

Implementation Framework for the Sea-to-Sky Air Quality Management Plan (AQMP)



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for
the Sea-to-Sky Air Quality Coordinating Committee

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1 Introduction

This document outlines a framework for implementation of the Air Quality Management Plan (AQMP) that will guide an efficient, cost-effective management process for air quality actions in the Sea-to-Sky corridor. To date, the process has involved establishing an Air Quality Coordinating Committee (AQCC), engaging stakeholders, establishing vision, goals and targets for the region, and identifying air quality actions. The next step is to transform the actions into tangible activities and tasks, and provide a timeline for implementing them.

In this document, a framework is defined that makes a connection between three components key to implementing a successful plan: the investments made by each participant to address current and future actions, the audience reached by the current and future actions, and the expected results for the region over the short, medium, and long term¹. An overview of the three components is provided below. The framework is based on the results of the implementation discussion at the October 10, 2007 AQCC meeting.

Firstly, participating members of the AQCC need to *invest resources*, whether they are time, staff, volunteers, research, materials, or other, to ensure the successful implementation of the AQMP and ensure clean air is maintained in the Sea-to-Sky corridor over the long term. The resource investments required to accomplish each priority are defined in Section 2, and are linked to actions in the tables in Section 3. Ongoing investments of resources are required by each participating member to ensure successful implementation of the plan.

Secondly, participating members of the AQCC need to *commit to championing the plan and its actions* to ensure each priority is addressed and that the actions are reaching the intended audience. Specific actions have been defined in Section 3 that will lead to a comprehensive implementation of the AQMP, and will guide the region from where it is to where it wants to be in relation to air quality management. The actions include a variety of activities, from conducting workshops and meetings, to gathering information, to facilitating collaborations, to launching public education campaigns. These activities are designed to target the priority areas identified in transportation, education, planning and industrial / collaborative activities.

Up to this point, the MoE has coordinated the AQMP process with support from The Sheltair Group and with direction from the AQCC. As the plan moves through implementation, leadership will be transitioned to the AQCC with MOE continuing to provide technical support. This transition is discussed in Section 4.

Thirdly, the air quality *vision for the region* can be achieved with sufficient investment and leadership from AQCC members in plan implementation. Performance measures are identified in Section 5 that will streamline the evaluation and reporting of the progress on plan implementation. Additionally, the progress toward achieving the region's air quality goals will be measured using indicators identified in the AQMP. The template for progress reporting will be developed by The Sheltair Group, which is responsible for the 2008 AQMP progress report, and is outlined in Section 6.

The intention of this implementation plan is to provide a clear list of actions for AQCC members that will build from existing community-based initiatives and encourage collaboration among participants to reach the region's air quality goals. With an investment of resources and a commitment of leadership from AQCC members in implementing this plan, coupled with progress evaluation, the Sea-to-Sky corridor can continue to be a healthy airshed that remains clean through a period of remarkable growth and development..

¹ Adapted from the University of Wisconsin, Program Development and Evaluation, Logic Model website, accessed 30 January 2008. Website: www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html

2 Resource Requirements

In order to implement this plan, a certain level of resource commitment is necessary from participating AQCC members. In particular, taking on a champion or leadership role in executing one or more of the activities listed in Section 3 is key to successfully implementing the plan. In addition to taking on a champion or leadership role in certain activities, a commitment of staff time and funding are examples of resources that will be required to implement the plan.

2.1. Role of the Champion

The success of a plan is linked to support from local champions, either at the staff or political level. Champions provide support to the implementation of actions, creating opportunities with existing and parallel initiatives while acting as a resource for their local Council. A champion would also promote initiatives within the community, at the staff and council levels. The champion may not be directly involved in the day-to-day activities, but generally would:

- Support the activities of the action leader and working groups.
- Promote the action and its activities within the communities.
- Liaise with local Councils, and provide updates on activities.
- Identify a potential lead contact or coordinator for an action.

A champion may be involved with more than one action, and would likely support a number of related actions (e.g. all actions relating to public engagement).

2.2. Role of the Lead Contact / Organization

Committing to the role of lead contact on an action involves securing resources, ensuring the tasks are completed and reporting progress to the AQCC. Some actions and the associated activities and tasks are straightforward, while others are more involved. The following list describes general responsibilities of the lead contact role; however, some responsibilities may not apply to all actions.

1. *Understand the purpose of the action.*

It is vital to understand the place of the action within the context of the greater regional air quality goals to ensure the action is executed effectively by keeping the “big picture” in mind.

2. *Evaluate and possibly update the suggested tasks.*

For some actions, the suggested tasks may require review, addition or clarification. Collaborating with leaders of activities that overlap may reduce the resource requirements.

3. *Determine and secure the resources needed to complete the tasks.*

Suggested resources are provided in the table associated with each activity. Determine if these are sufficient resources and identify staff, volunteers, or other participants that will execute the tasks. This may involve coordination/collaboration with other AQCC members to secure additional resources. Some activities may also require seeking external funding.

4. *Stay informed of progress.*

Communicate regularly with staff and other participants to stay informed of progress on the task and advise on the direction it takes. Organize and attend meetings as required.

5. *Report progress to the AQCC.*

Ensure other AQCC members are aware of the progress on the action. Use AQCC meetings as an opportunity to secure additional resources and / or collaborate with other actions to ensure the goal is achieved.

6. *Adapt with new information.*

As the activities are undertaken, monitor the ability of the identified resources to execute the tasks and make adjustments as necessary.

2.3. Other Resource Requirements

In order to complete the actions in this plan, various types of resources and contributions are necessary. In some cases the lead role may be taken by one organization, but resources may also come from one or more other organizations.

The types of resources required may include any or all of the following for each action:

- Staff time
- In-kind (or funding for) meeting venues and catering
- Signs and outreach material
- Funding of rebates
- Materials and support from existing initiatives
- Provision of information (related data, reports, program evaluations)
- Funding to hire consultants
- Funding of complementary initiatives

3 Actions

3.1. Explanation

Members of the AQCC identified *three* categories of actions in the AQMP. Each category corresponds with the types of emissions that they address. These are:

1. Mobile sources (e.g. vehicles),
2. Area sources (e.g. woodstoves), and
3. Point sources (e.g. pulp mills or other industry).

Actions are programs, policies, and bylaws that can be implemented to manage air quality and GHG emissions in the region. Some of the actions will require partnerships with other agencies and organizations in order to implement them.

The actions are organized into four tables according to timeline of implementation, with sub-sections to address the different sources. To facilitate easy adoption of the implementation plan, a series of suggested activities are listed for each action. Specific, action-oriented tasks are then provided for each activity. The tables are organized as follows:

Table 1: Actions In Progress (as of March 2008)

- mobile sources – transportation actions
- all sources – education actions

Table 2: High Priority Actions (as soon as possible in 2008/09)

- mobile sources – transportation actions
- area sources – planning actions
- point sources – industry and collaboration actions
- all sources – education actions

Table 3: Mid Term Actions (2009-2011)

Table 4: Long Term Actions (2012 and beyond)

Note: actions are sorted according to the priority placed on each during the October 2007 AQCC meeting.

