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## Strengthening the GVRD Air Quality Management Plan

Submissions to the Greater Vancouver Regional District  
Regarding the 2005 Draft Air Quality Management Plan

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Submitted on Behalf of:

Better Environmentally Sound Transportation  
Boundary Bay Conservation Committee  
British Columbia Lung Association  
Citizens Concerned with Highway Expansion  
Cooperative Auto Network  
David Suzuki Foundation  
Delta Residents for a Health Community  
Pembina Institute for Appropriate Development  
Society Promoting Environmental Conservation  
Sierra Legal Defence Fund  
Smart Growth BC  
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## INTRODUCTION

In 1990, the Greater Vancouver Regional District adopted *Creating our Future: Steps to a More Livable Region* which called for a 50% reduction in total emissions of criteria air contaminants in the GVRD. With this aggressive goal in mind, the GVRD developed the 1994 Air Quality Management Plan (AQMP). That plan identified measures that could be implemented to achieve a 38% reduction in emissions between 1985 and 2000. Although deviations were made from the plan as new technologies emerged and circumstances changed, the plan was ultimately successful with the 38% reduction target being met on schedule.

Now, eleven years after approval of the 1994 AQMP, the GVRD is moving to adopt a new AQMP with the aim of maintaining and improving GVRD air quality. In several ways, the 2005 Draft GVRD AQMP represents a significant improvement from the 1994 plan. It establishes more stringent objectives that will guide permitting of emitters and development of local air quality plans. It prioritizes pollutants that are of the most concern: fine particulate and ozone precursors. It includes actions for dealing with local air quality problems. It clearly identifies the largest emerging threat to air quality in the region – marine sources. It calls for measures that will yield co-benefits by reducing emissions of both global and local/regional pollutants. Finally, it recognizes the importance of more efficient building and community design to achieving long-term emission reductions and reductions in greenhouse gas emissions.

Unfortunately, the 2005 Draft GVRD AQMP lacks much of the specificity that made the 1994 AQMP a success. While objectives for ambient air quality have been improved, there are no clear objectives for reductions in emissions. Emission reductions anticipated from measures have not been quantified. Timeframes for implementing measures are vague. Too often the commitment to measures is weak even in areas where the GVRD has authority to act unilaterally.

On behalf of the organizations listed in appendix 1, West Coast Environmental Law recommends that the 2005 Draft GVRD AQMP be accepted with some amendments, and that the GVRD board direct staff to develop a detailed implementation plan in consultation with stakeholders.

Please note there are many measures in the 2005 Draft AQMP that are supported by the organizations listed in appendix 1, but which are not referred to in this submission. This submission focuses on key elements of the AQMP which we believe should be improved or which are under attack from other stakeholders.

## Local Air Quality Management

***The 2005 Draft AQMP's call for a focus on local air quality management, an approach that has been effective in dealing with local air quality hotspots in the US and UK, is a step forward in making Greater Vancouver a more liveable region.***

Research increasingly shows that extent to which air quality can vary at a neighbourhood level, with those living closest to busy streets or other sources having the greatest health impacts. Health protection demands that high exposure areas be identified and that air quality management be

targeted at local areas. West Coast supports the 2005 Draft AQMP's call for a focus on local air quality management. Both the US and UK have shifted towards identifying and dealing with local air quality hotspots, especially where pollution levels are most likely to impact vulnerable populations. There are many examples where this has led to implementation of emission reduction measures that provide relief to locally affected populations. For instance, in Dover, local ferry operators agreed to the installation of scrubbers after monitoring indicated their emissions were having a discernable impact. Identification and implementation of measures targeted to reducing exposure to problem pollutants at a local scale is an important step forward in the evolution of the GVRD's approach to air pollution.

