Proposed Provincial Framework for the Development of Ambient Air Quality Objectives

1. Introduction

The Ministry of Healthy Living and Sport intends to establish a provincial framework to guide future development of provincial air quality objectives in B.C. This initiative supports its mandate to promote healthy community environments by setting standards, monitoring and reporting on air quality to improve human health.[1]

There is growing recognition that air pollution has a significant impact on human health. Short-term exposures to common air contaminants such as fine particulate matter are linked with increased hospital admissions due to cardio-respiratory conditions, increased emergency room visits and work/school absenteeism, increased respiratory symptoms and decreased lung function. Long-term exposure is associated with increased deaths due to cardio-respiratory conditions, permanently damaged lung function, increased number of people with lung cancer, and increased premature births and low birthweight. Additional health effects are associated with air toxics, such as lead, benzene and polyaromatic hydrocarbons (PAH's). In a study by the Canadian Medical Association, outdoor air pollution accounted for an estimated 21,000 deaths in Canada in 2008, with economic costs exceeding $8 billion.[2] If unmitigated, these impacts are only expected to grow in future years.

In B.C., air quality objectives are non-statutory limits to assess air quality and to inform air management decisions, such as the issuance of authorizations and air quality advisories, and the development of airshed plans.[3] "Standards", "guidelines" and "limit values" are often used interchangeably to describe such criteria, although these terms may refer to legislated limits within some jurisdictions.

Table 1 contains a summary of existing provincial air quality objectives, along with criteria from other jurisdictions. For pollutants such as nitrogen dioxide and sulphur dioxide, large differences are seen between those criteria used in B.C., which were developed in the 1970's or earlier, and those recently adopted by other jurisdictions such as the U.S. These differences largely reflect the increasing evidence of a range of health effects at lower concentrations than previously observed, and the need for B.C. to

[1] Ministry of Healthy Living and Sport Strategic Framework 2009/10-2011/12.
[2] CMA (2008) *No Breathing Room: National Illness Costs of Air Pollution*. Canadian Medical Association, August 2008. Retrieved from: www.cma.ca.
[3] For more details on how air quality objectives are applied, see: www.bcairquality.ca/reports/pdfs/pm25-implement-guide.pdf.

consider updating its current set of air quality criteria. The table also highlights the fact that B.C. has yet to develop criteria for some air contaminants linked to human health impacts and commonly found in urban areas, such as benzene and PAH's.

Table 1 Air quality objectives in B.C. and other jurisdictions. All concentrations in µg/m^3 unless specified.

Conta-minant	Avg. Period	B.C.[a]	Alberta[b]	Canada[c]	U.S.[d]	WHO[e]	U.K.[f]	European Union[g]	Australia[h]
CO	1h	14.3/28/35 mg/m^3	15 mg/m^3	15/35/-	40 mg/m^3	30 mg/m^3 [i]			
	8h	5.5/11/14.3 mg/m^3	6 mg/m^3	6/15/20	10 mg/m^3	10 mg/m^3	10 mg/m^3	10 mg/m^3	10 mg/m^3
NO_2	1h		400	-/400/1000	200	200	200	200	230
	24h		200	-/200/300					
	Annual		60	60/100/-	100	40	40	40	60
O_3	1h		160	100/160/300	240				200
	8h			130	150	100	100	120	160
	24h			30/50/-					
	Annual			-/30/-					
PM_{10}	24h	50			150	50	50		50
	Annual					20	40		
$PM_{2.5}$	24h	25	30	30	35	25			25
	Annual	8			15	10	25	25	8
	Exposure						15%		
SO_2	10-min					500			
	15-min						266		
	1h	450/900/900-1300	450	450/900/-	200[j]		355	350	560
	24h	160/260/360	150	150/300/800	Revoked	20	125	125	224
	Annual	25/50/80	30	30/60/-	Revoked				56
H_2S	1h	7/28/-	14			7 (30 min - odour)			
	24h	3/6/-	4			150			
Benzene	1h		30						
	Annual						16.25[k] (all)	5	
Formalde-hyde	1h	60 (action)	65			100 (30 min)			
		370 (episode)							
1,3-butadiene	Annual						2.25		
PAHs	Annual						0.25 ng/m^3	1 ng/m^3 (benzo(a)p)	
Lead	Annual	1-2.5[l]	1.5		0.15		0.25	0.5	0.5
As	Annual	100-500 ng/m^3 [l]	10 ng/m^3					6 ng/m^3 [m]	
Cd	Annual	50-300 ng/m^3 [l]						5 ng/m^3 [m]	
Ni	Annual	10-100 ng/m^3 [l]	50 ng/m^3					20 ng/m^3 [m]	