3.2. Actions In Progress

Table 1: Actions In Progress (as of March 2008)

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|--|---------------------------|--|---|-----------------------------|---|---|---|
| Mobile Sources – Transportation Actions | | | | | | | |
| 1 | Integrate Transit Systems | Establish a working group (Transit WG). | Lisa Barrett, Councillor, Bowen Island | Municipalities, MoE | Note: these tasks are suggested and are at the discretion of the lead contact. <ul style="list-style-type: none"> Send invitations Obtain commitments from key players to participate Schedule 1st meeting (in person or on conference call) | <ul style="list-style-type: none"> <1 mo. <1 mo. <3 mo. Complete: 2008 ASAP | <ul style="list-style-type: none"> Staff from lead Funding or in-kind support for meeting venue |
| | | Participate in working group. | | Transit Companies | <ul style="list-style-type: none"> Attend meetings as required | Complete: 2008/09 | <ul style="list-style-type: none"> Staff from each municipality & organization |
| | | Evaluate feasibility of direct link from YVR to Whistler. | | Transit Working Group (TWG) | <ul style="list-style-type: none"> Identify service provider (coach or regional transit) Review any existing studies/reports. Determine costs and scheduling | Complete: 2008 | <ul style="list-style-type: none"> TWG members time |
| | | Evaluate feasibility of integrating Bowen Island, Horseshoe Bay & SCR D Transit. | | Transit Working Group | <ul style="list-style-type: none"> Evaluate options (rail, marine, land systems or combination) Identify the different needs of commuter vs. visitors Identify local issues re: transit (e.g. are more bus shelters needed?) | Complete: Beyond 2009 | <ul style="list-style-type: none"> TWG members time |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|---|--------------------------|--|---|--|---|
| | | Meet with local transit companies and work with them to develop solutions to coordinate the system. | | Transit Working Group | <ul style="list-style-type: none"> To be determined by TWG | | <ul style="list-style-type: none"> TWG members time Funds for meetings (venue, travel etc) |
| 4 | Reduce vehicle idling through education & bylaws | Use resources from Natural Resources Canada, Idle Free BC, MoE, the Northwest Clean Air Agency and other agencies to develop an education campaign for the airshed to increase awareness and dispel common myths related to vehicle idling. | Municipalities | Municipalities, Regional Districts, MoE, Other Organizations and Private Companies | <ul style="list-style-type: none"> Work to develop bylaw for own municipality. Consider aligning bylaw with other airshed municipalities' bylaws (see Action 12). Participate in Anti-Idling Ambassadors program. | <ul style="list-style-type: none"> <1 mo. <3 mo. Complete: 2008 Summer | <ul style="list-style-type: none"> MoE anti-idling package. Staff time to organize Anti-Idling Ambassador for the airshed (MoE coordinating). Input on community events for Anti-idling ambassador |
| | | Encourage idle-free policies in private companies in areas where there is not yet an anti-idling bylaw. | | Municipalities, Regional Districts, Other Organizations and Private Companies | <ul style="list-style-type: none"> Provide anti-idling resources to private companies (e.g. free anti-idling signs for store parking lots). Identify organizations and companies with policies. Extend invitations to address AQCC. Lobby organisations and companies to address idling on their property. | Complete: On-going | <ul style="list-style-type: none"> Signs and outreach materials. Staff time to coordinate. |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|--|--|---|--------------------------|---|---|---|--|
| All Sources – Education Actions | | | | | | | |
| 14 | Share successes and information via the Sea-to-Sky Air Quality Website | Provide website content, including: <ul style="list-style-type: none"> tips on how individuals can contribute towards meeting the goals of the plan information on how poor air quality events are a result of corridor-wide activity information on energy efficient and clean technologies, including maintenance and operating guides | Currently MoE | Provincial government ministries, Municipalities, Regional Districts, Utilities, Industry members | <p>Note: The website is currently under review by MoE and Sheltair – changes may be made so that it is easier to update and add new information. Newsletters are also being developed to email to the S2S newsletter list and for posting on the website.</p> <ul style="list-style-type: none"> Provide examples of successes, news and current issues, and link to provincial and federal regulations and initiatives. Ensure access to air quality data. | <ul style="list-style-type: none"> 2008 December Once plan is implemented, update website within six months to provide updated information. | <ul style="list-style-type: none"> MoE – in-kind support Sheltair – in AQMP budget |
| | | Maintain website content and facilitate updates to site design as needed to develop brand recognition for air quality action in the airshed, and become a primary access point for a variety of information including AQMP activities and general air quality knowledge or information. | Currently MoE/Sheltair | AQCC project administrator | <ul style="list-style-type: none"> Update website as needed and make it user friendly. Update to ensure accessibility. Ensure clear communication between AQCC and the public. | <ul style="list-style-type: none"> 2008 Ongoing | <ul style="list-style-type: none"> 2007/08 AQMP budget |

