CCME

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CANADIAN AMBIENT AIR QUALITY STANDARDS HANDBOOK

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GLOSSARY

Air zone: Finite geographic area used to manage local air quality by the province or territory in which it is located.

Airshed: Broad geographic area that encompasses a number of air zones and may cross provincial, territorial and international boundaries. Airsheds provide a framework for interjurisdictional collaboration to address transboundary air quality issues.

Air zone management framework (AZMF): Framework to manage air quality in air zones. It includes four colour-coded management levels which are associated with a suite of monitoring, reporting and management actions that become progressively more rigorous as air pollutant concentrations approach or exceed CAAQS.

Air Quality Management System (AQMS): Comprehensive approach for protecting and improving air quality in Canada. AQMS is built on a foundation of intergovernmental collaboration and the engagement of stakeholders and interested parties with an emphasis on transparency and accountability to the public.

Canadian Ambient Air Quality Standards (CAAQS): Health and environment-based air quality objectives to further protect human health and the environment and to provide the drivers for air quality improvement across the country.

CAAQS metric value: Measured concentrations of an air pollutant calculated in the statistical form of CAAQS.

CAAQS reporting station: Air quality monitoring station designated to report on the achievement status of CAAQS in the province or territory in which it is located. All data collected at CAAQS reporting stations must meet or exceed the quality assurance and quality control procedures of the National Air Pollution Surveillance (NAPS) program.

Continuous improvement: Remedial and preventative actions to reduce emissions from anthropogenic sources (i.e., sources related to humans and their activities) toward the long-term goal of reducing overall ambient concentrations of pollutants.

Keeping clean areas clean: Preventative measures intended to avoid or minimize increases in overall ambient concentrations of pollutants in air zones in the green management level.

Population Improvement Approach (PIA): Objective method that uses a combination of air pollution monitoring data and population distribution information to identify a population-based air quality target representing an incremental improvement from current standards or conditions.

ACRONYMS

AQMS	Air Quality Management System
AZMF	Air Zone Management Framework
BLIERs	Base-level Industrial Emissions Requirements
CAAQS	Canadian Ambient Air Quality Standards
CCME	Canadian Council of Ministers of the Environment
GDAZM	Guidance Document on Air Zone Management
GDTFEE	Guidance Document on Transboundary Flows and Exceptional Events for Air Zone Management
NAPS	National Air Pollution Surveillance program
NO_2	nitrogen dioxide
O_3	ozone
PIA	Population Improvement Approach
$PM_{2.5}$	airborne particulate matter less than or equal to 2.5 micrometres in aerodynamic diameter, also called fine particulate matter
ppb	parts per billion (by volume)
SO_2	sulphur dioxide
$\mu g/m^3$	micrograms per cubic metre

1. WHAT IS THE PURPOSE OF THIS DOCUMENT?

The purpose of this document is to compile information about Canadian Ambient Air Quality Standards (CAAQS) and answer the most common questions related to their history, purpose, development and implementation.

2. WHO IS RESPONSIBLE FOR THE AIR QUALITY MANAGEMENT SYSTEM?

Air quality management is a responsibility shared by federal, provincial and territorial governments.[1] These governments have agreed to work collaboratively to implement the Air Quality Management System (AQMS)[2], recognizing that:

- Good air quality is important for protecting Canadians' health and the environment.
- Air quality is affected by many factors such as meteorological conditions, anthropogenic sources (e.g., industrial activities, mobile sources and residential wood burning), natural sources (e.g., wind-blown dust), transboundary flows and exceptional events (e.g., wildfires).
- Canadians and all orders of government have a responsibility to prevent the quality of the air from deteriorating (CCME 2019a).

Provinces and territories define air zones—finite geographic areas within a jurisdiction for the purposes of managing local air quality—and are responsible for managing air quality in these air zones with priority efforts focused on areas where the standards are exceeded or where a significant population is at risk of pollutant exposure. For emission sources and lands that fall under federal authority (such as transportation sources, federal lands and national parks) the federal government collaborates with provinces and territories on air quality management (CCME 2019a).

