

Prince George Air Quality Management Plan - Phase II - Work Plan

The Prince George Air Improvement Roundtable (PG AIR) has identified the following management actions to address each recommendation from the Phase II Plan. Table 1 groups each recommendation into planning areas, and presents the management action, timeline for implementation and resources that are required to implement each action item.

Table 1: Phase II Management Plan Recommendations & Proposed Management Actions

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
Industrial Sources – Odour Management Actions					
#1: <i>The committee work with the Research Working Group to prepare an odorous emission inventory that can be used to identify source contributions</i>	Community Odour Study (profiling of potential odour sources (beginning with pulpmills, oil refinery) compared against ambient neighbourhood samples (if source profiling methodology is successful, this study will be expanded to other industrial sources))	PG AIR	2008 - March 2009	Sampling completed, Sept. 1/08	Total Cost: \$33K. Contributions: (MOE - \$13K), City of Prince George (\$10K): all received
				Ortech report rec'd: Sept. 25/08; VOC compounds (Table 4) requires odour thresholds for comparison – Ortech to update	
				SEPT 29/08: Deficiencies within report: TRS analysis not conducted at low enough level (10 ppb vs. 1 ppb): PG AIR to respond in writing to Ortech regarding analytical deficiencies	
				Additional sampling for TRS speciation may be required over 08/09	
				If methodology useful, PG AIR will expand the odour study to other facilities, and will need to write letters requesting participation from source owners based on results of community study	
	Emission Inventory at CANFOR	CANFOR & Paprican	Aug-08	Sampling completed, but only TRS Speciation. PG AIR to request CANFOR to conduct additional VOC speciation work of major sources	N/A
		2008 - 2011	Odour reduction measures will be on-going over at least the next 3 – 5 years		
Emission Inventory at Husky Oil Refinery	Husky Oil	Aug-08	Emission Inventory Completed	N/A	
		31-Oct-08	PG AIR to write letter outlining our study, and request for Husky's results		
		2008 - 2011	Emission inventories and reduction measures will be on-going over at least the next 3 – 5 years		
Fine Particulate Management Actions – Road Dust & Other Sources					
#2: <i>The city expand its program to use winter abrasives that generate less fine particulate matter</i>	All areas below the escarpments get fractured material; higher elevations get sand.	City of Prince George	?	Completed	N/A
#3: <i>The City and Ministry of Transportation conduct an early sweep (late February/early March) of arterial roads.</i>	The City starts sweeping as early as practical. Because the roads are pre-wet, temperature is a factor. In spring 2007, a liquid de-icer was applied to get an early start.	City of Prince George	?	Completed	N/A

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
#4: <i>The City do more frequent sweeping of municipal streets and additional dust control on unpaved high traffic routes, to further reduce dust levels</i>	Transportation is submitting an enhancement for increased sweeping this budget.	City of Prince George	2008 - ?	On-going	Dependent on City budget allocations
#5: <i>Ministry of Transportation to implement road dust reduction measures on provincial highways within the City of Prince George (i.e. Hwy 16 & 97)</i>	Initiate sweeping schedule & de-icing measures (applying coarser winter traction material to minimize road dust)	PG AIR & MOT	Short-term (within 1 year)	Action required	N/A
#6: <i>Property owners of Willow Cale Road to set a schedule for hard surfacing the portion of the Willow Cale Forest Road between Penn Road and Boundary Road</i>	Initiate schedule for hard surfacing of Willowcale Forest Road b/w Penn Road and Boundary Road	PG AIR, BCR Property Owners, City of PG, MOF	Short-term (within 1 year)	Action required	N/A
#7: <i>Establish a schedule for hard surfacing all gravel roads in the vicinity of BCR Industrial Way</i>	Establish schedule for hard surfacing all gravel roads in the BCR site	PG AIR, BCR Property Owners, City of PG	Short-term (within 1 year)	Action required	N/A
#8: <i>The City require paving or the use of other materials which decrease dust of all traffic areas permitted for new or redeveloping industrial and commercial developments.</i>	These requirements have been included in the Zoning Bylaw Section 7.3 and 7.3.1 Off Street Parking and Loading Development Standards	City of PG	?	Completed	N/A
Fine Particulate Management Actions – Industrial Sources					
#9: <i>Complete the Source Identification and Apportionment Study to further define priorities for reducing industrial and non-industrial emissions.</i>	Chemical Speciation Receptor Study	PG RWG	March 2008	Final Report completed	Received
	Emission Inventory & Dispersion Model	PG RWG	September 29, 2008	DRAFT report completed	Received
			30-Nov-08	PG RWG to review DRAFT report and submit changes to John Spagnol/Peter Jackson	
			15-Jan-09	FINAL REPORT with comments from PG RWG and Third Party Reviewer incorporated	
	Third Party Review	to be determined	10-Oct-08	PG AIR to review and select peer reviewer (RWDI, Ortech, SENES)	Budget: \$15K; Contributors: City of PG (\$5K); MOE (\$10K); \$5K outstanding
			October 10, 2008 - November 30, 2008	Peer review results to be vetted back to PG RWG	
Develop summary report that synthesizes results of all studies & places in a mgmt context	PG AIR (Daniela & Mellissa)	1-Dec-08	Report outline developed	N/A	
		15-Jan-09	DRAFT report complete		