[a] Range of numbers reflects Pollution Control Objectives Levels A, B and C. Retrieved from: http://www.bcairquality.ca/reports/pdfs/aqotable.pdf.
[b] Retrieved from: http://environment.gov.ab.ca/info/library/5726.pdf.
[c] Range of numbers reflects Maximum Desirable, Acceptable and Tolerable Levels. Retrieved from: http://www.bcairquality.ca/reports/pdfs/aqotable.pdf.
[d] Retrieved from: http://www.epa.gov/air/criteria.html. NO_2, O_3 and SO_2 were converted from ppb. The US EPA is also seeking comments on an 8h ozone standard of between 60-70 ppb (currently under review) and a seasonal W126 secondary standard to protect vegetation.
[e] Retrieved from: http://whqlibdoc.who.int/hq/2006/WHO_SDE_PHE_OEH_06.02_eng.pdf.
[f] Retrieved from: http://www.airquality.co.uk/standards.php.
[g] Retrieved from: http://ec.europa.eu/environment/air/quality/standards.htm.
[h] Retrieved from: http://environment.gov.au/atmosphere/airquality/publications/standards.html. Standard levels for NO_2, O_3 and SO_2 were converted from ppb.
[i] Retrieved from: http://www.euro.who.int/__data/assets/pdf_file/0005/74732/E71922.pdf.
[j] New standard 1-hour standard of 75 ppb adopted June 2010. Previous 24-hour and annual standards revoked. For more information, see: http://www.epa.gov/ttn/naaqs/standards/so2/fr/20100622.pdf.
[k] Objective of 5.0 $\mu g/m^3$ to be achieved by 31 Dec. 2010 in England and Wales, and 3.2 $\mu g/m^3$ to be achieved by 31 Dec. 2010 in Scotland and Northern Island.
[l] Assumed 24h average, from Pollution Control Objectives for the Mining, Smelting and Related Industries of British Columbia 1979. B.C. Ministry of Environment.
[m] Target value for 31 Dec. 2010.

A provincial framework reflects a first step towards ultimately updating provincial air quality objectives by articulating how these objectives will be reviewed or developed. Specifically, the scope of the framework is to:

- Establish a process to identify priorities for the review or development of air quality objectives;
- Define goals and guiding principles;
- Establish a general approach to objective setting; and
- Identify roles and responsibilities of the ministry and key stakeholders.

The process for establishing the framework consists of the following stages:

- Scoping – including a scan of practices in other jurisdictions to set air quality objectives or standards;
- Early consultation – with other governmental agencies involved in the setting of air, water and contaminated sites criteria, including federal, provincial and regional environment and health agencies;
- Evaluation of options -- that emerged from consultations with governmental agencies;
- Proposal – outlining the ministry's proposed framework and supporting information;
- Consultation – with affected stakeholders, using the consultation paper and response forms posted on the ministry website, and other means as required;
- Adoption – by the ministry to guide future objective-setting efforts.

This paper provides a summary of ministry and government goals, background information concerning objective-setting approaches in other jurisdictions, a summary of the process to establish a provincial framework for air quality objective development, and the ministry's proposed framework along with supporting rationale. The final section of this paper describes the avenues for providing comments to the ministry.

2. Background Information

Review of objective-setting approaches in other jurisdictions

Approaches used to develop air quality criteria in Canada[4], Alberta[5], Ontario[6], the U.S.[7], the WHO[8], the United Kingdom (U.K.)[9] and Australia[10] were reviewed. The review found that a number of jurisdictions (e.g. Canada, Ontario and Australia -- proposed) apply a risk management model to objective or standard-setting, as summarized in Figure 1. Issue prioritization is followed by a quantitative scientific risk assessment to estimate the magnitude of the potential hazard resulting from a specified contaminant, and an evaluation of various risk management strategies, taking into consideration a range of cost-benefit and socio-economic factors. Alberta essentially follows a similar approach, although it is not articulated in any documentation.