## Proposed Objectives

***We support the move to more stringent objectives included in the 2005 Draft AQMP. GVRD's proposed objectives are consistent with three crucial principles of the Canada Wide Standards – keeping clear areas clean, continuous improvement, and the long term goal of moving to a lowest observable effects level. However, we recommend standards be made more consistent with the intent of the AQMP, AQMP goals, AQMP principles, AQMP performance measures and the CWS by***

- a) clarifying that the intent of the AQMP is that air quality throughout the GVRD will be in compliance with the objectives at all times, and that the objectives represent pragmatic medium term objectives, and are the first step towards the lowest observable effects levels.***
- b) imposing a more stringent objective for fine particulate (PM 2.5).***
- c) imposing a more stringent objective for carbon monoxide.***

We support the replacement of current, obsolete objectives with newer more stringent objectives. In general, the newer objectives reflect improved understanding regarding the adverse human health impacts of air pollution.

Industry stakeholders such as the BC Business Council and the Canadian Petroleum Products Institute have criticized the GVRD for proposing standards which the stakeholders allege are inconsistent with the Canada Wide Standards for Particulate and Ozone (CWS). This ignores the context and clear language of the CWS. The CWS were agreed to as part of a negotiation and to a large extent represent a lowest common denominator of what could be agreed to by the provinces, territories and federal government. The standards are much weaker than what was promoted by some stakeholders. This was in large part because of the challenge involved in achieving the standards in heavily polluted areas such as Ontario.

In our opinion, the proposed objectives are in fact consistent with the intent of the CWS. The CWS statement as approved by the Canadian Council of Ministers of the Environment specifically states that the CWS represent a balance between economic and environmental factors and “may not be fully protective and may need to be re-visited at some future date. There are also additional benefits to reducing and maintaining ambient levels below the CWSs where possible.” Moreover, the CWSs provide that “Jurisdictions will undertake the following implementation actions:...Implementation of continuous improvement, pollution prevention, and keeping-clean-areas-clean programs in areas with ambient concentrations below the CWS levels,...”. An Annex to the CWS provides guidance on keeping clean areas clean and continuous improvement. It provides that “There is a need to

ensure that the public recognizes that the CWS levels are only a first step to subsequent reductions towards the lowest observable effects levels.”

Although we generally support the objectives, we recommend that the nature of the objectives be made clear. In most jurisdictions, the impact of a numeric objective is diminished somewhat by the fact that compliance is measured by reference to a percentile somewhat lower than the 100<sup>th</sup> percentile. In other words, the objectives in other jurisdictions allow for the occasional pollution episode. GVRD’s goal is to ensure compliance at all times. We recommend that a statement along the following lines also accompany the objectives: “The intent of the AQMP is that air quality throughout the GVRD will be in compliance with the objectives at all times.” This is not only consistent with statements by GVRD staff, it is also quite do-able. The GVRD is in compliance with many of the objectives already, and it is our understanding that for all the remainder except for the annual NOx standard, the GVRD is already in compliance 99% of the time.

Also more clarity is needed with regard to the intent of the objectives. GVRD staff have verbally indicated that the “objective of the objective” is that the ambient objective never be exceeded, and that the objectives represent a medium term objective, with greater reductions in the long term. Neither of these points is spelled out in the AQMP. We recommend that the objectives be accompanied by a statement based on the language of Annex 1 of the CWS:

“In some cases the objectives represent pragmatic medium term objectives, and are the first step towards the lowest observable effects levels.”

For the following reasons, we recommend a more stringent 24-hour fine particulate objective.

- a) GVRD is in compliance with the proposed objective well over 99% of the time. Most incidents of non-compliance are the result of Halloween fireworks. Achievement of a more stringent standard is feasible.
- b) A more stringent objective is consistent with the AQMP goal of minimizing risk to public health from air pollution.
- c) A more stringent objective is consistent with the AQMP and CWS principle of continuous improvement.

For the following reasons, we recommend a more stringent one-hour carbon monoxide objective (more stringent than the proposed standard of 25 ppm, which is based on WHO guidelines).