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
Community & Regional Planning					
#10: Air quality considerations be incorporated into the Prince George Official Community Plan, including transportation efficiency and alternative transportation, and into the Regional District Community Plans during the next plan reviews.	Air quality is considered in the City's Official Community Plan (2001). Section 4.2 deals only with air quality. The AQIC should provide input when a review is undertaken.	City of PG	?	Comments for OCP Review provided to Grant Bain - Completed	N/A
#11: Recognizing that land use planning decisions involve many inter-related factors, request local government to designate land as needed for heavy industry so as to direct future air pollutant sources, especially those recommended in the 2002 Industrial Lands Use Study. Land use designations and/or zoning categories are needed to distinguish those sources from insignificant heavy industrial emission sources. Review and update the 2002 Industrial Lands Study.	PG AIR sub-committee to review OCP's for rural areas, Industrial Land Use Studies, and provide input to RDFFG	PG AIR	31-Mar-08	Report reviewed by PG AIR & comments submitted to Terry McEachen.	N/A
		MOE	1-Oct	Meeting to discuss siting of air quality monitoring stations at proposed industrial sites; consultation with MOE	N/A
	The City, Regional District and Ministry of Transportation to develop heavy truck and dangerous goods route, in addition to conducting a feasibility study of establishing a bypass route around Prince George to reduce heavy truck traffic and mobile emissions from downtown/residential areas. A related issue is that the truck routes and a dangerous goods route need to be identified in conjunction with existing and future industrial areas.	City of PG & PG AIR	Spring 2008	Dangerous Goods Route DRAFT report and public consultation completed; comments submitted by PG AIR; No consideration of heavy truck traffic route	N/A
		?	Final REPORT?		
	The City to review and report on land use development and approval processes, in conjunction with a review of municipal authority over air quality considerations in decision making, including a review of legal barriers to revising by-laws (e.g. 1) sunset clause in Clean Air Bylaw,2) defining light/heavy industry in Zoning Bylaw, and 3) including requirement for industry to reduce emissions during air quality advisories in development permits).	City of Prince George	?		\$12K (City of PG: approved January 2008))
	Review should be followed by a facilitated session with relevant agencies from all levels of government to develop an ideal joint approval process; by reviewing existing processes, identifying gaps and overlaps, and finding ways to better coordinate their efforts while ensuring that legislative responsibilities are met.	PG AIR, City of PG, RDFFG, MOE	?	?	Funding needed for facilitated session (\$2,500)
#12: Conduct an airshed boundary study to assist with determining air quality effects from open burning and other air pollution sources within and outside the City of Prince George	UNBC and City to initiate airshed boundary study.	UNBC, City of PG	2007	Completed - Final Report submitted to PG AIR	N/A

