Canada-U.S. Air Quality Agreement

Review and Assessment Findings and Recommendations

May 28, 2024

Air Quality Agreement: Overview

- The U.S. and Canada address transboundary air pollution flows between the two countries bilaterally through the U.S.-Canada Air Quality Agreement (AQA). This bilateral work formed the basis of U.S.-Canada input into the Gothenburg Protocol (GP) review report.
- The agreement addresses acid-rain causing emissions of SO_2 and NO_x through compliance monitoring and prevention of air quality deterioration and visibility protection;
- Includes coordination/cooperation on scientific and technical activities like developing joint inventories and coordinating monitoring networks and data exchange.
- In 2000 the agreement was amended to address ground-level ozone precursors, NO_x and VOCs through the establishment of a Pollutant Emissions Management area (PEMA).
- Similar to the approach to review the GP, a review and assessment of the effectiveness of the AQA in meeting its objectives was completed in 2023.

AQA Review: Key Findings

General

- Although emissions of pollutants contributing to acid rain and ozone have decreased significantly since the Agreement was established in 1991, transboundary air pollution continues to affect communities and the surrounding natural environment.
- Pollutants covered by the Agreement (SO_2, NO_X, VOCs, and ozone) continue to impact human health and the environment in both countries and remain a concern.

Acid Deposition

- Success in both countries in reducing acid deposition. Nevertheless, there are some areas in both countries, most notably in eastern Canada, where acid deposition from transboundary sources remains a concern.
- Many water bodies in Canada, as well as some in the U.S., are still exposed to levels of acidity that exceed the capacity of soils and surface waters to neutralize.

AQA Review: Key Findings

Ozone

- Ozone continues to have significant impacts on public health and agricultural production in the U.S. and Canada.
- Transport from the U.S. continues to contribute to a large fraction of anthropogenic ozone in Canada.

Fine Particulate Matter ($PM_{2.5}$)

- Some precursors of $PM_{2.5}$ are addressed via actions to reduce SO_2, NO_X, and VOCs. However, primary $PM_{2.5}$ and ammonia are not addressed under the Agreement.
- Primary $PM_{2.5}$ emissions have plateaued in recent years and emissions of ammonia have increased in both Canada and the U.S.
- $PM_{2.5}$ concentrations are largest near urban areas and particularly in the Ohio Valley, Atlantic coast, and the Windsor-Quebec corridor.
- Modeling projects that $PM_{2.5}$ concentrations will decrease by 2035 but will continue exceed the 2020 CAAQS in some of Canada's largest cities.

The full report of the Review and Assessment (2024) can be found here:
https://www.epa.gov/system/files/documents/2024-03/review-and-assessment-of-the-canada-us-aqa-508-compliance.pdf

Key Recommendations

Based on the data presented within the report, it is recommended that the AQA be updated and that the following modifications and/or amendments be considered:

Emissions Reduction Commitments

- Updating existing emission reduction commitments in Annex 1 (Acid Rain) and Annex 3 (Ozone) to further reduce transboundary air pollution.
- Adding commitments for $PM_{2.5}$.
- Modifying/adding Pollution Emissions Management Area(s) and/or whether emission reduction commitments should be national in scope.

Scientific Cooperation

- Updating Annex 2 (Scientific and Technical Cooperation) to reflect current topics of mutual interest and further enable continued scientific and technical collaboration to support policy-relevant decisions.
- Updating Annex 2 to reflect current priorities of relevance to both countries and include new topics of mutual interest, such as wildfires and the impacts of climate change on air quality.

Key Recommendations

Emerging Issues

- Expanding scope of current work on methane, including looking at potential commitments to achieve further reductions.
- Explicit cooperation on black carbon as a as a constituent of $PM_{2.5}$, including potential commitments to achieve further reductions, and cooperation on sectors of mutual interest.
- Specific cooperation on ammonia, including voluntary emissions reporting, scientific collaboration, and information-sharing on best practices for minimizing/reducing emissions.

Structural and Administrative Updates

- Consider amendments to consolidate emission reduction commitments into single annex, streamline reporting requirements, and update the Terms of Reference.