- a) GVRD has already successfully achieved maximum one hour concentrations of carbon monoxide of around 14 ppm.
- b) The principle of continuous improvement suggests objectives should be designed to avoid backsliding.
- c) A more stringent objective is consistent with the AQMP goal of minimizing risk to public health from air pollution (It is our understanding that the WHO standard does not reflect a no effects level).
- d) A more stringent objective is consistent with California’s standard and the Canadian Maximum Desirable standard of 15,000 ug/m<sup>3</sup>.

## Recommendations:

1. **GVRD standards be made more consistent with the intent of the AQMP, AQMP goals, AQMP principles, AQMP performance measures and the CWS by**
  - (a) **Clearly identifying in the AQMP:**
    - (i) **that the intent of the AQMP is that air quality throughout the GVRD will be in compliance with the objectives at all times,**
    - (ii) **the objectives represent pragmatic medium term objectives, and are the first step towards the lowest observable effects levels.**
  - (b) **Imposing a more stringent objective for fine particulate (PM 2.5).**
  - (c) **Imposing a more stringent objective for carbon monoxide.**

## Prioritize &amp; Strengthen Measures with Health Impacts

***The GVRD AQMP should explicitly favour actions that have the greatest impact on human exposure to high health impact pollutants, and in particular should make stronger commitments to measures that reduce pollutants of the greatest concern: particulates from combustion, and diesel smoke.***

The health impacts of a given tonne of emissions reductions will vary according to where it is released and how many people are exposed as a result, and the type of pollutant. For instance, fine particulate created from burning diesel tends to act like a magnet for metals and toxic, carcinogenic substances. Diesel smoke also tends to be emitted at ground level, on crowded streets where many people are exposed to it. One US report estimates that:

- diesel exhaust poses a cancer risk that is 7.5 times higher than the combined total cancer risk from all other air toxics; and
- the average lifetime nationwide cancer risk due to diesel exhaust is over 350 times greater than the level US EPA considers to be "acceptable" (i.e., one cancer per million persons over 70 years).<sup>1</sup>

The GVRD Draft AQMP needs to explicitly recognize that certain measures should be prioritized either because the “species” of pollutant is of concern or because the measure will have a disproportionately large impact on exposure levels. The Draft AQMP could also contain stronger measures to reduce diesel smoke emitted in dense areas.

## Recommendations:

2. **Reword Strategy #1 to prioritize measures that have the greatest impact on health.**

“Reduce Emissions from Major Sources. Reducing primary particulate matter emissions from major sources in the Lower Fraser Valley will help to minimize the risk to public health from air pollution and improve visibility. Reducing greenhouse gas emissions from the major sources in the Lower Fraser Valley will minimize Greater Vancouver’s contribution to global climate change. Measures will be prioritized based on their ability to reduce public exposure to pollutants that pose the highest risks to human health, and to achieve co-benefits. This strategy has the following recommended actions:”