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
Prevention of Air Quality Problems					
#13: MOE evaluate the acceptability of new sources of air contaminants, especially particulate matter (PM10 and PM2.5), total reduced sulfur (TRS), sulphur dioxide (SO2), and nitrogen oxides (NOx), based on use of the 'lowest achievable discharge rate'.	MOE to draft emissions guidelines policy to direct EMA permitting process for PG airshed. Policy should include provisions for new and existing development, use of best available control technology, siting for small to large heavy industry facilities, and permit limits (concentration) on discharge of critical air contaminants	MOE	Jan-07	Emissions guidance document completed	N/A
#14: The PGAQIC and the City promote reductions in vehicle emissions (such as the anti-idling campaign) and request Environment Canada to conduct a diesel mobile emission-testing program.	Initiate Anti-Idling Strategy for Prince George airshed .	PG AIR	May 2008 - August 31, 2008	Hire Anti-Idling Ambassador: Work-Plan: Idling Surveys, Public Education, Advertising - all completed	Received
	Development of Prince George Anti-Idling By-law	City of PG & PG AIR	2008 - 2010	PG AIR to lobby City Council	N/A
	Prince George Vehicle Emission Testing Clinic	PG AIR	Aug-08	Clinic held for 3 days August 21 - 23; over 350 vehicles tested - completed	Funding received from City of PG, MOE
	City, RDFFG, Chamber of Commerce, MOE to promote E3 Fleet[1] among PG's business community	City of PG, RDFFG, Chamber of Commerce, MOE	?	Volunteers required to assemble information and conduct promotional activities for E3 Fleet	Funding contribution for E3 Fleet requested from City: \$2K
	RDFFG	RDFFG	31-Dec-08	RDFFG included in Corporate Climate Change Plan	Funding needs identified in RDFFG presentation
#15: The City incorporate air quality issues into its transit decision-making	Transition fleet to biodiesel	City of PG & PG AIR	Spring 2008	PG AIR to continue to lobby City of PG	N/A
	No idling at bus-stops		?	Completed	N/A
	Most direct bus routes should be planned		?	Completed	N/A
#16: The PGAQIC develop and promote public awareness and education of air quality issues. This should include brochures, media campaign and updated web site info.	Develop Communication Plan	PG AIR	Mar-07	Completed	Funding received
	Utilize advertising, press releases and website to promote public awareness and education	PG AIR	2007 - ?	On-going	City of PG: \$9K
	Schedule conferences to disseminate results of research studies, promote air quality awareness and education	PG AIR	Feb-09	Organize symposium: book facility, organize speakers, advertising	City of PG: \$3K; MOE (\$5K); additional funding required
	Develop Air Quality 101	PG AIR	Feb-08	Completed & posted to website	N/A
	Air Quality Warning Light System as a public awareness project	PG AIR	Nov-08	Proposal to be submitted to City of PG outlining project	City of PG (\$2,500), MOE (\$2500)

