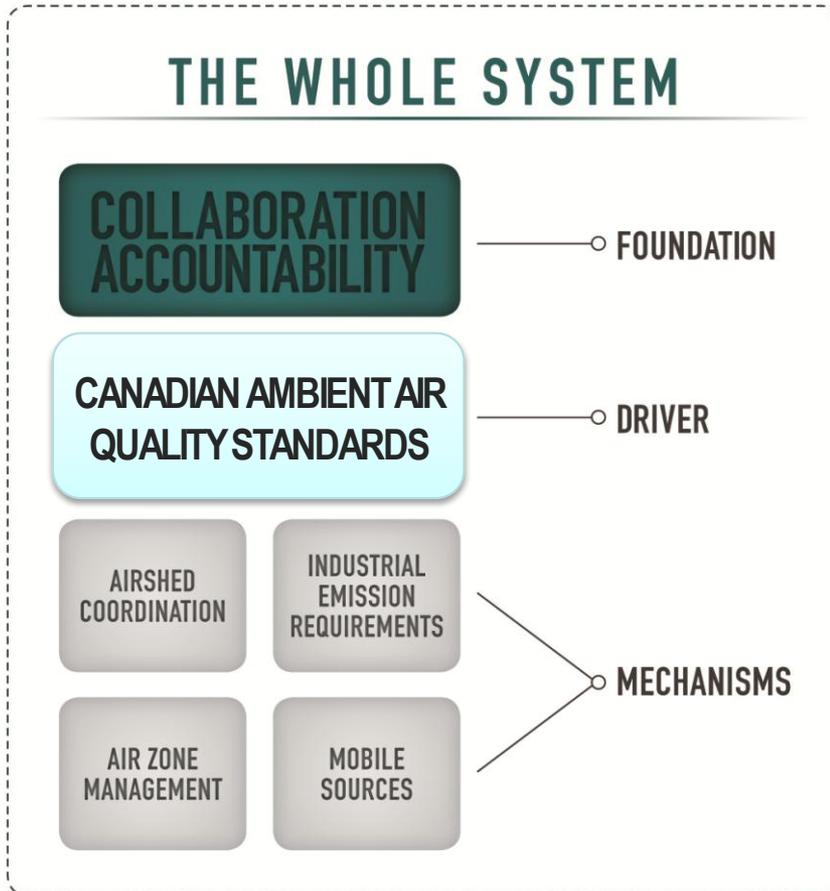
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Air Quality in Ontario



- Ontario's air quality challenges arise from its economy and geography
- Ontario's population is concentrated in southern Ontario and, more particularly, in urban areas with heavy traffic volumes and intense residential development
- Figure illustrates emissions of nitrogen oxides from electrical generating stations in the Eastern United States and Canada carried by prevailing winds

The National Air Quality Management System



- The National Air Quality Management System (AQMS) is a set of drivers and mechanisms that governments will use to achieve continuous improvements to air quality
- On October 11, 2012 at Lake Louise, Alberta, Ministers agreed to move forward with the implementation of the System

Elements of the AQMS

Canadian Ambient Air Quality Standards

- First set of new CAAQs for ozone and fine particulate matter (PM_{2.5}) were published in the Canada Gazette on May 25, 2013
- Targets for NO_x, SO₂ are also under development, expected completion in 2015

Year	Ozone (ppb)	PM _{2.5} (µg/m ³)/ 24 hr	PM _{2.5} (µg/m ³)/ year
2015	63	28	10.0
2020	62	27	8.8
Current CWS	65	30	No standard

Elements of the AQMS

Airshed Coordination

- Airshed Coordination
 - Airsheds are broad geographic areas that encompass a number of air zones and cross either provincial/territorial or international boundaries
 - Airsheds are currently delineated based on air movement patterns and pollution sources and may be subject to minor refinement