**3. Amend the GVRD AQMP to include the following:**

- (a) **GVRD adoption of its model anti-idling bylaw.** Currently, only a few municipalities in the GVRD have adopted the model GVRD anti-idling bylaw. Although anti-idling bylaws are often based on municipalities powers to deal with nuisances, the GVRD could pass an anti-idling bylaw under its air quality management powers.
- (b) **Enforcement of anti-idling bylaw on federal lands/federal undertakings.** Action item 8 is premised on the assumption that local government bylaws do not apply to federal lands and undertakings. While there are significant constraints on the ability of the Province or local government to regulate federal lands and federal undertakings, recent cases suggest GVRD or municipal anti-idling bylaws would be upheld.<sup>2</sup>
- (c) **Adopt contract specifications requiring contractors on major public works funded by the GVRD to retrofit diesel motors. Work with the GVTA and member municipalities to do the same.**
- (d) **Commit GVRD funds to a retrofit program for both on-road and off-road diesel.** The Draft AQMP currently calls for seeking federal or provincial funding for a retrofit program. While West Coast supports seeking additional funding from senior levels of government, other levels of government are more likely to put money into a GVRD program if the GVRD commits its resources to such a retrofit program.
- (e) **GVRD seek an amendment to the *Motor Fuel Tax Act* and *Sustainable Environment Fund Act* placing a small premium on diesel and committing that premium to payment for retrofits.** Such a program would be politically feasible because it is aimed at resolving a specific problem which is of public concern and because it could be phased out after a retrofit program has run its course.
- (f) **GVRD adopt a bylaw imposing more stringent standards for new residential wood stoves, prohibiting installation of outdoor boilers.** If the province or federal government do not commit to adopt more stringent standards and prohibit outdoor boilers within a reasonable time frame (e.g. 6 months for boilers, 2 years for residential wood stoves), the GVRD should unilaterally take action.
- (g) **Maintain Inspection and Maintenance for all light and heavy duty vehicles.** We recommend the continuance of inspection and maintenance programs for all light and duty vehicles, recognizing the significant impact vehicle emissions have on health because of direct human exposure. We recommend that Action Item 4 be reworded as follows “GVRD will assist in the design and implementation of ore effective emissions inspection and maintenance programs for all light and heavy duty vehicles, focussing on those that pollute the most.” We believe that inspection and maintenance programs still have a role to play for newer low emission vehicles, ensuring the proper functioning of emission control systems. They also encourage the public to repair emission control systems and tune-up vehicles in anticipation of vehicle inspections, an impact that is typically ignored in program assessments. And finally, they remind the public of the pollution caused by all vehicles.
- (h) **Recommend that the federal government implement equivilancy in tax benefits for employer-provided transit passes as free parking.**

- (i) **Recommend that the Insurance Corporation of British Columbia introduce distance-based auto insurance to financially encourage less and wiser use of personal vehicles.**

## Focus on Co-Benefits and Consideration of Climate Change Impacts

***GVRD leadership on reducing greenhouse gas emissions and moving the GVRD to a more sustainable urban design is both essential, prudent, and within the jurisdiction of the GVRD. GVRD actions which achieve co-benefits should be clearly prioritized, GVRD should commit to updating the Regional Growth Strategy with a clear plan for reducing regional greenhouse gas emissions, improved analysis of implications of different growth patterns on long term greenhouse gases and air quality, and work toward adoption of more stringent regional context statements by municipalities. GVRD should work to create financial incentives for smart growth through the use of development cost charges, and should adopt energy efficiency standards for boilers and furnaces prior to 2009.***

There are a number of reasons for the GVRD taking actions to reduce greenhouse gases and developing an Air Quality Management Plan that is fully integrated with efforts to reduce greenhouse gas emissions, and works to achieve co-benefits. In particular, academics, the federal government and the province have underlined the importance of climate change actions by local government. As the 2005 federal plan for Kyoto implementation, *Project Green*, states:

Climate change is a challenge that affects all jurisdictions, and so our response must be a national one that reflects our federal structure. This means a joint effort, with all orders of government — federal, provincial, territorial and municipal — working together within their own areas of responsibility to make a contribution and deliver a harmonized approach.

Local governments' role is especially important in terms of actions that will affect the GVRD's emission profile for greenhouse gases and regional pollutants for many decades into the future. Space heating and light duty vehicles are the two top sources of greenhouse gases in the GVRD for many years into the future. By 2025, they are also the fourth and fifth most significant sources of smog forming pollutants.

Deep reductions in these emissions can best come through curbing sprawl, investing in transportation infrastructure that supports compact growth, encouraging and requiring energy efficient buildings and energy efficient heating systems. All of these actions affect long lived capital stock, and are thus difficult to reverse and tend to lock us into either high or low emissions for decades or even centuries. Through leadership on regional transportation planning, regional growth strategies, and support for green building technologies, actions taken now by the GVRD can have an important impact on GVRD emissions of regional and local pollutants for many years.

GVRD engagement on climate change issues is also important from the perspective of attracting investment of federal money into the region. Various sources of federal funding have a significant greenhouse gas element. One billion dollars allotted to the Climate Fund in the federal 2005 budget will be used to purchase greenhouse gas emission reductions. Regional leadership on climate change may help in attracting federal dollars to the region.