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
Management of Poor Air Quality Episodes					
<p>#17: MoE require owners of the most significant fine particulate sources to provide plans for temporarily reducing emissions during air quality advisories.</p>	Request major emitters to examine means to decrease emissions during an air quality advisory and report back with plan for reducing where possible	MOE	Jan-07 ?	Completed - Request incorporated into Air Quality Advisories Letters to be sent to major emitters requesting plans	N/A N/A
	PG AIR understands that new permits issued by the MoE include provisions that call for decreased emissions during air quality advisories (e.g. no startups during an episode). MOE should continue these permit requirements and will assess the potential to revise old permits to include such provisions.	MOE	2008 - ?	On-going	N/A
	Development permits issued by the City should include restrictions on emissions during air quality advisories, where appropriate.	City of Prince George	?	Action required; need to understand the restrictions around considering air quality in development permit process, which will be undertaken in a review as outlined in Recommendation 11.	N/A
	Reductions of domestic sources (wood-burning appliances and dust) are currently required during PM episodes in the Clean Air Bylaw and similar requirements should be incorporated into any Regional By-law that is implemented to control wood burning appliances or open burning.	RDFFG	Mar-09	Amending building permits - in discussion with Planning department	N/A
<p>#18: The feasibility of predicting fine particulate episodes should be analyzed by the Research Working Group, and any feasible methods be suggested to PG AIR for implementation</p>	MOE EQ section engaged in forecasting PM episodes, however no standard methodology exists	RWG	2008 - ?	On-going: Management actions to reduce industrial emissions during PM episodes were supposed to be guided by results of studies, however preliminary results suggests model may not be able to predict significant industrial contributions during an episode.	N/A
Open Burning					
<p>#19: The City ban all open burning including yard and garden waste, noxious materials, land clearing and logging debris on all properties in the City of Prince George.</p>	Amend the Clean Air Bylaw by extending the no burning zone to municipal boundaries.	City of Prince George	?	Action Required	N/A
<p>#20: The City ban recreational fires on all properties in the City of Prince George</p>	Amend the Clean Air Bylaw to include recreational fires and extend no burning zone to municipal boundaries	City of Prince George	?	Action Required	N/A
<p>#21: The Regional District continue to advise residents of the hazards of open burning and the availability of facilities to reuse, compost or properly dispose of burnable materials at the Foothills Boulevard Regional Landfill.</p>	Promote education and public awareness by a) submitting written articles under 'Community Events' sections of the PG Citizen, b) posting to the PG AIR website, c) publishing brochures/flyers in mail.	RDFFG & PG AIR	2005 - ongoing	Action Required: Education & Awareness group to write promotional literature. RDFFG published composting pamphlet and advertise 2x per year	Funding required for PG AIR activities
	RDFFG to incorporate collection of 'green' waste in Solid Waste Management Plan	RDFFG	Sep-08	On-going: RSWMP currently under review, including curbside collection for yard and garden waste (leaves, grass trimmings, branches, and slash material)	N/A
			Dec-08	RDFFG Board approved RSWMP and submitted plan to Minister for Final Approval	

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
<p>#22: <i>Develop strategies to reduce open burning of Mountain Pine Beetle and land clearing debris in areas surrounding the City</i></p>	<p>Devise a burn plan in partnership with the MOE, MOF, BC Timber Sales, the Fire Department, the City and the Regional District to identify low, medium, and high sensitivity zones. Although the burn plan is NOT more restrictive than the current provincial open burning regulations, it encourages voluntary action to reduce burning in areas close to the city as larger burns are allowed in more remote areas.</p>	<p>MOE, MOF, BCTS, City Fire, City of PG, RDFFG</p>	<p>2008 - ?</p>	<p>On-going: Ministry of Healthy Living & Sport revising OBSCR; discussion required whether this action item should be initiated given that revisions to OBSCR should address most of these problems</p>	<p>N/A</p>
	<p>Request RDFFG to implement a by-law to restrict open burning in areas adjacent to Prince George airshed</p>	<p>PG AIR & RDFFG</p>	<p>May-08</p>	<p>Presentation by PG AIR to RDFFG requesting by-law</p>	<p>N/A</p>
			<p>Jun-09</p>	<p>RDFFG in discussion with Planning Department</p>	
	<p>Diversion of wood waste material to the City's proposed Community Energy System to provide space heating in the downtown area.</p>	<p>PG AIR & City of PG</p>	<p>?</p>	<p>Review CES project re: Air Quality Impacts</p>	<p>N/A</p>
<p>Opportunities for economic diversification should be explored by relevant agencies to exploit biomass potential of wood waste</p>	<p>Chamber of Commerce, City of PG, RDFFG, Industry, Property Owners</p>	<p>2008 - ?</p>	<p>Action Required</p>	<p>N/A</p>	
<p>Wood Burning Appliances</p>					
<p>#23: <i>The City promote the proper use of wood burning appliances in the City and enforce any nuisance caused by woodburning</i></p>	<p>Enforce nuisance clause in Clean Air Bylaw</p>	<p>City of PG by-law department</p>	<p>2008 - ?</p>	<p>Action Required</p>	<p>N/A</p>
	<p>Increase public education to reduce emissions from woodstoves</p>	<p>PG AIR</p>	<p>28-Mar-08</p>	<p>On-going: Burn It Smart Workshop held (21 attendees)</p>	<p>Woodstove Exchange Program funding received</p>
<p>#24: <i>The Regional District require that any new or replacement wood burning appliance meet the standards in the B.C. Solid Fuel Burning Domestic Appliance Regulation</i></p>	<p>Include as part of Regional District bylaw</p>	<p>RDFFG</p>	<p>31-Mar-09</p>	<p>In discussion with Planning Department to amend Building Permits</p>	<p>N/A</p>
<p>#25: <i>The City and Regional District provide public education opportunities on wood burning appliances, upgrade programs (stove exchange) incentives, and Bylaw implications.</i></p>	<p>Establish annual woodstove exchange program</p>	<p>PG AIR</p>	<p>March 1 - April 30, 2008</p>	<p>2008 Program Completed: 47 swap outs</p>	<p>\$33K received: 2007/2008 program</p>
			<p>Aug-08</p>	<p>Completed - Proposal for 2008/2009 program:</p>	<p>Received \$32,500</p>
			<p>Jan-09</p>	<p>Implement action items from 2008/2009 proposal</p>	
<p>Include Sunset Clause in Clean Air Bylaw to phase out non-certified Woodstoves by December 31, 2010</p>	<p>PG AIR & City of PG</p>	<p>2008 - ?</p>	<p>Need to understand restrictions around including a sunset clause in the Clean Air Bylaw (should be included as part of the review called for in Recommendation 11).</p>	<p>N/A</p>	