3.3. High Priority Actions (“As soon as possible in 2008”)

Table 2: High Priority Actions

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|--|--|---------------------------------------|--------------------------|---|---|---|---|
| Mobile Sources – Transportation Actions | | | | | | | |
| 2 | Lobby transit providers to reduce emissions from | Participate in Transit Working Group. | | Transit providers and agencies, e.g. BC Transit, YVR, Greyhound | <ul style="list-style-type: none"> Attend meetings as required. Coordinate with TWG to keep updated | <ul style="list-style-type: none"> 2008 start On-going (as needed). | <ul style="list-style-type: none"> Staff time In-kind support for meeting space/catering (if required). |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|------------------|--|--------------------------|--|---|---|---|
| | transit vehicles | Review existing pilot programs to identify potential synergies in current and future pilot programs. | | Transit Working Group (include 2010 committee members) | <ul style="list-style-type: none"> • Call BC Transit to get results from transit studies and pilot programs related to reducing emissions (250-385-2551) or email Bruce Rothwell for information about the hydrogen fleet (bruce_rothwell@bctransit.com). • Call Translink to find out what emission reduction programs and studies are being run in the lower mainland. • List the pilot and existing programs found and identify gaps and/or synergies between them. • List potential future pilot programs to fill gaps (may want to expand on programs that have started in other regions). • Report back to AQCC with findings and recommendations. | <ul style="list-style-type: none"> • 2008/09 | <ul style="list-style-type: none"> • Staff time (estimate: 2 people, 1 week) |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--------|---|--------------------------|--|---|--|--|
| | | Define emissions specifications with the 2010 Vancouver Organizing Committee for 2010 transit vehicles, and develop plan for future integration with regional fleets. | | Transit Working Group (include 2010 committee members) | <ul style="list-style-type: none"> Call BC Transit to collect background information on existing transit vehicles specifications and newest technology (250-385-2551). Call VANOC to set up a meeting (1-877-408-2010) to: <ul style="list-style-type: none"> Identify which vehicles will remain after the Games. Write a transition plan for 2010 vehicle integration into local fleets (if applicable). | <ul style="list-style-type: none"> 2008 | <ul style="list-style-type: none"> Staff time (estimate: 2 people, 1 week) In-kind support for meeting space/catering (if required). Staff time for meetings. |
| | | Show leadership through using cleaner burning fuels in municipal and district fleet vehicles. | | Municipalities | <ul style="list-style-type: none"> Each AQCC member: Meet with your transportation/fleet manager to identify opportunities for switching to cleaner fuels. Report back to AQCC on efforts. | <ul style="list-style-type: none"> Summer 2008 start Fall 2008 AQCC meeting – report on efforts. | <ul style="list-style-type: none"> Federal and provincial government rebates for low emission vehicles. Staff time for each municipality (1 person, 1 week) |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|--|--------------------------|---------------------------------------|---|---|---|
| 3 | Promote opportunities for resident and visitor access to public transportation & other transportation alternatives | Encourage municipalities to actively promote transportation alternatives and use events as public education tools. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Each AQCC member: Work within local government and encourage Councils to adopt car-free days, Bike-to-Work week, or a commuter challenge. Call BEST (604-669-2860) to: <ul style="list-style-type: none"> Collect background materials to organize and promote the events. Discuss a partnership for promoting car-free events. Include the “Corridor Trail” in outreach materials (community newsletters, websites, on Commuter Challenge day). (see Action 15) | 2008 Events <ul style="list-style-type: none"> Sept 20: Car Free Day June 1 – 7: Canadian Enviro Week June 2 – 8: Bike to Work Week June 4: Clean Air Day | <ul style="list-style-type: none"> BEST materials and support Staff time (organizing events) |
| 5 | Promote use of best available technology and practices for construction and related equipment | Encourage specifications in Request for Proposals (RFPs), particularly for Olympic-related projects, to ensure the cleanest, best technology is used. | | Municipalities, Regional Districts | Note: Olympic-related projects already in progress or complete. <ul style="list-style-type: none"> Coordinate and collaborate with provincial government and transportation partners. | <ul style="list-style-type: none"> 2008 ASAP | <ul style="list-style-type: none"> Facilitation by AQCC project coordinator to involve all airshed municipalities and the provincial government. Funding may be needed. |
| | | Share information about these specifications and the results of different procurement processes and ensure continuity of regulations throughout the airshed. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Call adjacent jurisdictions to review their regulations related to best practices for construction activities and equipment. Develop regulations that are harmonized with other municipalities/regions. | <ul style="list-style-type: none"> Summer/Fall 2008 Complete: Mar. 2009 | <ul style="list-style-type: none"> Staff time |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|--|--------------------------|---------------------------------------|---|---|--|
| | | Seek partners to lobby the federal government to implement tighter emission standards. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> • Call Metro Vancouver (Policy and Planning 604-432-6375) and other interested parties to seek partnerships around tighter emission standards. • With partners, write a letter signed by all AQCC members to lobby federal and provincial governments to tighten standards. • Coordinate all AQCC members to bring action to the Howe Sound Community Forum. | Start: Summer 2008 | <ul style="list-style-type: none"> • Staff time • AQCC project coordinator to facilitate and coordinate letter writing and signing. • Lead contact/organization to bring to HSCF. |
| 7 | Promote improvement of vehicle emissions performance | Build on best practices of municipal and corporate vehicle emissions reduction programs. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> • Review other jurisdictions' municipal and corporate vehicle emissions programs. • Access materials and case studies from Natural Resources Canada (www.nrcan.gc.ca – click on Transportation). • Compile a list of municipal and corporate vehicle emission reduction best practices and programs that are most relevant to the Sea-to-Sky corridor. | Complete: March 2009 (report progress at summer AQCC meeting). | <ul style="list-style-type: none"> • Staff time for research (lead contact to coordinate among AQCC members) |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--------|---|--------------------------|---------------------------------------|---|---|---|
| | | Show leadership by replacing fleet vehicles with low emission vehicles or retrofitting heavy-duty vehicles where possible to minimize emissions [note: also in Action #2] | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Contact Natural Resources Canada to setup Fleet Smart training (part of the ecoENERGY for Fleet program) for local municipalities, regional districts and local businesses (613-996-4397). Develop general policy statements on fleet efficiency and right sizing for municipalities to incorporate based on the Fleet Smart training and the list of best practices created in the previous task. Incorporate best practices learned into municipal operations. | <ul style="list-style-type: none"> Start in 2008 | <ul style="list-style-type: none"> Staff time |
| | | Petition the AirCare On-Road Program (for heavy duty vehicles) to do spot checks of heavy-duty vehicles along the Sea-to-Sky highway. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Call the ACOR team to make arrangements for heavy-duty vehicle testing in the airshed (1-888-775-8785). | <ul style="list-style-type: none"> Summer 2008 Complete: Late 2008 | <ul style="list-style-type: none"> Lead contact to coordinate with ACOR. |

| Area Sources – Planning Actions | | | | | | | |
|---------------------------------|---|--|--|---|--|---|--|
| 8 | Develop airshed-wide Smoke Control Strategy | Develop a formalized regional smoke control strategy that will identify commitments to control smoke through specification of open burning management zones and tools and a wood stove emissions management program. | | Municipalities, Regional Districts, MoE and AQCC partners (businesses) and Environment Canada | <ul style="list-style-type: none"> • Call each municipality and regional district in the region to find out what they are doing about open burning and wood stoves. Ask about bylaws and programs. • Identify programs in other communities in BC. • Make a list of best practices and share the information among AQCC members. • Develop a region wide standard (or harmonize existing bylaws). • Examine opportunities to establish a central wood waste disposal location with a focus on chipping or diversion to end-users. • Consider requiring permits for woodstoves and outdoor wood boilers. • Incorporate into regional growth strategies and land & resource management plans. | <ul style="list-style-type: none"> • Start Summer 2008 • Summer 2009 (draft) • Complete: Fall 2009 | <ul style="list-style-type: none"> • Staff time (municipality and regional districts) to assist with coordination. • MoE support • Staff time or part-time consultant (additional funding required) to do background research |

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|---|--|---|--|---|---|--|---|
| | | Educate itself (AQCC) and stakeholders about the types of alternative open burning practices and alternatives to burning through presentations and consultation with regional stakeholders. | | Municipalities, Regional Districts, MoE and AQCC partners (businesses) and Environment Canada | <ul style="list-style-type: none"> Contact other jurisdictions/consultants/AQMP committees to request presentations on alternatives to burning and alternative open burning practices. Develop best management practices, based on EPA Standards and presentations. MoE to provide technical support on Environmental Management Act and enforcement in other regions. | <ul style="list-style-type: none"> Fall 2008 <p>Complete: Fall 2009</p> | <ul style="list-style-type: none"> Staff time MoE support |
| Point Sources – Industry and Collaboration Actions | | | | | | | |
| 10 | Ensure power generation in the airshed supports the AQMP goals | Consider developing a position or policy on the types of power generation that are preferred. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Review BC's 2007 policy on power generation (www.energyplan.gov.bc.ca) and consider aligning the AQCC/AQMP position on power generation with provincial position. | <ul style="list-style-type: none"> Start Summer 2008 | <ul style="list-style-type: none"> AQCC project coordinator/facilitator |
| | | Maintain open dialogue. | | Municipalities, Regional Districts, BC Hydro, IPPs | <ul style="list-style-type: none"> Send regular information updates to all groups and encourage information exchange between groups. Ensure IPP proposals contribute to AQMP goals. | <ul style="list-style-type: none"> 2008 Ongoing | <ul style="list-style-type: none"> Staff time (attendance at AQCC meeting – 3 days/year) |
| | | Keep informed of local issues regarding power generation as well as upcoming potential projects. | | Municipalities, Regional Districts, MoE | <ul style="list-style-type: none"> All AQCC members to keep informed of local issues and circulate information as necessary. | <ul style="list-style-type: none"> 2008 Ongoing | <ul style="list-style-type: none"> Staff time as required. |