The GVRD also has a potential role in the direct regulation of greenhouse gases. GVRD statutory authority clearly includes a power to regulate greenhouse gases<sup>3</sup> although efforts will be needed to coordinate regional actions with the federal Large Final Emitter system.

## Recommendations:

**4. Reword Strategy #1 to prioritize measures that have the greatest impact on health.**

“Reduce Emissions from Major Sources. Reducing primary particulate matter emissions from major sources in the Lower Fraser Valley will help to minimize the risk to public health from air pollution and improve visibility. Reducing greenhouse gas emissions from the major sources in the Lower Fraser Valley will minimize Greater Vancouver’s contribution to global climate change. Measures will be prioritized based on their ability to reduce public exposure to pollutants that pose the highest risks to human health, and to achieve co-benefits. This strategy has the following recommended actions:”

**5. Update the Regional Growth Strategy, developing a strategy consistent with long-term greenhouse gas emission and air quality goals, and work to establish greater clarity in the regional context statements of municipalities.****6. As part of the AQMP implementation process and updating of Regional Growth Strategy, GVRD should project the greenhouse gas impacts over 50 to 100 years of different patterns related to**

- (a) Construction of green buildings,
- (b) Different regional growth patterns,
- (c) Different patterns of transportation development (e.g., Gateway Project).

This would assist decision-makers in recognizing the long-term impact of their decisions, and would underline the importance of efforts to shift community design.

**7. In order to encourage energy efficient, less vehicle dependent, less polluting development patterns and to ensure financial fairness, the GVRD should**

- (a) work with member communities to develop model Development Cost Charge bylaws that encourage more compact growth and recognize the lower costs of providing transportation services to in-fill and brownfields developments;
- (b) amend the GVS&DD Development Cost Charge Bylaw for Sewage Treatment to encourage green building technologies. (Sewage treatment is a major source of greenhouse gas emissions, local air pollutants and user of energy. Green building technologies can reduce these emissions.);
- (c) seek amendments to the *Greater Vancouver Transportation Authority Act*, so that the GVTA is empowered to impose development cost charges for the regional transportation system, recognizing the different costs of servicing in-fill and brownfields developments versus sprawl.

**8. Adopt emission standards for new residential furnaces and boilers prior to 2009.** Ideally this measure will be implemented by provincial regulation, but provincial regulations are not planned until 2009 and could be delayed beyond.

## The Need for Timelines, Benchmarks, Quantification

***The success of the 1994 AQMP lies in part in its clear identification of measures that would be implemented by the GVRD and partners, its identification of timelines for implementation, its***



***estimation of the emission reductions that would be achieved by different measures and its identification of parties are responsible for implementation. While the high level strategies identified in the 2005 Draft AQMP are good, experience shows that a detailed implementation plan is essential to ensuring that plans go from drawing board to actual emission reduction. When it approves the AQMP, the GVRD board should direct staff to develop an implementation plan within a reasonable time frame.***

The 1994 GVRD Air Quality Management Plan lists dozens of emission reduction measures. For each measure, the plan describes the source of emissions and the details of the reduction measure. It also identifies the anticipated emission reductions in the short-, medium- and long-term, and establishes an implementation schedule.

The result is that under the 1994 AQMP, both government and stakeholders had a clear basis for measuring progress, considering the impact of deviations from the plan and holding government accountable.

Many of these basic elements of accountability are lacking in the 2005 draft AQMP.

Experience suggests that the lack of detailed implementation plan and failure to quantify anticipated results could make the difference between an AQMP that works and one that does not work. In her 2000 Annual report, the federal Commissioner of the Environment and Sustainable Development reviewed the federal government's experience with implementing the 1990 NOx/VOC Reduction Plan, finding a disappointing lack of implementation. Key problems the Commissioner identified included failure to specify anticipated emission reductions, and failure to clarify the roles, responsibilities and expected performance of each level of government. The commissioner noted:

“... It is the public who will hold their governments to account for Canada's progress in combating smog, and to do this it needs information. An objective assessment of progress, based on good information, enables the public to compare their governments' stated intentions or goals with what they have actually done.