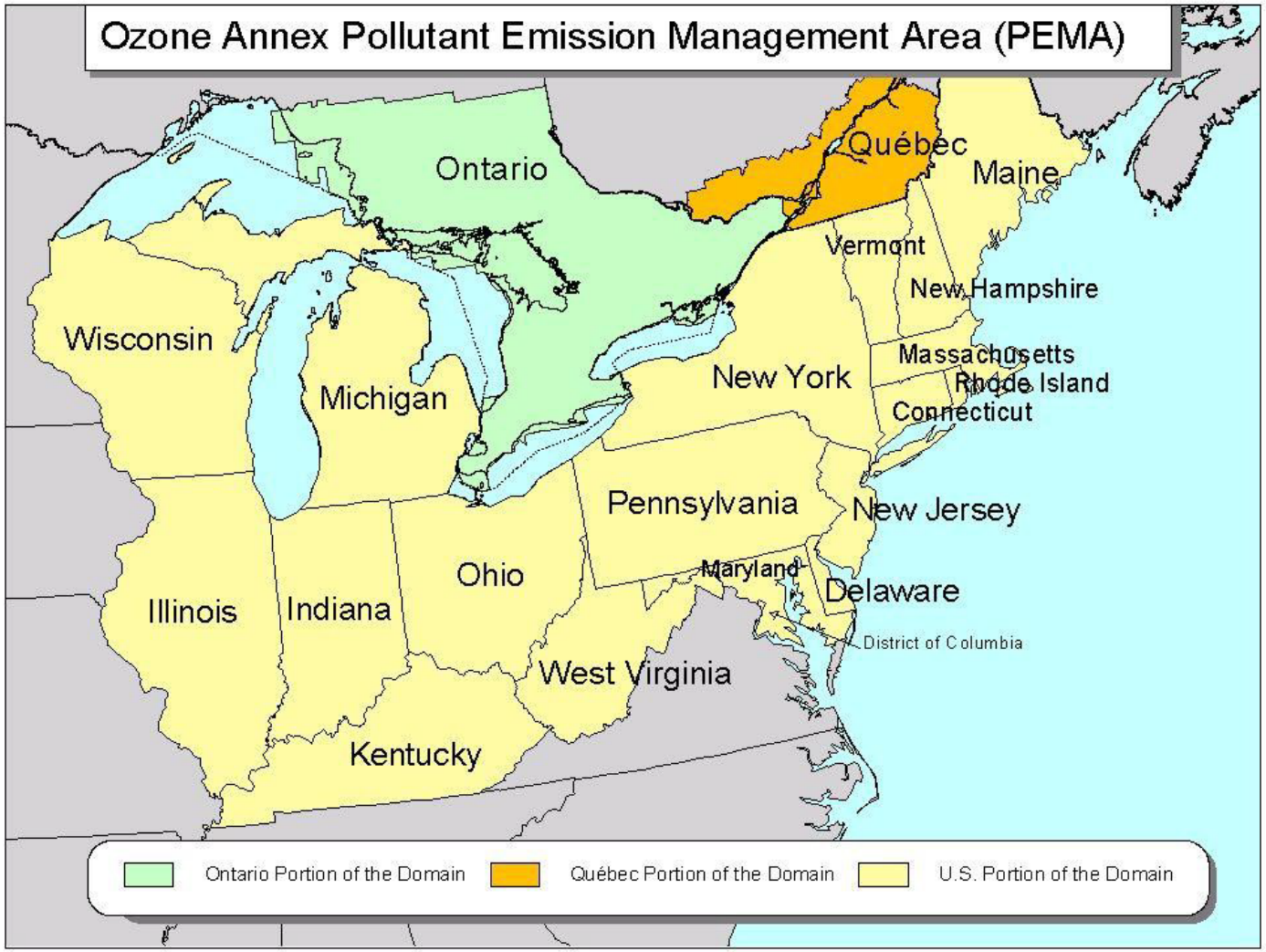
Next Steps to Address Recommendations

At the November 2023 meeting of the Canada-U.S. Air Quality Committee, both Parties agreed to:

- Adopt the AQA Review and Assessment Report and its Recommendations.
- Launch negotiations in 2024 to update the AQA once authority to negotiate has been obtained by both governments (expected by summer 2024).

ANNEX

PEMA


Ozone Annex Pollutant Emission Management Area (PEMA)
Ontario
Québec
Maine
Vermont
New Hampshire
Wisconsin
Michigan
New York
Massachusetts
Rhode Island
Connecticut
Pennsylvania
New Jersey
Maryland
Ohio
Delaware
Illinois
Indiana
District of Columbia
West Virginia
Kentucky
Ontario Portion of the Domain
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