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|----|---|--|--|---|--|---|--|
| 11 | Work with the local pulp and paper industry to identify opportunities to reduce lifecycle emissions | Continue efforts to decrease emissions from HSPP operations. | | Howe Sound Pulp and Paper, municipalities | <ul style="list-style-type: none"> Inform and invite Howe Sound Pulp & Paper and other industries (if applicable in future) to applicable meetings to ensure continuous involvement. | <ul style="list-style-type: none"> Ongoing | <ul style="list-style-type: none"> Staff time from all participants. |
| | | Continue to participate in AQCC meetings and provide regular progress reports. | | Howe Sound Pulp and Paper | <ul style="list-style-type: none"> Report results of initiatives to the AQCC regularly. | <ul style="list-style-type: none"> Ongoing | <ul style="list-style-type: none"> Staff time (attendance at AQCC meeting – 3 days/year) |
| 13 | Promote use of alternative energy sources and systems | Seek opportunities to learn about alternative energy systems by circulating relevant information and inviting guest speakers to AQCC meetings. | | Provincial government ministries, Municipalities, Regional Districts, Utilities, Industry members | <ul style="list-style-type: none"> MoE / AQCC facilitator (Sheltair) to arrange speakers in response to committee requests. | <ul style="list-style-type: none"> 2008 June and on-going. | <ul style="list-style-type: none"> Staff time (attendance at guest speaker events) |
| | | Create a S2S Corridor strategic plan for independent power producers (e.g. run of river, co-generation, wind, etc). | | Provincial government ministries, Municipalities, Regional Districts, Utilities, Industry members | <ul style="list-style-type: none"> Lead contact to liaise with Ministry of Energy, Mines & Petroleum Resources. Consider hiring a consultant to develop strategic plan. Obtain funding, oversee selection process and manage contract. | <ul style="list-style-type: none"> Start January 2009 | <ul style="list-style-type: none"> Staff time for lead contact/org Staff time to source funding for contractor |
| | | Seek opportunities to educate residents and businesses in the airshed about alternative energy systems. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Update the S2S website and hold public info meetings to provide education material about alternative energy systems. (see Action 15) Ask Independent Power Producers & BC government ministries to provide info to AQCC to distribute to communities. | <ul style="list-style-type: none"> 2008 Ongoing | <ul style="list-style-type: none"> Staff time for coordination BC Government ministries and IPPs for information |

All Sources – Education Actions

| | | | | | | | |
|----|--|---|--|------------------------------------|--|--|--|
| 15 | Implement an airshed-wide public outreach and education campaign | Build upon existing actions, public events, etc. and use the Sea-to-Sky Air Quality website as a tool to share information in the campaign. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> • Base public education campaign on community based social marketing – identify and remove barriers to change. • Develop a cross-airshed community challenge that could incorporate a GHG component and include a GHG Calculator (i.e. Clean Air Day in June). • Secure municipal/district funds and funds from other partners to develop Sea-to-Sky specific education materials (pamphlets, posters, website, articles for newspapers, etc.) | <ul style="list-style-type: none"> • 2008 Ongoing | <ul style="list-style-type: none"> • BC Hydro programs/funding support. • Staff time (municipalities) to organize community events. • MoE to support community events • IPPs: to share information |
| | | Promote energy saving devices at community events. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> • Review and list opportunities for municipal rebates and incentives for energy saving devices (e.g., programmable thermostats, occupancy sensors and water saving kits). • Promote these devices and rebate opportunities at community events. • Promotion of lower energy options (e.g. reducing use of clothes dryers). • Review and provide information on retrofit home insulation options available. | <ul style="list-style-type: none"> • 2008 Ongoing | <ul style="list-style-type: none"> • Municipalities to fund rebates. • Staff time for promotions • Funding for advertising campaigns – materials, newspaper and radio advertisements |

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|----|---|--|--|--|---|---|---|
| | | Work to educate individuals that travel through or visit communities in the corridor (e.g. through street signage). | | Municipalities, Regional Districts, Ministry of Transportation, BC Parks | <ul style="list-style-type: none"> Develop air quality messaging for signs at entry points to communities. Consider adding air quality materials to the Squamish Adventure centre and other tourist information locations. Lobby Ministry of Transportation to use electronic overhead highway signs for messaging. Lobby BC Parks to include appropriate signage in parking areas. | <ul style="list-style-type: none"> 2008 Ongoing | <ul style="list-style-type: none"> Staff time Funding for signs and publications. |
| 16 | Coordinate air quality initiatives with other organizations | Participate in other organizations' air quality programs and invite other agencies to present at AQCC meetings. Establish and maintain a network of contacts and keep external stakeholders informed about the AQMP. | | Municipalities, Regional Districts, Utilities, Industry members, Other organizations | <ul style="list-style-type: none"> Identify programs, processes, etc. that AQCC members should be involved in. Identify AQCC members to participate. Estimate staff resources required, both time and money. Identify contacts with other provincial AQMPs to gain from campaign experiences, success stories etc. | <ul style="list-style-type: none"> 2008 ASAP | <ul style="list-style-type: none"> Staff time for networking. Venues for meetings or conference call facilities |
| | | Provide resources (funding, staff time, or in-kind support) to complementary initiatives that promote AQMP goals. | | Municipalities, Regional Districts, Utilities, Industry members, Other organizations | | <ul style="list-style-type: none"> 2008 ASAP | <ul style="list-style-type: none"> Funding for complementary community initiatives. |
| | | Become involved with and represent the AQCC on provincial, national and international industrial committees. | | Industry members | | <ul style="list-style-type: none"> 2008 On-going | <ul style="list-style-type: none"> Staff time and funding for attending conferences and committees. |

| | | | | | | | |
|----|--|---|--|--|---|--|---|
| 17 | Develop business cases for air quality actions | Brainstorm which actions need business cases developed and develop each case. | | Municipalities, Regional Districts, Utilities, Industry members, Other organizations | <ul style="list-style-type: none"> List actions that need business cases developed. Delegate each business case to a working group of two to three AQCC members to prioritize action implementation based on cost and net reductions. | <ul style="list-style-type: none"> June – December 2008 | <ul style="list-style-type: none"> Staff time for brainstorming sessions. |
| | | Provide funding resources or staff time to generate specific business cases. | | Provincial government ministries, Municipalities, Regional Districts, Utilities, Industry members, Other organizations | <ul style="list-style-type: none"> Identify a suitable consultant. Hire a consultant to develop business cases at the corridor-wide level. | <ul style="list-style-type: none"> June – December 2008 | <ul style="list-style-type: none"> Funding from AQCC (and other partners) for hiring a consultant. |
| | | Participate in working groups that develop business cases for individual actions. | | Provincial government ministries, Municipalities, Regional Districts, Utilities, Industry members, Other organizations | <ul style="list-style-type: none"> Consultant (as previously identified) leads working groups on individual business cases. Working group provides input. | <ul style="list-style-type: none"> January – March 2009 | <ul style="list-style-type: none"> Staff time from AQCC members and partners. Meeting venues. |