In contrast, U.S. air quality standards are legal requirements that are selected based upon a quantitative risk assessment using city-specific data. In setting the standards, the Environmental Protection Agency (EPA) may not consider the costs of implementing the standard.

WHO guidelines and U.K. standards are based upon a qualitative risk assessment. The WHO guidelines represent criteria that are used as the basis of air quality standards in many jurisdictions. In the U.K.,

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[4] Health Canada (nd) Regulations Related to Health and Air Quality Retrieved 4 Jan. 2010 from: http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/reg-eng.php.

[5] Fu L. (2006) "Alberta Air Quality Objectives: An Overview", Presented to the Petroleum Technology Alliance Canada, November 2006, Retrieved from: http://www.ptac.org/env/dl/envf0604p04.pdf

[6] Ontario Ministry of Environment (1999) "Setting Environmental Quality Standards in Ontario: The Ministry of the Environment's Standards Plan." Retrieved from: http://www.ene.gov.on.ca/envision/env_reg/er/documents/2000/pa9e0004.htm

[7] Voorhees, A.S. (2006) "Review Process of PM Standards in the USA and Relevance for Asia." Retrieved from: http://www.cleanairnet.org/caiasia/1412/article-71306.html.

[8] WHO (2008) "WHO Air Quality Guidelines. Global Update 2005." World Health Organization Regional Office for Europe, Copenhagen, Denmark.

[9] Defra (2007) "The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Volume I." Department for environment, Food and Rural Affairs in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland, Retrieved from: http://www.defra.gov.uk/environment/quality/air/airquality/strategy/documents/air-qualitystrategy-vol1.pdf.

[10] NEPC (2009) "An Australian Approach to Setting Air Quality Standards: Consultation Draft." National Environment Protection Council, as of September 2009. Retrieved from: http://www.ephc.gov.au/sites/default/files/AAQSS_ConsultPpr_An_Australian_Approach_to_Setting_Air_Quality_Standards_Consultation_Draft_20091123.pdf.

"standards" are based upon scientific and medical evidence of the health effects of air contaminants, whereas "objectives" are used as policy targets, taking into consideration economic efficiency, practicability, technical feasibility and timescale for achieving the objectives.

All jurisdictions provide opportunities for stakeholder input at various points in the objective-setting process. However, the Alberta approach is unique in that stakeholder representatives are embedded in the entire objective-setting process, and sit on an air quality objective coordinating committee that makes non-binding recommendations to Alberta Environment.

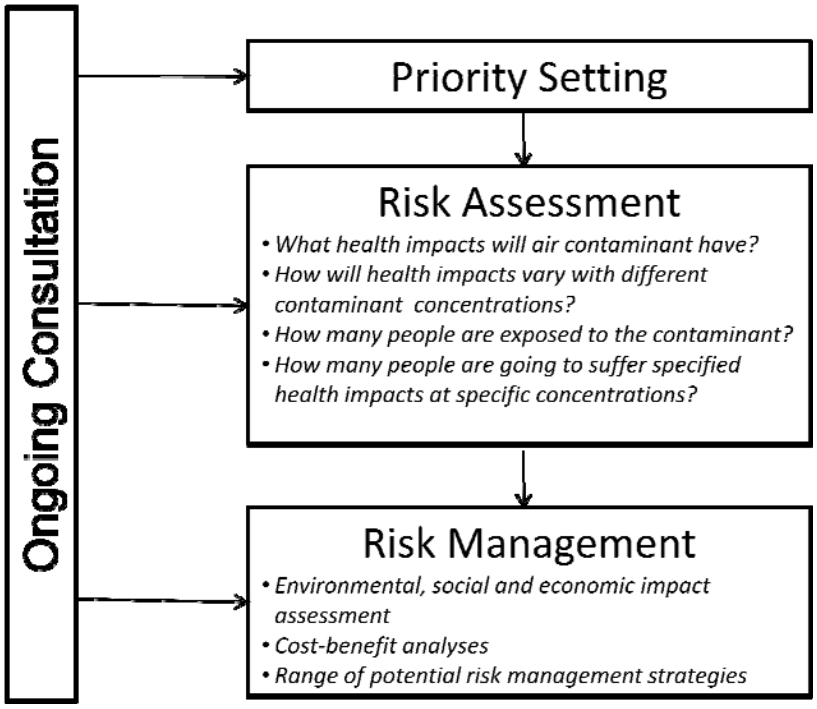

Figure 1. Summary of generic risk management approach to the setting of air quality objectives (based on Ontario and proposed Australian approach).