Air quality in Canada is also managed in broader geographic areas called airsheds, which encompass a number of air zones and may cross provincial, territorial and international boundaries. Recognizing the influence of transboundary flows from one Canadian jurisdiction to another, the affected downwind jurisdiction should engage in discussions with the upwind source jurisdiction. Federal, provincial and territorial governments collaborate to better understand the flow of air pollution between airsheds. For transboundary flows from the United States, the federal government uses provisions set out under the *Agreement between the Government of Canada and the Government of the United States on Air Quality (AQA)* (1991) and leads the discussions in collaboration with the affected provinces or territories (CCME 2019b).

More detail on roles and responsibilities under AQMS to improve air quality can be found in *The Air Quality Management System: Federal Provincial and Territorial Roles and Responsibilities* (CCME 2012).

[1] In addition, Metro Vancouver and the Ville de Montréal have delegated authority to manage air quality within their boundaries.

[2] Although Québec supports the general objectives of AQMS, it will not implement the System since it includes federal industrial emission requirements that duplicate Québec's own regulation. However, Québec is collaborating with jurisdictions on developing other elements of the system, notably air zones and airsheds.

3. WHAT IS THE AIR QUALITY MANAGEMENT SYSTEM?

AQMS, depicted in Figure 1, provides a comprehensive approach for collaborative actions to improve air quality across Canada to further protect the health of Canadians and the environment. AQMS covers areas of agreement between federal, provincial and territorial governments. As a complement to AQMS, provinces and territories also have their own systems, mechanisms and approaches tailored to the management of pollutant emissions and ambient air quality in each of their respective jurisdictions.

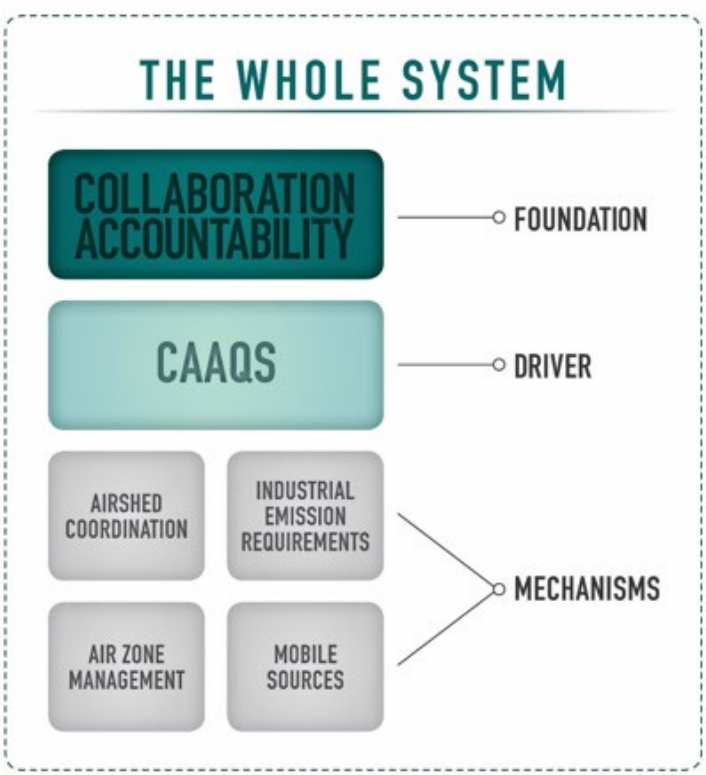

Figure 1: Diagram showing components of the Air Quality Management System

Several principles underpin AQMS including **continuous improvement** and **keeping clean areas clean** (CCME 2012). Continuous improvement refers to remedial and preventative actions to reduce emissions from anthropogenic sources toward the long-term goal of reducing overall ambient concentrations of pollutants. Keeping clean areas clean refers to preventative measures intended to avoid or minimize increases in overall ambient concentrations of pollutants in air zones that are assigned a green management level (CCME 2019a). Both principles are intended to ensure that air quality does not deteriorate but is maintained or improved to the extent practicable. Maintaining or improving air quality minimizes risk to human health and the environment for the benefit of future generations.