3.4. Mid Term Actions (2009–2011)

Table 3: Mid Term Actions

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|---|--------------------------|--|---|-----------------------------|--|
| 3 | Promote opportunities for resident and visitor access to public transportation & other transportation alternatives | Actively promote the use of transit, car sharing, pedestrian and bicycle travel (where available). | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Collect / develop background materials on alternatives to car travel in the region. Provide information on websites regarding alternate forms of travel/commuting in the region. | Post-2008 | <ul style="list-style-type: none"> BEST materials, carpool.ca, etc Staff time |
| | | Develop strategies for increasing uptake of alternative transportation, such as incentive programs, defining and reducing barriers to use, and public education programs. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Explore other jurisdictions' approaches (e.g. legislation in US – tax benefits for employers subsidizing alternative / preferred modes of transportation. Report back to AQCC on findings. | Post-2008 | <ul style="list-style-type: none"> Staff time |
| | | Work collaboratively to identify opportunities to make transit the transportation mode of choice for residents and visitors. | | Transit providers and agencies, Municipalities, Regional Districts | <ul style="list-style-type: none"> Use 2006 Census and other studies (BC Transit?) to identify commute to work transportation modes. Based on results of study, identify barriers for commuters using alt modes. Study transportation patterns of visitors (e.g. surveys at visitor centres) Based on results, recommend next steps for getting people out of cars. | Post-2008 | <ul style="list-style-type: none"> Significant amounts of staff time (look for opportunities to combine with other similar initiatives). Meeting venues or conference calls to coordinate. May require funding if survey is to be done. |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|--|--------------------------|---|--|-----------------------------|--|
| 6 | Investigate the impact of off-road vehicle emissions | Research technologies and fuels that offer cleaner alternatives for off-road vehicles. | | | <ul style="list-style-type: none"> Lobby Provincial / Federal governments via UBCM for funds. | 2008 - 2010 | <ul style="list-style-type: none"> Staff time (lead contact) |
| | | Research which tour operators and recreational clubs are promoting and providing air-quality friendly options such as cleaner technology or fuels. | | Municipalities, regional districts | <ul style="list-style-type: none"> Identify tour operators and clubs with air quality friendly options. Provide recognition of these efforts through the S2S website. | 2010 | <ul style="list-style-type: none"> Staff time (potential research job for a co-op student). |
| | | Support action by developing informational material that provides statistics on the emissions of off-road vehicles in comparison with other activities. Suggest anti-idling and fuel-efficient driving techniques. | MoE | AQCC project coordinator | <ul style="list-style-type: none"> Develop informational material, such as an e-newsletter. Post tips and techniques on the S2S website. Disseminate information to land owners, regional district and municipalities, public and other interested parties. | 2008 - 2010 | <ul style="list-style-type: none"> In kind support from MoE. |
| 7 | Promote improvement of vehicle emissions performance | Examine opportunities to link Air Care vehicle information with vehicle licensing (e.g., to prevent the sale of non-compliant vehicles in the Sea-to-Sky airshed). | | Municipalities, regional districts, MoE | <ul style="list-style-type: none"> Contact Air Care and explore possibilities for expanding the program to the Sea-to-Sky airshed. Note: consider expanding the program to all vehicles, including small commercial. | 2009 | <ul style="list-style-type: none"> Staff time for lead contact to organize |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|----|---|--|--------------------------|---|---|--|--|
| 13 | Promote use of alternative energy sources and systems | Encourage the adoption of non-fossil fuel energy sources for space heating by promoting alternatives to the construction industry, real estate sector and homeowners and buyers. | | Municipalities, Regional Districts, provincial government ministries | <ul style="list-style-type: none"> Provide information/workshops to the construction industry, developers, real estate sector and homeowners/buyers to educate on the alternatives to fossil fuel space heating. Examine opportunities to provide rebates, tax refunds, incentives (carrot & stick legislation). Provincial legislation required² with municipal policy & bylaws to support. | <ul style="list-style-type: none"> 2010 | <ul style="list-style-type: none"> Staff time External funding may be required. In-kind support from MoE or Ministry of Energy, Mines & Petroleum Resources |
| | | Identify pilot programs to demonstrate alternative energy applications and build on existing transportation projects. | | Provincial government ministries, municipalities, regional districts, utilities, industry members | <ul style="list-style-type: none"> Identified in S2S Corridor Strategic plan. | <ul style="list-style-type: none"> 2009 | <ul style="list-style-type: none"> Staff time |

² Changes to the Provincial Building Code in 2008 may support this action.

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|----|---|---|---|---------------------------------------|---|-----------------------------|------------------------------------|
| 18 | Incorporate the AQMP vision into other planning processes | Encourage AQCC municipality / regional district to reflect the AQMP vision and goals in planning documents and council directives. | Each AQCC member is responsible for their municipality / regional district. | Municipalities, Regional Districts | <p>Each AQCC member:</p> <ul style="list-style-type: none"> Ensure air quality goals are considered and respected during planning processes e.g. OCP amendments, transportation plans. Recommend appropriate statements, objectives, and practices for inclusion into planning documents. Share experiences with other AQCC members. | • 2010 | • Staff time for each AQCC member. |
| | | Identify practices and actions that will contribute to the AQMP vision and goals and encourage municipal/district departments to adopt them. | Each AQCC member is responsible for their municipality / regional district. | Municipalities, Regional Districts | <ul style="list-style-type: none"> Identify practices and principles, such as Smart Growth principles, that can be used to guide municipal activities. Encourage Councils to change / align policies with air quality goals. | • 2010 | • Staff time |
| | | Ensure that new activities in the corridor consider air quality implications fully and do not prevent the region from meeting the AQMP goals. | Each AQCC member is responsible for their municipality / regional district. | Municipalities, Regional Districts | <ul style="list-style-type: none"> Consider including requirements/recommendations for new developments, e.g. developers include Smart Growth principles or AQMP objectives into site plans. | • 2010 | • Staff time |

3.5. Longer Term Actions (2012 and beyond)

Table 4: Long Term Actions

Note: implementation plan for these actions will require review before 2012.

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|--|--------------------------|---|---|-----------------------------|---|
| 3 | Promote opportunities for resident and visitor access to public transportation & other transportation alternatives | Identify opportunities to integrate transportation planning with land use planning to enhance alternative transportation. | | Municipalities, Regional Districts, Transit | <ul style="list-style-type: none"> Identify communities/regions with high transit ridership. Review the plans where transportation has been successfully integrated into the community. | | <ul style="list-style-type: none"> Staff time |
| 7 | Promote improvement of vehicle emissions performance | Implement a “Cash for Clunkers” program (similar to the one implemented in Kelowna) or Scrap-It program, with incentives to use transit or other alternative transportation options in return for scrapping or turning in their old vehicle. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Review the success of other programs and contact coordinators. Report to the AQCC. | | <ul style="list-style-type: none"> Staff / AQCC coordinator time |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|---|--|--|--------------------------|--|--|-----------------------------|--|
| 8 | Develop airshed-wide Smoke Control Strategy | Convene a subcommittee responsible for researching approaches for controlling smoke and developing a strategy. | | All members, MoE, Municipalities | <ul style="list-style-type: none"> Lead contact to convene subcommittee of interested parties. Invite guest speakers to AQCC meetings to present on open burning emission control tools and alternatives to burning (i.e. Central Okanagan Regional District). Consider a presentation at the HSCF and inviting commercial operators that have previously used burning as a waste control method. | | <ul style="list-style-type: none"> Staff time Meeting venues Travel costs for speakers. |
| | | Deliver an education campaign to inform residents about the health implications of wood smoke and opportunities for fuel switching and woodstove efficiency. | | Health authorities in conjunction with federal and provincial agencies | <ul style="list-style-type: none"> Distribute Burn it Smart pamphlets to residents. Investigate reducing wood smoke further through participation in provincial woodstove exchange programs. | | <ul style="list-style-type: none"> Information from provincial and federal agencies |
| | | Devise a strategy for notifying residents of poor ventilation times and actions to take (reduce / eliminate woodstove use). | | MoE | <ul style="list-style-type: none"> Conduct a survey to assess whether current system is working and reaching target audience. Specify ventilation conditions when actions need to be taken. Develop notification strategy for residents and businesses. Build-in an evaluation of the program to determine if more stringent restrictions are required. | | <ul style="list-style-type: none"> Provincial agencies currently provide this service. |