An explicit role for expert committees is identified in the U.S. and U.K processes. Established under the U.S. Clean Air Act, a Clean Air Scientific Advisory Committee (CASAC) provides independent expert advice to the EPA administrator on the technical basis for national ambient air quality standards. In the U.K., an expert panel is set up to provide independent scientific advice to the environment ministry on specifying, interpreting and using air quality standards. The WHO engages a panel of experts to conduct a hazard assessment and recommend guidelines.

Early consultation

To obtain perspectives from those involved in the setting of environmental criteria in B.C. and elsewhere, the ministry conducted a brainstorming workshop on Jan. 19, 2010 in Victoria, B.C.

Participants included representatives of federal, provincial and regional health and environment agencies, with expertise in air and water quality and contaminated sites. The general public was not involved in this workshop. Participants were asked to comment on a number of key questions related to the objective-setting process. Compiled comments are available upon request from the ministry.

The primary focus of the workshop was to identify possible approaches for B.C. to consider in the objective-setting process. Four such approaches were discussed:

- Risk management: Based on scientific and medical evidence, as well as cost-benefits and other socio-economic factors.
- "Science-based": Based on scientific and medical evidence only, with cost-benefits and other factors considered in the implementation phase (but recognizing that some risk-based decisions are still required, such as defining an acceptable level of risk);
- "Best of Class": Based on most stringent criteria established elsewhere by jurisdiction with relevant air management structure to B.C.
- Exposure reduction: Focus on reducing ambient concentrations from current levels.

The risk management approach enables various factors in addition to health impacts to be considered in the objective-setting process. As summarized in Figure 1, it is a multi-stage process beginning with issue prioritization, followed by risk assessment and consideration of risk management options. The risk assessment phase looks at the nature of the hazard, the dose-response relationship, the population exposed, and the estimated health impact on the population are considered. The risk management phase integrates information from the risk assessment with economic and technical considerations, and ethical, social, legal, ecological, and achievability factors. Stakeholders are engaged throughout the process.

While the risk management approach is considered the most comprehensive in establishing new air quality objectives, it is also the most resource-intensive. The inclusion of economic costs and achievability in the decision-making process is viewed by some as leading to objectives less protective of human health (although economic costs may include those incurred by the health system due to degraded air quality). However, there may be occasions when a decision is made to adopt more stringent criteria to avoid future degradation from currently good air quality. Detailed information on affected sources and their emission reduction options is needed to conduct meaningful cost-benefit analyses. A further challenge is in weighing the implications of different socio-economic factors, such as ethical and social concerns. Here, stakeholder input is of particular importance.

The science-based approach focuses on the risk assessment phase of the risk management process, and largely on the protection of human health. Costs, achievability and other factors are considered during the implementation of the objectives; not in the objective-setting process. For these reasons, some may argue that this is the most protective and transparent approach to setting health-based criteria.

However, subjective judgment is still required, as in determining an acceptable level of risk. Deferring consideration of achievability and other factors to the implementation phase may lend itself to developing regional or airshed-specific objectives that reflect local conditions, such as background levels and source-specific information.

The exposure reduction approach is based on a principle of continuous improvement, recognizing that for non-threshold pollutants such as $PM_{2.5}$, any improvements in air quality will yield health benefits. Such an approach has been adopted by the European Union to manage $PM_{2.5}$, where negotiated exposure reduction targets have been established on a country-by-country basis.[11] These targets are expressed in terms of a required percentage decrease in annual $PM_{2.5}$ concentrations at established urban "background"[12] locations between 2010-2020. In so doing, "pollute-up-to" limits are avoided, and associated health benefits are realized in both cleaner and degraded areas. Risk management decisions informed by some level of risk assessment are still needed to evaluate the relative benefits of the potential exposure reduction targets. Challenges relate to establishing an appropriate monitoring network and air quality baseline to track exposure reduction, as well as potential concerns about perceived limitations on economic development.