Key elements of AQMS are described below (CCME 2023):

Foundation

AQMS was built on a foundation of collaboration, accountability and transparency. Industry, non-governmental organizations and Indigenous communities and organizations worked with governments to develop AQMS and participate in its ongoing development and improvement.

Monitoring and public reporting are critical to transparency, accountability and the effective implementation of the system. Provinces and territories, with assistance from the federal government, are responsible for monitoring air pollutants in their air zones and for reporting to their constituents about air quality and actions taken to implement AQMS. Monitoring of air pollutants is primarily conducted under the National Air Pollutant Surveillance (NAPS) network (see Question #8). Provinces and territories produce regular air zone reports that include information on achievement of CAAQS, air quality issues and trends, and the air management level (see Question #7) in each air zone.

Driver

CAAQS are developed as a key element of AQMS to drive improvement of air quality across Canada. CAAQS have been developed for fine particulate matter ($PM_{2.5}$), ozone (O_3), nitrogen dioxide (NO_2) and sulphur dioxide (SO_2). Ongoing reviews of CAAQS help ensure they reflect the latest scientific information and achievability considerations.

Mechanisms

Air zone management: To assist with air quality management, provinces and territories have defined smaller geographic areas called air zones that divide their jurisdiction and have unique air quality characteristics. These characteristics may include pollutant sources, topography, meteorological patterns, population density and other potential factors that influence ambient air concentrations.

Industrial Emissions Requirements: Base-level Industrial Emissions Requirements (BLIERs) are intended to apply to major industrial sectors or equipment types to ensure that significant industrial sources achieve a good base-level of performance. BLIERs are focused on particulate matter (PM), nitrogen oxides (NOx), sulphur dioxide (SO_2) and volatile organic compounds (VOCs).

Airshed coordination: Six regional airsheds cover all of Canada and allow for coordination and joint action in resolving issues involving the movement of air pollutants across provincial or territorial boundaries and international borders. These airsheds were developed taking larger-scale issues into consideration, such as the movement of large air masses, typical long-term meteorological conditions, topography and air zone boundaries. A map of the air zones and airsheds can be found on CCME's *State of the Air Report: Canada's Air* (CCME 2023).

Mobile sources: AQMS includes work to address emissions from mobile sources. The work builds on the existing range of federal, provincial and territorial initiatives aimed at reducing emissions from the transportation sector.

4. WHY WAS THE AIR QUALITY MANAGEMENT SYSTEM DEVELOPED?

While significant progress has been made to reduce air pollution during recent decades, air quality remains a serious issue in some areas of Canada (HC 2021). In some parts of the country, such as heavily populated and industrialized areas, Canadians can be exposed to harmful levels of outdoor air pollutants at concentrations that exceed established standards (e.g., SO_2). In addition, some air pollutants, such as $PM_{2.5}$, O_3 and NO_2, have no safe levels of exposure, and can cause health effects even at low concentrations. Overall, air pollutants can adversely affect the health of Canadians, especially populations who may be disproportionately impacted (subpopulations who may have greater susceptibility or greater exposure).

In order to further protect human health and the environment from harmful air pollutants, in October 2012, CCME, with the exception of Québec,[3] agreed to implement AQMS. AQMS provides a comprehensive framework for collaborative action across Canada, as described in Question #3.

5. WHAT ARE THE CANADIAN AMBIENT AIR QUALITY STANDARDS?

CAAQS are health and environment-based air quality objectives for pollutant concentrations in outdoor air. CAAQS are the major drivers for actions to improve air quality across Canada by all jurisdictions under AQMS. There are CAAQS for four pollutants in all: $PM_{2.5}$, O_3, NO_2 and SO_2. All CAAQS consist of three interrelated elements:

- an averaging time period
- a numerical value
- the statistical form of the numerical standard.