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|----|---|--|--------------------------|--|---|-----------------------------|--|
| 9 | Assist in the development of GHG emission reduction targets and plans | AQCC members that have completed the Partners for Climate Protection (PCP) program will share their experiences in achieving the milestones with other members. | | Municipalities | <ul style="list-style-type: none"> Demonstrate leadership by following GHG reduction plans and striving to meet targets. Tie reduction efforts into current air quality initiatives. | | <ul style="list-style-type: none"> Staff time to share information with AQCC. |
| | | Pursue joining the PCP program if not a member, and develop energy and GHG inventories. | | Municipalities | <ul style="list-style-type: none"> Consider pooling resources for the development of an airshed wide energy and GHG emission reduction.³ Take a holistic approach – include MoE, MoF, stakeholders etc, and incorporate green design and building principles in the reduction plans. | | <ul style="list-style-type: none"> Staff time and/or funding for consultant(s). |
| 11 | Work with the local pulp and paper industry to identify opportunities to reduce lifecycle emissions | Consider hiring a consultant to conduct a life cycle emissions study on pulp mill operations in the airshed. Focus on transportation (mill operations) and working together. | | Municipalities, Regional Districts, MoE, Howe Sound Pulp & Paper | <ul style="list-style-type: none"> Review requirements for life cycle emissions study – funding, timeline, etc. | | <ul style="list-style-type: none"> Funding required depending on level of priority. |

³ Note: An initiative of the BC Government is underway to provide community energy and GHG emissions inventories for all BC communities.

| # | Action | Activity | Lead Org Lead Contact | Who? (orgs involved) | Tasks | Timeframe (Completed by) | Resources |
|----|---|---|--------------------------|---------------------------------------|---|-----------------------------|--|
| 12 | Expand current community-based air quality initiatives within the airshed | <p>Share successes on initiatives that are currently being implemented by communities in the corridor.</p> <p>Help replicate or adapt successful initiatives from one community to other communities in the airshed.</p> <p>Collaboratively plan new community-based initiatives that will be developed.</p> <p>Communicate actively through www.seatoskyairquality.ca with up-to-date information on AQCC activities.</p> | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Talk to or arrange meetings with each community to: <ul style="list-style-type: none"> Share successes on initiatives Replicate / adapt successful initiatives Collaborate on new initiatives Update website to list existing and new initiatives and success stories. | | <ul style="list-style-type: none"> Staff time Meeting venues |
| 13 | Promote use of alternative energy sources | Additional measures may be incorporated such as incentives for developers, homeowners and businesses to switch to alternative energy sources and systems. | | Municipalities, Regional Districts | <ul style="list-style-type: none"> Investigate federal or other grants and incentives as they become available. Provide public information about new projects and incentives. | | <ul style="list-style-type: none"> Staff time |

4 Transition to Local Leadership

The AQMP in the Sea-to-Sky corridor has evolved with contributions from participating members of the AQCC, however, up to this point the process has been primarily led by the MoE and The Sheltair Group. Having created and approved an AQMP, and now having developed an implementation plan to put the goals into actions, the foundation has been set to transfer leadership to a locally-based authority. The new leadership structure may take various forms, two of which are described here: a paid coordinator model and a non-profit model.

Note: at this time, a preferred model has not been identified.

4.1. Paid coordinator model

In this model, a central fund would be setup whereby participating members of the AQCC would make financial contributions to support the annual salary of a paid air quality coordinator for the Sea-to-Sky corridor. This new position would take responsibility for coordinating the AQCC meetings, working with lead contacts to ensure progress is being made on actions identified in the implementation plan, tracking progress on the implementation plan, and writing the AQMP Annual Progress Report. Note that this is similar to the current structure, although at this time The Sheltair Group has not been tasked with implementing the actions.

A similar model was recently recommended for the Prince George AQMP by the Mayor's Air Quality Improvement Task Force. The model in Prince George involves the establishment of a roundtable, with similar representation as the Sea-to-Sky AQCC, and the establishment of a paid coordinator who is dedicated to facilitating and supporting the AQMP committee structure. This position is proposed to be jointly funded by the City of Prince George, the MoE, the Regional District of Fraser-Fort George, Northern Health, and local industry.

4.2. Non-profit model

An alternative model is to set up a separate non-profit organization that would take the lead role on coordinating the implementation, evaluation, and reporting of the AQMP and longer-term air quality activities. In this model the AQCC would likely dissolve and be replaced by a board of directors for the non-profit organization. The non-profit organization would be responsible for gathering funding to maintain its activities over the long-term. In the short term, funds and/or time from AQCC members would be required to get the non-profit organization set up and running. One of the benefits of this model is access to funding sources, such as grants, that are only available to non-profit societies.

This model has been employed in the Bulkley Valley & Lakes District (BVLD). A BC registered non-profit society was setup (BVLD Airshed Management Society) in 2005 to oversee the implementation of the airshed plan for the region. Currently the society has a contractual arrangement of three years with a facilitator who steers the implementation of the Clean Air Plan. This facilitator is also responsible for fundraising as needed. The BC Lung Association, a local credit union, and BC Transit for various programs have provided grants. The non-profit organization maintains key links to the local health authority, local governments, BC Lung Association, and other airshed management groups to improve its effectiveness in implementing the plan.

Rolling Funding Forward

For large projects with multi-year budgets or situations where grants are obtained, the ability to hold funds over fiscal year ends may be desirable. Non-government organizations, such as a non-profit, may have the

ability to carry excess funding forward; this should be considered when making decisions about the future structure of the AQCC.

5 Performance Measures for Plan Implementation

As part of the monitoring and reporting process, a number of performance measures have been developed to enable the tracking of actions that are being implemented across the region. Reporting on the performance measures will comprise a section of the Annual Progress Report.

Performance monitoring is different from the indicators and targets outlined in the AQMP. The indicators in the AQMP will be used to evaluate the progress towards or away from the air quality goals whereas the performance measures allow us to evaluate progress on plan implementation.

The Annual Report will include the results of the performance measures.

Table 5: Performance Measures

| | Performance Measure | Units | Rationale | Targets |
|---|---|---|--|--------------------------------------|
| 1 | Plan Progress Number of actions completed | # of actions; percent complete | Indicator of plan progress to date | Not applicable |
| 2 | Plan Progress Number of actions in progress | # of actions | Indicator of progression of plan | 5 per year |
| 3 | AQCC Involvement Percentage of AQCC members participating in meetings (average of yearly meetings) | % | Indicator of level of engagement among core AQCC members | 80% |
| 4 | Website Usage Number of website visitors annually | Number of visits; annual percent increase | Measure of website use and usefulness of information | 5% annual increase in visitors |

6 Progress Reporting

The template for progress reporting is outlined in the following sections. Annual and five-year reporting is important to keep both the AQMP and the actions relevant to the current situation in the airshed. The annual report focuses on the status of the actions and the air quality in the airshed. The five year update report provides an opportunity to re-evaluate the AQMP and its actions, updating or adding actions where necessary. The annual report will help to inform the five year update report by identifying which actions have been completed and reporting on the progress towards the vision and goals (see Figure 1).