In the "best of class" approach, air quality criteria from other jurisdictions are reviewed, and the most stringent from a relevant jurisdiction are selected. This approach potentially provides the quickest and most cost-effective way to put forward new objectives, relying on the risk assessment and risk management decisions established elsewhere. However, there is also the potential to adopt criteria for a purpose that they were never intended to be used. Using the "best of class" approach requires some evaluation as to the types of studies/management frameworks that would be relevant to this province (e.g. science-based, reviewed within the last five years, etc.).

Considerations for B.C.

In practice, each of the four approaches incorporates parts of a risk-based approach, including priority-setting, some measure of risk assessment (either qualitative or quantitative), and consideration of risk management strategies (e.g. identifying acceptable risk, exposure reduction targets or relevant examples of "best of class"). Each potentially provides some measure of value to B.C., depending on:

- the specific air contaminant,
- exposure patterns and extent,
- source types,
- potential health impacts (including threshold vs non-threshold contaminants),
- the weight-of-scientific evidence relevant to B.C.,
- achievability,

[11] Retrieved from: http://ec.europa.eu/environment/air/quality/standards.htm
[12] Defined as where air quality levels are representative of the general population.

- technical feasibility, and
- government priorities.

For example, where a contaminant has no safe threshold and/or implementation of a proposed objective may be associated with significant costs to achieve or significant trade-offs in terms of various socio-economic factors, then an evaluation of various risk management options should be considered. Where a contaminant is unique to a single community, as a result of local sources, then a "best of class" approach may be useful to provide the best information in a timely fashion. For ubiquitous pollutants such as $PM_{2.5}$, where no safe threshold exists, an exposure reduction approach would augment existing provincial objectives that provide a minimum benchmark for protection. Where emissions are easy to control through cost-effective measures, a technical solution rather than objective-setting may be the most effective and efficient risk management approach. In each case, a risk-based approach is followed, with differences in the relative importance and level of analysis placed upon each step.

In short, B.C. could benefit from a framework that affords flexibility to enable the most effective and efficient risk management decisions.

3. Ministry Direction

The ministry proposes to establish a provincial framework for air quality objective development that is comprised of the following elements:

- Goals,
- Guiding Principles,
- Approach, and
- Roles and Responsibilities.

3.1 Goals

The MHLS provides supports to create healthy environments that protect health and support healthy choices. It does so by setting standards and objectives, tracking and reporting on air and water quality to improve human health, and by protecting the health of British Columbians through various pieces of legislation and initiatives.

Complementary to the efforts of MHLS are those by the Environmental Protection Division of the Ministry of Environment, which strives to enhance environmental protection and stewardship by monitoring air and water quality, reducing and removing wastes and toxins from the environment, and emphasizing compliance activities with respect to discharges to the environment. In the February 2010 throne speech,[13] government confirmed its commitments to its Five Great Goals,[14] which include "To

[13] Retrieved from: www.leg.bc.ca/39th2nd/2010_ThroneSpeech.pdf.
[14] Retrieved from: www.bcbudget.gov.bc.ca/2005/speech/BudgetSpeech.pdf

lead the world in sustainable environmental management, with the best air and water quality, and the best fisheries management, bar none."

3.2 Guiding Principles

In addition to those principles that guide the ministry and the Health Protection Branch, the air quality objective-setting process is guided by the following principles, based largely on those from Health Canada's "Decision-making Framework for Identifying, Assessing, and Managing Health Risks."[15]

Maintaining and Improving Health is the Primary Objective – Addressing health and safety issues takes precedence in making risk management decisions, over economic and other considerations.

Seek the Same Degree of Protection for All British Columbians - All British Columbians are entitled to the same level of protection from the adverse effects of air pollution, regardless of race, colour, national origin or religion.

Involve Interested and Affected Parties – Provide adequate opportunities for affected and interested parties to be involved in the risk management decision-making process. This includes decisions on how to apply a precautionary approach and which provisional risk management strategy should be implemented. The nature and extent of involvement may vary depending on a number of factors, including whether there is a need for a quick response and the level of resources available, and may range from active participation, to ensuring that concerns are sufficiently addressed, to the provision of information. Providing opportunities for involvement can build trust, lend credibility to decisions, and provide access to critical information. In order to be effective, the process for involvement must be clear and explicit, and carried out in a systematic way.