CAAQS are intended to be used in air zones as objectives for ambient air quality management, consistent with the information presented in the *Guidance Document on Air Zone Management* (GDAZM, CCME 2019a) as well as other CCME guidance[4], including *The Air Quality Management System: Federal Provincial and Territorial Roles and Responsibilities* document (CCME 2012), guidance documents on achievement determination for each CAAQS, and the *Guidance Document on Transboundary Flows and Exceptional Events for Air Zone Management* (GDTFEE, CCME 2019b).

[3] See footnote 2.
[4] Other CCME guidance on AQMS are found at https://www.ccme.ca/en/resources.

Exceedances of a standard and variations in ambient concentrations from one year to the next are influenced not only by changes in the quantity of emissions of air pollutants but also by variations in the prevailing meteorological conditions (CCME 2019a). To reduce the risk of varying meteorological conditions causing an air zone to shift in and out of achievement of a standard, the statistical form of a standard takes into consideration not only the pollutants' health and environmental effects, but also the influence of these meteorological conditions on ambient concentrations.

CCME undertakes ongoing work to revise and update CAAQS while considering the principle of continuous improvement and employing the most recent scientific information. A list of CAAQS, including their numerical values, averaging time period, implementation year and statistical forms, is provided in Table 1. Updated values can be found in CCME's *State of the Air Report: Canada's Air* (CCME 2023).

Table 1: Canadian Ambient Air Quality Standards

Pollutant	Averaging time	Numerical value			Statistical form
		2015	2020	2025	
Fine particulate matter ($PM_{2.5}$)	24-hour	28 µg/m^3	27 µg/m^3	*	The three-year average of the annual 98th percentile of the daily 24-hour average concentrations
	Annual	10.0 µg/m^3	8.8 µg/m^3	*	The three-year average of the annual average of the daily 24-hour average concentrations
Ozone (O_3)	8-hour	63 ppb	62 ppb	60 ppb	The three-year average of the annual fourth highest of the daily maximum eight-hour average ozone concentrations
Nitrogen dioxide (NO_2)	1-hour	-	60 ppb	42 ppb	The three-year average of the annual 98th percentile of the daily maximum one-hour average concentrations
	Annual	-	17.0 ppb	12.0 ppb	The average over a single calendar year of all one-hour average concentrations
Sulphur dioxide (SO_2)	1-hour	-	70 ppb	65 ppb	The three-year average of the annual 99th percentile of the SO_2 daily maximum one-hour average concentrations
	Annual	-	5.0 ppb	4.0 ppb	The average over a single calendar year of all one-hour average SO_2 concentrations

*Assessment of an updated $PM_{2.5}$ CAAQS is in progress.

6. DO CANADIAN AMBIENT AIR QUALITY STANDARDS PROTECT HUMAN HEALTH AND THE ENVIRONMENT?

CAAQS are intended to drive continuous improvement in air quality and, in turn, protect human health and the environment across the country (CCME 2012). For pollutants with a threshold (e.g., a concentration under which no adverse health effects are likely to be observed, specifically SO_2), CAAQS aim to protect human health and the environment with reductions in concentrations

corresponding to management levels below CAAQS to protect populations who may be disproportionately impacted, and sensitive species.

Some CAAQS pollutants (including $PM_{2.5}$, O_3 and NO_2), however, are considered to be non-threshold, which means there is unlikely to be a level at which no health risk exists. This means that adverse effects, including premature mortality, can occur at concentrations below CAAQS, including at concentrations to which Canadians are currently exposed. For non-threshold pollutants, incremental reductions in ambient concentrations will directly lead to health benefits to Canadians.