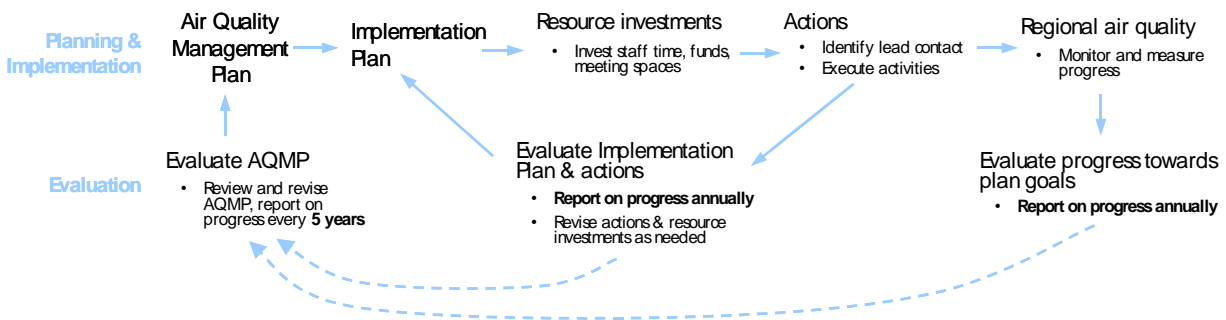


Figure 1: Reporting and Evaluation

6.1. Annual AQMP Progress Report

For 2008, The Sheltair Group will be responsible for preparing the Annual AQMP progress report. The proposed outline is as follows:

State of the S2S Airshed: Annual AQMP Progress Report:

1. Introduction – background, about the AQCC and process to date
2. Vision & Goals
3. Indicators and Targets – reports on the indicators
 - a. Context Indicators
 - b. AQ Indicators and Targets
4. Status of Actions
 - a. Completed
 - b. In Progress
5. Summary
 - a. Results
 - b. Recommendations
6. Next Steps

A template for this document has been developed and will be provided to AQCC members with the first annual report in early 2009.

Indicators and Targets

Metadata sheets have been prepared in Excel for each indicator (see Appendix A for an example) to facilitate consistency in data collection and reporting. Each indicator's data collection requirements and calculations have been outlined in individual Excel files. Each year, data will be added to the indicator file, ensuring that historical data is maintained and allowing trends to be monitored.

For the purposes of the AQCC and its AQMP reporting, the baseline year will be the available data for 2005.

The indicators and targets are provided in Table 6 and Table 7 for reference purposes.

Table 6: Context Indicators

| Context Indicators | Units | Rationale | Targets |
|--|--------------|-----------------------|----------------|
| Resident Population: | | | |
| (a) Total population of airshed by community | # of people, | Measure of population | Not applicable |
| (b) % total population growth change | % change | growth | |
| Visitor Population: | | | |
| (a) Total visitor population of airshed by community | # of people, | Measure of tourism | Not applicable |
| (b) % visitor population growth | % change | growth | |

Table 7: Air Quality Indicators

| | Air Quality Indicators | Units | Rationale | Targets |
|---|---|-------------------------|---|---|
| 1 | Health Reference Levels (HRL) Number of 24-hour periods per year in which the Health Reference Level ⁴ for: (a) PM10 is greater than 25 µg/m ³ (b) PM2.5 is greater than 15 µg/m ³ | # of 24-hour periods | Indication of health risk | Annual reduction in the number of 24-hour periods exceeding the HRL |
| 2 | Economic Impacts (an ideal indicator to be measured in the future) ⁵ Economic cost of air quality impacts (health & business) per capita | Cost (\$); \$/capita | Influence of air quality on economic health of the region | Reduction in costs |

⁴ The HRL is the level of pollutant at which there is a demonstrated statistical effect on health.

⁵ The calculation of this indicator is challenging, as it requires labour intensive full cost accounting methods. The MoE is evaluating tools that measure economic impacts and will make recommendations.

| | Air Quality Indicators | Units | Rationale | Targets |
|---|--|--|--|--|
| 3 | Greenhouse Gases (a) Total, and (b) Per capita GHG emissions by sector/source | tonnes per person | Indicator of regional energy efficiency and contribution to global climate change | Decreasing trend from baseline year (2005) |
| 4 | Visibility⁶ Number of poor or compromised visibility events per year | # of poor visibility days | Visual measure of compromised air quality which can effect tourism, recreational activities (site-seeing) and public perception | Zero poor visibility events in a year |
| 5 | Odour (a) Number of odour complaints per year by municipality, and (b) Number of hours per year where Odour Index is above 25 | # | BC Odour Index is an indicator of sulphurous odours (mainly a result of pulp mill operations). Odour complaints may give an indication of municipal type odours (wastewater treatment, composting operations, municipal solid waste treatment). | (a) Zero odour complaints per year (b) Zero exceedances of BC Odour Index level of 25 |
| 6 | Canada-wide Standards (CWS) Number of occurrences where: (a) PM _{2.5} exceeds the CWS exposure limit (30 µg/m ³), and (b) Ozone (O ₃) exceeds the CWS exposure limit (65 parts per billion) | 3-year average in µg/m ³ or ppb | All communities in Canada must aim to meet CWS by 2010, and those already below CWS levels must demonstrate commitment to continuous improvement and keeping clean areas clean. This indicator allows for national comparison of PM _{2.5} and ozone levels. | Zero exceedances of standard |
| 7 | Air Quality Index (AQI)⁷ Number of hours per year in a community where the AQI is greater than 50. | hours | An AQI of 50 is equivalent to the National "maximum acceptable" level for all CACs. An air quality advisory is issued whenever the AQI>50. AQI is useful in analysing short-term air quality episodes. | Zero hours per year |

⁶ Method to assess visibility as related to air quality is still under development.

⁷ The AQI is a dimensionless index in which air contaminant concentrations are used to define the level of air quality. The AQI scale range is: Good: 0–25; Fair: 26–50; Poor: 51–100; and Very Poor: >100. The Air Quality Health Index (AQHI) may replace the AQI. The AQHI currently is in the testing stages. It correlates ambient air quality with health effects.

| | Air Quality Indicators | Units | Rationale | Targets |
|---|--|-------------------------------------|---|--|
| 8 | Continuous Improvement⁸ Trends for 3-year annual average of (a) 8-hour maximum daily level for O ₃ (b) Annual 24-hour average level for PM10 (c) Annual 24-hour average level for PM2.5 (d) 8-hour maximum daily level for NO ₂ | 3-year average in µg/m ³ | Long term average which has a smoothing effect on short-term air quality episodes. Useful in determining the long term trends of air quality in the region. | Decreasing trend from baseline year (2005) |

6.2. Five-Year AQMP Update Report

The Five-Year report will provide a summary of past years and include a review of the actions completed, in progress and outstanding. The review of actions will provide the AQCC with an opportunity to revise actions or add new ones in order to achieve the vision and goals of the AQMP by 2025. The first Five-Year report is scheduled for 2013.

An outline of the Five-Year AQMP update report is provided here. Note that a template for this report has not been developed as it is anticipated that changes may be made over the next five years. The proposed outline is as follows.