Elements of the AQMS

Base Level Industrial Emission Requirements

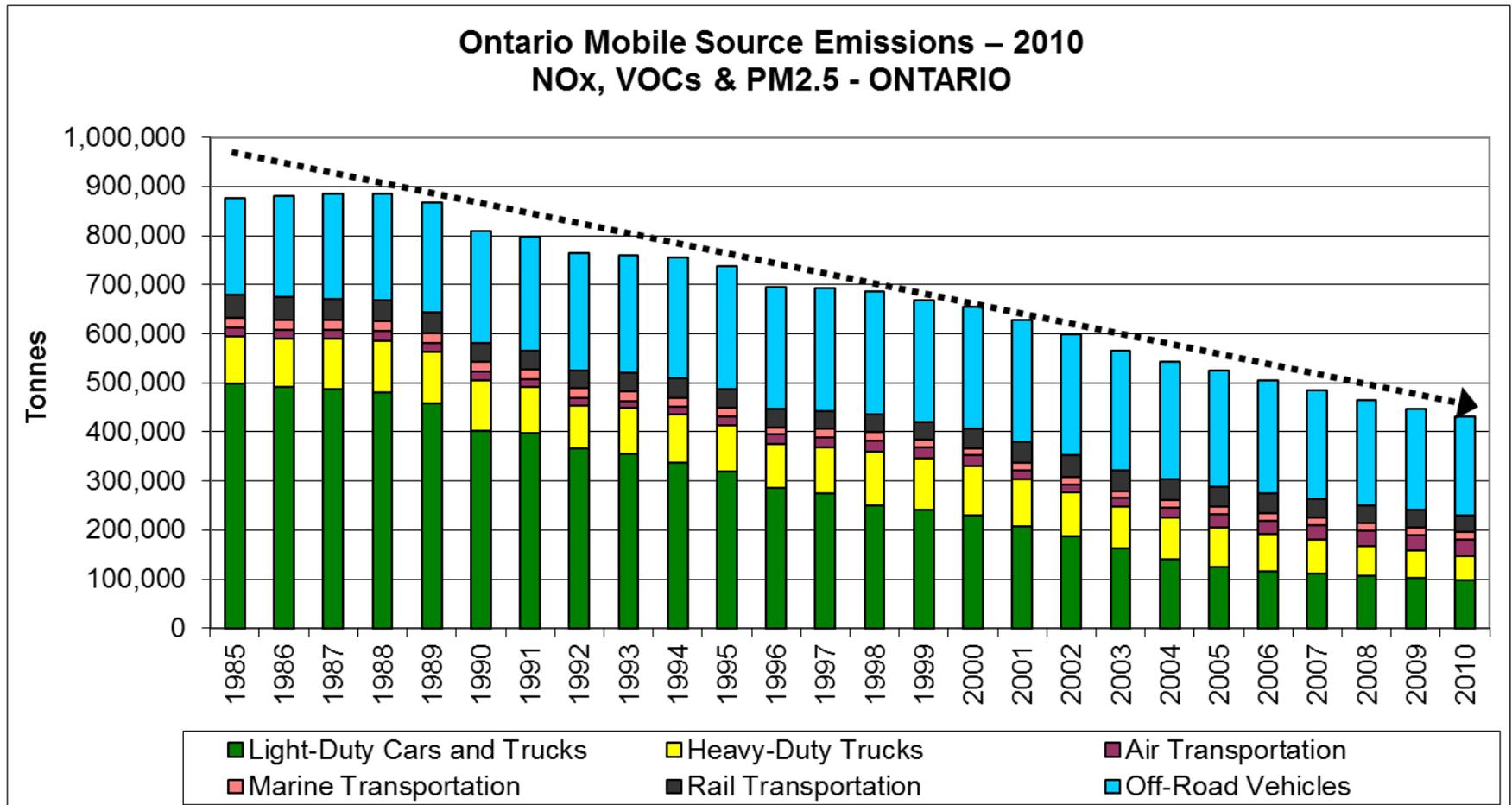
- Base Level Industrial Emissions Requirements (BLIERS)
 - Set a good level of emission performance for major industries across Canada
 - Are proposed to apply across Canada to 17 key industries and equipment types, including: oil sands, aluminium, **steel, pulp and paper, base metal smelting, cement**, electricity generation, **refineries, boilers and turbines**
 - Would be implemented by provinces/territories or federally:
 - If provinces/territories do not regulate, federal government will through federal backstop
- Ontario's implementation will focus on incorporating BLIERS into the existing framework – minimizing duplication and overlap

Elements of the AQMS

Mobile Sources Working Group

- In Ontario, ~70% of NO_x emissions come from mobile sources; ~35% volatile organic compounds emissions and ~90% of carbon monoxide
- Over the past 20+ years significant emission reductions have been achieved through vehicle and engine emission regulations and sulphur in gasoline regulations
 - Canada adopted standards for diesel engines that saw smog-forming emissions from heavy-duty vehicles decrease by 90% between 2004 and 2010
 - Provincially, and across the country, a number of programs are in place such as electric vehicle incentives and related programs; inspection and maintenance programs
 - Despite dramatic emissions reductions mobile sources – especially off-road vehicles – continue to contribute significant NO₂, VOC and PM_{2.5} emissions in Ontario

Rationale to Address Mobile Source Emissions



Elements of the AQMS

Mobile Sources Working Group

- The mandate of the MSWG is to reduce emissions from the mobile sources sector by sharing information and identifying opportunities and areas of joint interest among jurisdictions, departments, and ministries
- It includes representatives from transportation, environment, natural resources, energy and health departments as well as Metro Vancouver (delegated responsibility); currently co-chaired by Ontario and Environment Canada
- A multi year action plan has been developed for four priority areas
 - **Increase uptake of advanced transportation technologies**
 - **Support proper vehicle maintenance**
 - **Address in-use diesel vehicles and engines**
 - **Promote “Greening” fleets**
- A stakeholder workshop was held on March 8, 2013

Elements of the AQMS

Air Zone Management

- Air zones are defined as “finite geographic areas that exhibit similar air quality issues and trends throughout”
- Air zone management is an approach to managing air quality with a focus on all sources
- Stakeholder and community engagement are envisioned as an important part of air zone management
- The national System is flexible. Provinces can use the mechanisms in a manner that works best for them according to their unique circumstances

Air Zone Management in Ontario

- Air zone management builds on Ontario's current regulatory framework
- The System requires jurisdictions to monitor and report on their air quality, which the province has done for more than 40 years
 - Reporting on the new CAAQS to commence in 2014 based on 2011-2013 monitoring data
- Through air zone management Ontario will collaborate on a toolkit to support local actions to improve air quality
- A discussion document about Ontario's proposed approach to implementing air zone management will be posted for public comment on the Environmental Bill of Rights Registry

Opportunities for Collaboration

- The Ministry recognizes the leadership of the Clean Air Council in their ongoing efforts to positively affect air quality through communities of best practices to address:
 - ✓ Buildings and Infrastructures
 - ✓ Energy Management
 - ✓ Transportation Planning
 - ✓ Land Use Planning
 - ✓ Air Monitoring, Modelling and Reporting
 - ✓ Air Quality and Public Health, Education
- The Ministry would like to hear from the GTA-CAC about how it would like to be involved in the development of the air zone management toolkit

Questions and Comments

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