7. WHAT IS THE AIR ZONE MANAGEMENT FRAMEWORK?

The Air Zone Management Framework (AZMF), depicted in Figure 2, is a four-level framework that was developed to manage air quality in air zones, with each level represented by a colour ranging from red to green. Prevailing air quality in the red management level corresponds to exceedances of CAAQS, while prevailing air quality in the green management level corresponds to clean air quality. Under the AZMF, management actions become progressively more rigorous as air quality deteriorates down the management levels from green to red. The AZMF applies to all air pollutants for which CAAQS have been established. Provinces and territories implement air zone management actions which are guided by the AZMF, as discussed in the GDAZM (CCME 2019a). The AZMF stipulates that CAAQS are not "pollute-up-to" limits since the objective over time is to improve air quality in all air zones.

Provincial and territorial governments provide regular reports on air quality for each of their air zones. These reports include the actual metric values and achievement status of CAAQS for each CAAQS reporting station and air zone. However, under AQMS, provinces and territories have the option of demonstrating in air zone reports that a given CAAQS exceedance may have been influenced by transboundary flows or exceptional events, such as wildfires. The metric values that could have been influenced by transboundary flows or exceptional events can be re-calculated using the guidance provided in the GDTFEE. These calculations must be supported by evidence. This analysis could show that an air zone is at a lower management level after consideration of transboundary flows and exceptional events influences (CCME 2019b).

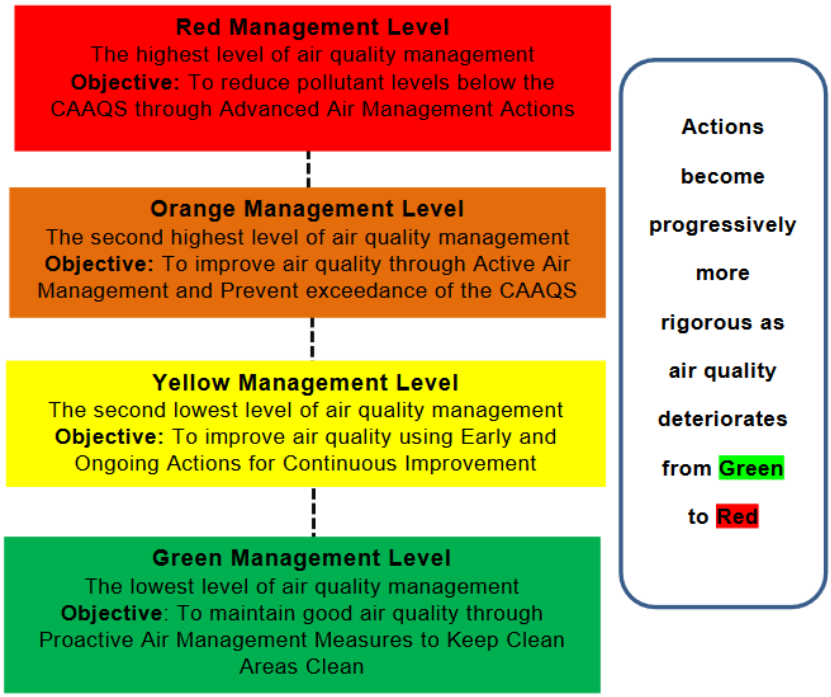

Figure 2: Air Zone Management Framework

Source: Guidance Document on Air Zone Management, CCME 2019.

8. HOW ARE CANADIAN AMBIENT AIR QUALITY STANDARD AIR POLLUTANTS MEASURED?

Ambient concentrations for each CAAQS air pollutant are continuously monitored at numerous air quality stations across Canada. Many of these air quality stations are part of the NAPS network. The NAPS program is a collaborative air quality monitoring network jointly operated and maintained by the provinces, territories and federal government. Metro Vancouver and the Ville de Montréal also contribute to the NAPS program. Air pollutant monitoring data are reported annually to the Canada-Wide Air Quality Database (ECCC 2023). Specific technical requirements for CAAQS air quality monitors are outlined in the guidance documents for each substance and in the *Ambient Air Monitoring and Quality Assurance/Quality Control Guidelines* (CCME 2019c).