Communicate in an Effective Way – Provide clear, accurate, relevant information to interested and affected parties in a timely manner, using a format that is useful and easily accessible to them. Communication is a two-way process and includes developing an understanding of the needs of interested and affected parties, reacting to concerns and informing, consulting and educating. An important aspect of effective communication is providing individuals with enough information to allow them to contribute to the decision-making process in an informed way.

Use a Broad Perspective – Risk management decisions must consider a variety of information to ensure that the best risk management strategy is selected and that it is implemented in an effective manner. Taking a broad perspective means also taking into account factors such as risks vs. benefits, potential social, cultural, ethical, political, environmental, legal, economic, and other impacts, and the perspectives of interested and affected parties.

[15] Retrieved from: www.hc-sc.gc.ca/ahc-asc/alt_formats/hpfb-dgpsa/pdf/pubs/risk-risques-eng.pdf

Use a Collaborative and Integrated Approach -- Use a collaborative and integrated approach for identifying issues, and assessing and managing risks. The volume and complexity of information, and the cross-cutting nature of many risk issues (e.g. contaminants in air, water and food), make it impossible for a single individual or group to maintain the necessary expertise to deal with most health risks of concern to the ministry. Working together can increase efficiency, effectiveness, and consistency of decisions, reduce duplication of effort, and identify gaps in science and policy.

Make Effective Use of Sound Science – Success in maintaining and improving our health requires an evidence based approach to decision making. This can only be achieved by making effective use of sound science.

Use a "Precautionary" Approach – A key feature of managing health risks is that decisions are often made in the presence of considerable scientific uncertainty. A precautionary approach to decision making emphasizes the need to take timely and appropriately preventative action, even in the absence of a full scientific demonstration of cause and effect. This is a grounding principle of health actions in Canada (e.g. CEPA, 1999; CCME Harmonization Accord).[16]

Tailor the Process to the Issue and its Context – Maintain flexibility throughout the risk management decision-making process. Using a flexible approach can lead to more effective and more acceptable risk management decisions.

Clearly Define Roles, Responsibilities, and Accountabilities – Clearly define the roles, responsibilities and accountabilities of all parties who participate in the risk management decision-making process, as well as the ministry's relationship with each of them. Clearly delineating roles, responsibilities, and accountabilities helps to ensure that participants and other interested and affected parties know what is expected and what commitments have been made, and thereby lead to more efficient and effective risk management strategies.

Strive to Make the Process Transparent – Clearly document all activities, considerations, assumptions, uncertainties, and decisions to ensure that all aspects of the risk management decision-making process are clear and easily understandable. Bearing in mind any requirement for confidentiality, make this information accessible to interested and affected parties. Individuals who review the documentation should be able to understand how and why things were done, what decision-making processes were used, and who is accountable and responsible for various activities and decisions.

[16] CEPA 1999 defines the "precautionary principle" as: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Retrieved from: http://www.ec.gc.ca/ceparegistry/subs_list/ExSubOverview/overviewofesp_p2.cfm.

3.3 Approach to Objective-setting

The ministry proposes to apply a risk-based approach to the development of provincial air quality objectives, as summarized in Figure 2. Decisions will be informed by the best available science that is relevant to B.C., as well as other considerations such as cost-benefits and various socio-economic factors. Where there is uncertainty regarding the risks posed by a contaminant, the precautionary principle will be applied.