PHASE II Recommendations	Management Action Items	Responsibility	Timeline	Progress Tracking	Funding
Greenhouse Gas Management Actions					
#26: <i>The City of Prince George complete all Milestones of the Partners for Climate Protection Program.</i>	Enroll in and carry out the Milestones	City of Prince George	2007 - ?	City of PG: Milestones 1-3 completed, currently in Step 4	N/A
		RDFFG	Mar-09	Enacted Corporate Climate Change Plan, making presentations to Board and drafting final report	N/A
#27: <i>The Regional District continues to advance its Landfill Gas Management Plan to pursue beneficial use options of landfill gas.</i>	Implement Gas Utilization System at Landfill	RDFFG	31-Oct-08	Purchase of land titles completed, Certificate of Land Title still outstanding. Feasibility study of methane gas/optimizing gas system currently underway.	N/A
Monitoring & Research					
#28: <i>The Research Working Group review published literature (e.g. MOE PM2.5 study, UNBC research projects, projects leading to reduction in industrial emissions etc) on the topic of health and air quality, and, if appropriate, assist in any work that is being conducted</i>	Review and make recommendations on proposed use of Air Quality Index vs. Air Quality Health Index, in addition to seeking public input on preferred choice	MOE & PG AIR	January 2008 - March 29, 2008	Completed - Presentation by MOE Victoria to PG AIR. Comments submitted.	N/A
	Partner with Northern Health on Mobile Monitoring Project	PG AIR	Sep-08	Completed - Development of Proposal	N/A
			Sep-08	Completed - Make presentation to MWG requesting funding support to establish co-located PM2.5 mobile monitor	\$70K required; \$30K guaranteed by City of PG; MWG: \$40K
			2009 - 2010	On-going: Assist with operationalizing mobile monitoring proposal: develop work plans	N/A
#29: <i>The Monitoring Working Group to upgrade equipment as planned.</i>	MWG to review proposed changes to monitoring network	PG MWG	Feb-07	Completed - Presentation by Dennis Fudge to MWG on proposed changes to PG monitoring network	N/A

GAPS: Locomotives - encourage use of biodiesel and petroleum diesel (obtain results from EC testing of Southern Railway of BC); install diesel oxidation catalysts on locomotives (EC experimenting w/ Translink on a West Coast Express locomotive)