Provinces and territories are responsible for designating CAAQS reporting stations. Criteria and considerations for designating CAAQS reporting stations are described in CCME guidance documents for each pollutant.

9. HOW ARE CANADIAN AMBIENT AIR QUALITY STANDARDS METRICS CALCULATED?

For each CAAQS pollutant, a guidance document on achievement determination[5] provides specific procedures for calculating CAAQS metric values. Data used for CAAQS calculations must meet the NAPS program's *Ambient Air Monitoring and Quality Assurance/Quality Control Guidelines* (CCME 2019c) and the data completeness criteria outlined in the individual guidance documents. Each CAAQS has a specific statistical form; for example, the one-hour NO_2 CAAQS metric value is the 98th percentile values of the year's daily maximum one-hour concentration, averaged over three consecutive years. This calculation is completed for each monitoring station that is designated as a CAAQS reporting station. In addition, each CAAQS has specific years in which they come into effect, as shown in Table 1. For CAAQS based on a three-year average, the metric is calculated backwards in time. For example, the 2025 standard is based on metric values for the period of 2023 to 2025.

Note that individual one-hour values, annual maximum one-hour values and other metrics cannot be directly compared to the one-hour CAAQS metric. Caution should always be exercised when comparing differently calculated metrics against CAAQS.

10. HOW ARE AIR POLLUTANTS SELECTED AS CANDIDATES FOR CANADIAN AMBIENT AIR QUALITY STANDARDS?

CCME identifies priority air pollutants as candidates for CAAQS using a consensus-based decision-making process. $PM_{2.5}$ and O_3 were prioritized in 2012 as the first two pollutants to have CAAQS.[6] Subsequently, CCME employed criteria to help determine priority pollutants for developing additional CAAQS. These criteria may be updated for future CAAQS assessments as policy goals and information on air quality and human and environmental health evolve. The criteria used to select NO_2 and SO_2 as priority pollutants[7] were as follows:

- pollutants for which pre-existing Canadian standards (e.g., National Ambient Air Quality Objectives) are out of date or significantly different from leading jurisdictions
- pollutants or emissions sources with significant health or environmental effects, and potential for significant health benefits from reductions
- pollutants for which a sufficient level of health-based information is available
- work that contributes to other policy goals, such as contributions to international negotiations
- work that integrates technical and policy issues
- capacity of jurisdictions to contribute
- potential for collaboration with other air-related groups
- timing and sequencing of the work.

[5] Guidance documents on achievement determination for each pollutant can be found at https://www.ccme.ca/en/resources.
[6] Prior to the introduction of AQMS and CAAQS in 2012, Canada-wide standards were in place for ambient $PM_{2.5}$ and ozone. Canada-wide standards are intergovernmental agreements developed under CCME. They can include qualitative or quantitative standards, guidelines, objectives and criteria for protecting the environment and reducing risks to human health.
[7] The 2020 CAAQS for NO_2 and SO_2 came into effect in 2017.

11. WHAT IS THE PROCESS FOR SETTING CANADIAN AMBIENT AIR QUALITY STANDARD VALUES?

The process for setting a CAAQS or updating values for pollutants with existing CAAQS is collaborative and consensus-based, involving federal, provincial and territorial government representatives, health and environmental organizations, industry representatives and representatives from Indigenous communities and organizations. The process used for setting existing CAAQS is outlined below:

- The process begins with a technical analysis and the preparation of an air quality assessment conducted by the federal government on the pollutant under consideration, with input from provinces and territories through CCME. A set of key criteria are taken into consideration when setting CAAQS levels: health and environmental effects, historical trends and future projections of ambient concentrations, feasibility and achievability. As such, health and environmental effects provide a basis for continued improvement, which is balanced by historical and projected future trends and, ultimately, achievability. The assessment addresses these topics through a review of the most current scientific literature on health and environmental effects, as well as an assessment of past emissions and ambient concentrations and the projected future state of air quality through modelling.