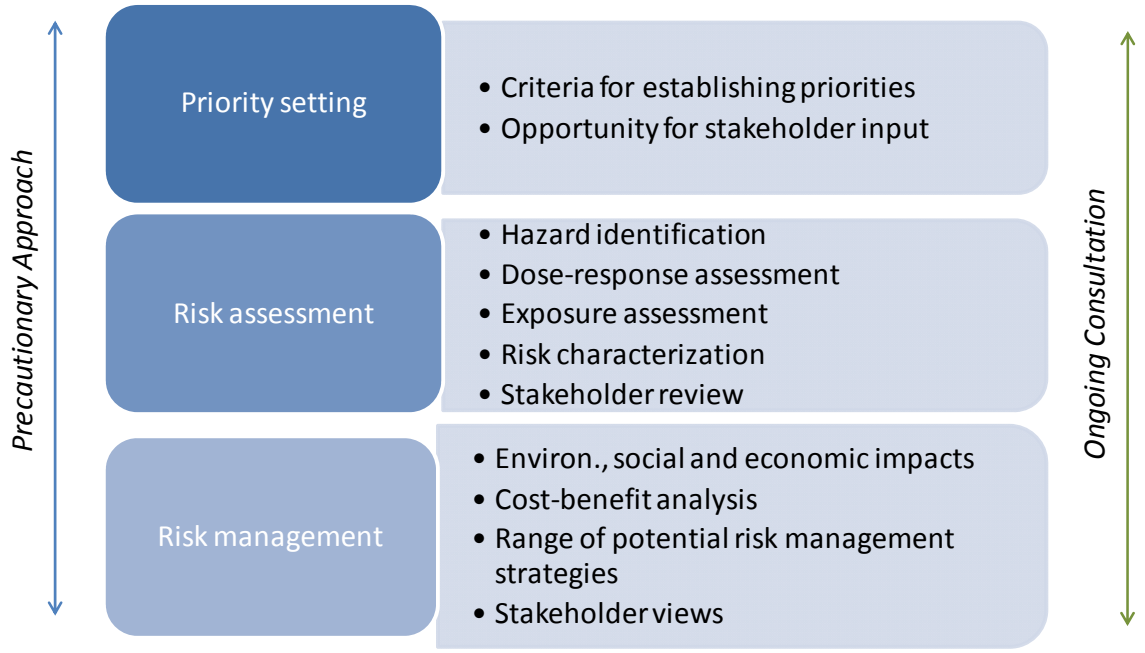

Figure 2. Proposed objective-setting framework for B.C.

The risk-based approach is comprised of three separate phases:

- Priority-setting,
- Risk assessment and
- Risk management.

Priority-setting:

The ministry sets priorities for objective setting based on several considerations, including:

- Government priorities to support various programs, including priorities of the Ministry of Environment;
- Exposure of public to appreciable levels of specific air contaminants;
- National Pollutant Release Inventory (NPRI), federal priority substance lists and other lists,

- Stakeholder needs,
- New information related to human health effects, and
- Health priorities identified by other B.C. agencies, such as the B.C. Centre for Disease Control.

The ministry will periodically request stakeholder input on priority substances through the bcairquality.ca website and using existing stakeholder lists.

Risk Assessment:

Risk assessment is evaluating the potential for adverse health effects due to exposure of a human or non-human organism to a physical, chemical or biological agent (in this case, air contaminant). Risk assessment is comprised of four major steps:

- Hazard identification: Describes the type of health effects associated with an air contaminant, based on existing scientific literature;
- Dose-response assessment: Determines the relationship between the amount of exposure and the probability of health effects;
- Exposure assessment: Determines the concentration, frequency, duration and route of exposure to estimate how many people are exposed to the air contaminant;
- Risk characterization: Based on B.C.-specific or relevant exposure and dose-response information, defines the nature and magnitude of the risk in the province (i.e. how many people are going to suffer specified health impacts at specific concentrations).

Risk assessment information relevant to air quality objective-setting will be made publically available for review through the ministry's website.

Detailed methodologies for conducting a risk assessment have been developed by others.[17] Additional guidance to support the conduct of risk assessments in the B.C. context will be developed by the ministry.

Risk Management:

The risk management phase integrates information from the risk assessment with economic and technical factors as well as ethical, social, legal, ecological, and achievability considerations. Different risk management strategies may be evaluated. Stakeholders are engaged throughout the process.

A flexible approach is applied, where the complexity of the assessment reflects the level of risk and/or potential implications of achieving the proposed objectives. For example, cost-benefit analyses may be warranted where significant costs would be required to achieve the proposed objectives. In contrast, a more limited assessment may be considered where effects levels have been well-defined and found to

[17] E.g. for major U.S. EPA-wide risk assessment guidelines, see: www.epa.gov/risk/guidance.htm.

be well above baseline concentrations. The public will be consulted on proposed air quality objectives prior to any final decision by the ministry.

3.4 Roles and Responsibilities

The following reflects the proposed roles and responsibilities of the ministry and key stakeholders in the development of provincial air quality objectives.

Ministry of Healthy Living and Sport

The ministry leads the development of provincial air quality objectives, working with external experts as needed to conduct the risk assessment and risk management evaluation, and consulting with internal and external stakeholders throughout the priority-setting and objective-setting process. The ministry also provides guidance to the Ministry of Environment on how the objectives should be implemented, and on the reporting of provincial air quality. The Minister of Healthy Living and Sport is responsible for adopting new or updated ambient air quality objectives for B.C.