State of the S2S Airshed: Five Year AQMP Update Report - outline:

1. Introduction – background, about the AQCC and process to date
2. Where are we now?
 - a. Indicator results and progress towards targets
 - b. Review of Actions
 - i. Completed
 - ii. In Progress
3. Where are we headed?
 - a. Current and future airshed context (e.g. increased traffic, more future development, etc)
 - b. Proposed New Actions (if necessary)
4. Next Steps
 - a. Results

⁸ This measurement is currently recommended in the CWS draft guidelines for Keeping Clean Areas Clean/Continuous Improvement. SO₂ is not included in the continuous improvement metrics since current levels of this pollutant in the Sea-to-Sky Airshed have decreased and are now extremely low. Levels are expected to continue to decrease and it is unlikely that in the future there will be any significant new sources of SO₂ in the airshed. CWS is not an exposure limit; it is a standard. There are still health effects below the CWS levels.

b. Recommendations

7 Timeline

The development and approval of the AQMP has proceeded as outlined in the timeline in Figure 2. The current phase (2007 – 2008) involves beginning the implementation of early actions, development of the implementation plan, and implementation and monitoring of high priority actions.

There are three early actions that have begun implementation, and these are outlined in Table 1 (Section 3) of this report. The remaining high priority actions that are outlined in Table 3 (Section 3) each require an AQCC member to champion the actions to ensure they move forward this year in order to meet this timeline. In 2009 the first Annual Report will be released. The report will inform stakeholders and aid in evaluating the progress of implementing this plan, and of reaching the AQMP targets. As the high priority actions are completed, mid and longer term actions will begin in 2009 and beyond.

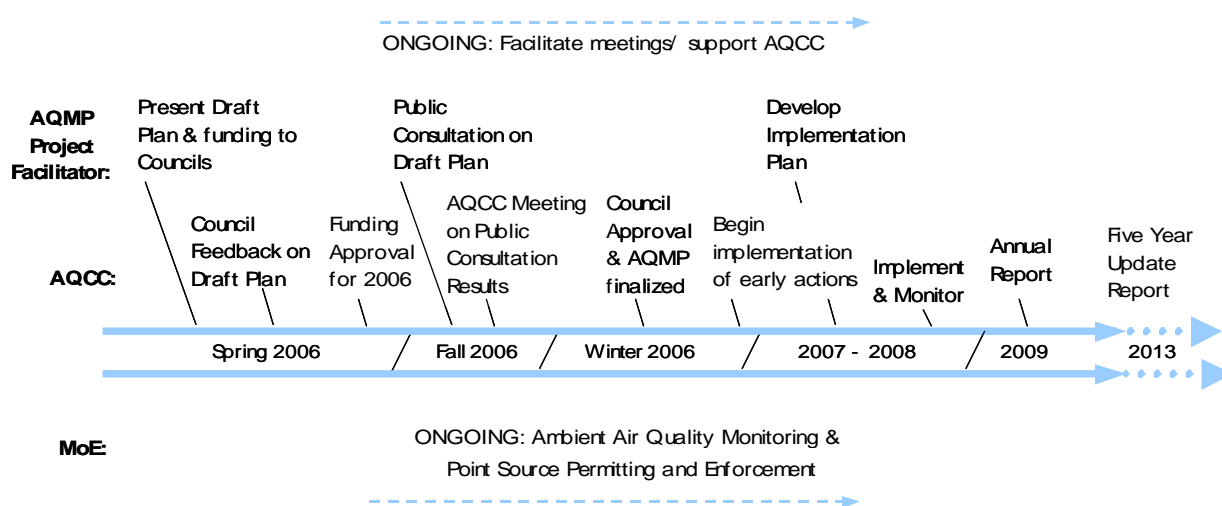


Figure 2: AQMP Implementation Timeline

Appendix A: Example of Metadata Sheet

The indicator's Excel file includes three tabs: Metadata, Indicator Data Table, and Chart. Examples of these are provided below for the context indicator CTX-1: Resident Population.

METADATA

| Indicator Category | Context |
|--------------------|--|
| Indicator | Resident Population: (a) Total population of airshed by community, and (b) % total population change |

Indicator Code CTX-1

Measurement Units Number of people, % change

Why is this indicator important? This context indicator provides data on total population and % population change on an annual basis, derived from both BC Stats population estimates and Census data for municipalities in the RGS study area.

What is being measured? Number of people

Definition of Terms Growth: change in population over time; % population growth over time; annual compound population growth rate

Update Frequency Annual for BC Stats data (use for the annual report); Five years for census data (use for the 5-year report)

Release Date for Data Mid-December of each year for BC Stats population estimates. The BC Stats population estimates are for mid-year.

Population count data from the Census is available approximately in March of the year following the year of the Census.

Years Comparable Data are Available 1991, 1996, 2001, 2006 for census data (for electronic data, older data available in hard copy formats)

1976- for BC Stats (annually).

Geographic Area Covered by Data Set Regional Districts, member municipalities, electoral areas

Geographic Areas for Data Tabulation Aggregation of the Census Subdivisions of Penticton, Summerland, Oliver, Osoyoos, and RDOS Electoral Areas A, C, D, E, and F.

Data Source Name and Organization BC Stats; Statistics Canada

Data Source URL [BC Stats: http://www.bcstats.gov.bc.ca/](http://www.bcstats.gov.bc.ca/)

[Statistics Canada: http://www12.statcan.ca/english/census/index.cfm](http://www12.statcan.ca/english/census/index.cfm)

Data Source Contact BC Stats Contact Name: Dave O'Neil, (250) 387-0335, dave.oneil@gems8.gov.bc.ca

Statistics Canada Contact Name: Derek Adams, Account Executive, (604) 666-1679, derek.adams@statcan.ca

Data Issues Population estimates for municipalities within Regional Districts are available annually from BC Stats, but not for the rural areas.

Need to be careful to not mix the BC Stats and Census data. The Census population counts do not include an adjustment for the census undercount. The population in secondary suites in particular is typically part of the census undercount. The BC Stats data is factored to account for any undercounting.

Both data sources only include permanent residents. Population in second homes is not included if a household's primary place of residence is elsewhere.

Estimated Time to Compile Data One hour

Target Not applicable.

INDICATOR DATA TABLE

Colour Coding System

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|--------------------------|
| Data entry cells |
| Cell containing formulas |
| Baseline Year |

TABLE 1: Resident Population

| Time Period | Total Visitor Population | % population change from 2005 | Bowen Island | Gibsons | Lions Bay | Pemberton | SLRD Unincorporated Area | Squamish | Squamish FN |
|-------------|--------------------------|-------------------------------|--------------|---------|-----------|-----------|--------------------------|----------|-------------|
| 2005 | 35,083 | | 3,433 | 4,286 | 1,405 | 2,285 | 6,640 | 15,308 | |
| 2006 | 35,999 | 2.6% | 3,517 | 4,387 | 1,400 | 2,277 | 6,902 | 15,704 | |
| 2007 | 36,648 | 4.5% | 3,551 | 4,547 | 1,394 | 2,283 | 6,988 | 16,106 | |
| 2008 | 0 | | | | | | | | |
| 2009 | 0 | | | | | | | | |
| 2010 | 0 | | | | | | | | |
| 2011 | 0 | | | | | | | | |
| 2012 | 0 | | | | | | | | |
| 2013 | 0 | | | | | | | | |
| 2014 | 0 | | | | | | | | |
| 2015 | 0 | | | | | | | | |

DO NOT FILL OR DELETE - Highlight this green row, right click, and insert row to add data entry row above and preserve EXCEL formulas and formats