- As part of the assessment, CCME agrees on a range of concentrations from which a future standard is to be selected with the aim of encouraging continuous improvement in air quality and in turn, further protecting the environment and the health of Canadians. In many cases, the range of concentrations has been determined using the Population Improvement Approach (PIA), which is described as follows:

    - Using a combination of air pollution monitoring, modelling data and population distribution information, the PIA is used by the federal government to provide a percentage of the population that would experience reduced exposure to a pollutant, relative to current standards or conditions. As an example, this approach can determine a concentration corresponding to 20% of the population seeing their exposure improve in relation to the current standard. This is especially useful for pollutants such as $PM_{2.5}$, O_3 and NO_2, where health effects are observed at current levels of exposure and any reduction will lead to health benefits. The targeted percent population can be viewed as a minimum benefit since this approach does not account for exposure reductions in areas that already meet the standard. In other words, individuals in areas where pollutant concentrations are below CAAQS will also benefit from a reduced exposure, which is not accounted for in the targeted percent population with reduced exposure. Given this approach, CAAQS are not considered tools for interpreting risk; rather, they are drivers for improving air quality.

- A working group, consisting of health and environmental non-government organizations, industry representatives, and representatives from Indigenous communities and organizations, then considers the assessment. The multi-stakeholder group considers jurisdictions health and environmental effects, existing standards and guidelines from leading jurisdictions and organizations (including the World Health Organization), current background concentrations,

and the feasibility or achievability of the value in future years before recommending a CAAQS value and management levels to CCME for consideration.

- The Council of Ministers makes the final decision to adopt and announce CAAQS.

12. ARE CANADIAN AMBIENT AIR QUALITY STANDARDS LEGALLY BINDING FOR PROVINCES AND TERRITORIES?

Following the adoption of CAAQS by CCME, the federal government incorporates CAAQS as objectives under sections 54 and 55 of the *Canadian Environmental Protection Act, 1999*. However, these are not legally binding or federally enforceable standards. There are no mechanisms (financial or otherwise) imparted by the federal government that require provinces and territories to achieve CAAQS.

13. HOW MAY JURISDICTIONS IMPLEMENT CANADIAN AMBIENT AIR QUALITY STANDARDS?

Provinces and territories have primary regulatory authority governing local aspects of environmental management, including creating policy frameworks for land-use and resource management, establishing environmental regulations and standards, and issuing permits and authorizations. AQMS is designed to allow the best placed government to act and balances the need for consistency across Canada with the need for flexibility to allow provinces and territories to address air quality in their jurisdictions (CCME 2012).

AQMS recognizes jurisdictional flexibility as a key principle that enables jurisdictions to implement CAAQS in a manner that is consistent with their specific management practices and circumstances. Provinces and territories may incorporate CAAQS into their regulatory regimes if they so choose.

Jurisdictions may consider a number of principles and guidelines as they implement CAAQS, such as continuous improvement and keeping clean areas clean. Management actions to improve air quality should be most rigorous when concentrations exceed CAAQS (i.e., the red management level). The GDAZM prescribes air zone management plans for air zones in the yellow and orange management levels as well. Jurisdictions should aspire to a green management level, associated with clean air quality (CCME 2019a). While CAAQS are established to protect health and the environment, management actions put in place to achieve CAAQS and associated management levels should also take into account technical achievability, practicality and implementation costs.

In addition, provincial and territorial governments have committed to report regularly to the public on air quality, on achievement of CAAQS, and on the actions undertaken in air zones within their boundaries (see Question #7).

14. WHAT IS THE RELATIONSHIP BETWEEN CANADIAN AMBIENT AIR QUALITY STANDARDS AND INDUSTRIAL EMISSION REQUIREMENTS?[8]

CAAQS focus on the quality of the ambient air that people breathe. CAAQS achievement requires consideration of a number of pollutant sources, including residential, industrial, mobile sources and more. In contrast, industrial emission requirements (such as BLIERs) deal specifically with the emissions released by industrial activity.