Ministry of Environment

The Ministry of Environment monitors ambient air quality and meteorological conditions throughout the province and is responsible for performing quality checks on the air quality data and maintaining the central air quality database. The Ministry of Environment is also responsible for providing expertise on the health and environmental impacts of air pollution, and on implementing air quality objectives through their decisions on authorizations, the development of regulations, compliance activities, the issuance of air quality advisories, and support for airshed planning.

Metro Vancouver

The Greater Vancouver Regional District (now known as “Metro Vancouver”) has been given delegated authority from the Province under the Environmental Management Act to manage air quality within its boundaries. This includes the establishment of ambient air quality objectives that may be different but no less stringent that requirements established by the province. Metro Vancouver, in cooperation with the Fraser Valley Regional District, is responsible for monitoring and reporting on air quality in the Lower Fraser Valley, performing data quality checks and providing the Ministry of Environment with this data.

Health Authorities

Air quality has been identified as a core program for regional health authorities. The goal of the air quality core function is to “....reduce the risk to public health from indoor and outdoor air pollution through activities such as tobacco reduction, public education, surveillance, and assisting local

governments and community groups with improvements to air quality."[18]Health authorities provide advice on priority-setting for air quality objective development, technical expertise related to the risk of air contaminants on human health, and support implementation of air quality objectives through their work on health assessments.

B.C. Centre for Disease Control

The B.C. Centre for Disease Control provides advice on priority-setting for air quality objective development, and technical expertise related to the risk of air contaminants on human health.

Federal Government

Health Canada's mandate is to identify health hazards and develop strategies to protect Canadians from these hazards. With respect to air pollution, this includes identifying health hazards, estimating the level of risk they pose, and developing options to deal with them. Health Canada works with Environment Canada to formulate risk management strategies. Environment Canada's air-related mandate also includes preserving and enhancing the quality of the natural environment; providing a meteorological service; and coordinating environmental policies and programs for the federal government. Specific areas of expertise include air quality monitoring and assessment, compilation of emission inventories and cost-benefit analyses.

Local Government

Local government has the authority to pass bylaws that may restrict certain emission-causing activities within their communities, and typically takes a leadership role in airshed planning initiatives to improve local air quality. With respect to objective-setting, local governments provide advice on priority-setting and the identification of local implications, and support implementation by using air quality objectives to guide local air quality-related initiatives.

Other Stakeholders

Public interest groups, industry and First Nations are examples of additional key stakeholders that have a vested interest in local air quality and who possess local knowledge and/or expertise related to the potential impacts of air quality on communities, including business interests, and the environment.

The above key stakeholders will be engaged at strategic points throughout the objective-setting process for their input and expertise.

[18] Retrieved from: http://www.interiorhealth.ca/uploadedFiles/Choose_Health/Public_Health/CORE_PROGRAM_Dscrp.pdf.

4. Providing Comment on Ministry Direction

The ministry is intending to finalize and apply a new provincial framework for provincial air quality objective development in 2010. Comments regarding the proposed approach are being solicited and will be carefully considered. The ministry welcomes all suggestions with respect to the proposed guiding principles, approach and roles and responsibilities for the ministry and other key organizations.

Submissions will be compiled and summarized, without specific attribution, and the summary posted on the ministry website. Following review of comments and submissions, the ministry will formally adopt and begin applying the framework.

Those interested are invited to submit comments on the proposal, using the instructions and questions provided on the response form. Individuals or organizations may also make written submissions to the ministry without following the format set out in the response form – as desired.

Comments to the ministry should be made on or before September 30, 2010.

Please note that comments you provide and information that identified you as the source of those comments may be made publicly available if a freedom of information (FOI) request is made under the Freedom of Information and Protection of Privacy Act.

If you have any questions or comments regarding the consultation process, review the information posted on the ministry's website at: www.bcairquality.ca or contact BCAirQuality@gov.bc.ca. Comments can also be sent to:

Mail: Ministry of Healthy Living and Sport
Health Protection Branch
4-2 1515 Blanshard Street
Victoria, B.C. V8W 3C8
Fax: 250-952-1713