BLIERs, developed by the federal government, are intended to achieve a good base level of performance across the country. They are not designed to achieve the air quality standards on their own. Rather, they work in concert with other actions to achieve the air quality standards. Where needed for better air quality, jurisdictions can also impose stricter requirements on industry. In addition, the stringency of the BLIERs themselves is designed to match what leading jurisdictions—inside and outside Canada—require for comparable industrial sources in attainment areas (areas where air quality standards are being met without the highly stringent requirements designed to address severe air quality issues), adjusted where necessary for Canadian circumstances. A BLIER should ensure that all significant industrial sources in Canada, regardless of the air quality where facilities are located, meet a good base level of environmental performance (ECCC 2022).

15. HOW MAY CANADIAN AMBIENT AIR QUALITY STANDARDS BE APPLIED IN PROJECT ASSESSMENTS?

CAAQS were not developed as facility-level regulatory standards. Rather, they are used by provinces and territories to guide air zone management actions intended to reduce ambient concentrations and to prevent CAAQS exceedances. AQMS provides provinces and territories with the flexibility to apply CAAQS in a manner consistent with their specific management practices and circumstances. Management actions should consider all important sources of air pollution emissions in an air zone. In the context of management actions, provinces and territories may consider aligning their local standards (including those used for facility permit applications) with CAAQS if they so choose.

In project assessments, the impact of a proposed project on a region's air quality is often predicted using atmospheric modelling. Some jurisdictions may require comparison of these modelling results, in the form of predicted concentrations of air pollutants, to relevant ambient air standards or objectives, including Canada-wide standards such as CAAQS. A comparison of modeled concentrations to CAAQS does not imply achievement or nonachievement of the regulatory standards. However, the comparison with CAAQS may be considered in determining the project's impact on air quality and the resulting mitigation measures that may be required to maintain good air quality or to prevent an exceedance of CAAQS.

[8] See footnote 2.

Should a project be approved, a follow-up monitoring program may be established to either validate assessment predictions or to confirm the success of proposed mitigation measures. This is different from the monitoring or follow up used to determine CAAQS achievement. Even though predictions may be compared to CAAQS, this does not mean that a follow-up monitoring program is used to determine CAAQS achievement. Provinces and territories determine CAAQS achievement by following CCME guidance documents, including the guidance document on achievement determination for each pollutant. Finally, each jurisdiction has the authority to decide which guidelines or standards are applicable and how they may be applied in project assessments.

16. HOW DO CANADIAN AMBIENT AIR QUALITY STANDARDS RELATE TO PROVINCIAL AND TERRITORIAL AMBIENT STANDARDS?

All provinces and territories have their own ambient air quality standards, sometimes referred to as objectives, guidelines or criteria, depending on their application. For the purposes of this discussion, they are simply referred to as standards, though their application from jurisdiction to jurisdiction varies, as discussed below. In some cases, provinces and territories have aligned their standards with CAAQS, while other provinces and territories have standards that may differ in terms of the statistical form of the standard, averaging period or numerical value. Provinces and territories also have additional standards for non-CAAQS air pollutants. Many provinces and territories engage in stakeholder consultations when updating and introducing new air quality standards.

Additionally, the application of these standards varies between jurisdictions. In many provinces and territories, it is common for air quality standards (CAAQS or provincial or territorial standards) to be considered in environmental assessments, with many provinces and territories requiring that new or modified projects not result in ambient concentrations exceeding the standards. Some provinces and territories require reporting of any activities that lead to ambient concentrations that exceed the standard. Provincial and territorial standards are also typically used to guide decisions on air quality advisories, develop long-term regional air quality management strategies and evaluate progress, or aid in regulatory development, including the development of industrial emission standards and other emission reduction measures.

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