“To play its role, the public needs ready access to reliable, objective, comprehensive, timely and meaningful information. This would include information on the nature of the smog problem, how the federal government uses partnerships to deliver its mandate, and strategic plans that include the roles and responsibilities of the partners, their goals, and the contribution expected of each. The information would describe the activities of the federal government and its partners in combating smog and the results they have achieved. It would also include projected trends, deviations from plans and progress measured against established benchmarks.”

These observations apply equally well to the GVRD. There is nothing in the plan that allows interested citizens to answer basic questions such as:

- What are the total emission reductions that are anticipated from the plan?
- When will they be achieved?
- To what extent is the success of the plan dependent on any particular action?

Detailed implementation plans and quantification of reductions, may be resisted by government agencies who would rather not give the public a tool for ensuring accountability, but a detailed implementation plan can also be a source of leverage in encouraging partner jurisdictions – the

federal, provincial, Fraser Valley Regional District, Watcom county, municipal – to take actions. Identifying the emission reductions attributable to different measures is a means of clearly communicating their relative importance over different time frames.

Recommendations:

- 9. When it approves the AQMP, the GVRD board should direct staff to develop an implementation plan for the AQMP. Such implementation plan should quantify baseline emissions from different sources, provide more detail on planned emission reduction actions, describe timelines for implementation of actions, identify parties responsible for implementation, and quantify emission reductions from different actions over short, medium and long terms. The GVRD should report periodically on implementation.**

## Marine Emissions

***Emissions of smog precursors from the marine sector surpassed light duty vehicles in 2005 and are projected to grow by 50% over the next 20 years. GVRD needs to take a strong stance on federal action and should be calling for measures beyond introduction of a sulphur emission control area for the west coast of North America.***

In 2005, marine based emissions surpassed light duty vehicles as the largest emitter of smog precursors in the GVRD. Over half these emissions come from large ocean-going freighters and containers, and half of that amount is emissions from on board generation of power while these vessels are at dock. Marine emissions are projected to grow by 50% over the next twenty years.

Despite these trends, the 2005 draft AQMP does not propose any specific measures to reduce marine emissions.

## Potential Measures

There a number of emission reduction measures that could be adopted to reduce marine emissions from large sea-going vessels:

- Use of Shore Power. The Port of Los Angeles – the world's seventh busiest port, is developing infrastructure to supply shore power for up to twenty container vessels at a time. Juneau, Alaska has developed shore power infrastructure for cruise ships. Although costly and technically challenging, shore power can achieve 100% reductions in emissions while ships are berthed.
- Limiting sulphur in marine bunker fuel. Limiting sulphur in the bunker fuel used by ships while cruising, reduces emissions of SO<sub>x</sub>, which forms fine particulate in the atmosphere. Currently, the limit on sulphur in marine fuel set by international maritime standards (MARPOL) is very high: 4.5% or 45,000 ppm. This compares to a limit of 15 ppm that Canada is moving toward for diesel sold to marine vessels in Canada.

A study by Genesis Engineering for Environment Canada estimated that a 0.5% limit on sulphur in bunker fuel used in the Georgia Basin was the most cost effective means of reducing emissions and could reduce emissions of SO<sub>x</sub> by 12.5 tonnes per year at the extremely low cost of \$195 per tonne. In April 2005, the European Parliament required

the European Commission to consider moving to this level, and adopted a first phase limit of 1.5% limit for sulphur in bunker fuel used by ships in the Baltic and North Sea. According to the Genesis Engineering report, adopting the 1.5% limit on sulphur for fuel used in the Georgia Basin/Puget Sound would only achieve 6.8 tonnes of reductions in SO<sub>x</sub>, at a cost of \$397 per tonne.

- Use of Marine Diesel. Ocean-going vessels generally have the capacity to burn marine diesel oil as an alternative to bunker fuel, and use of marine diesel oil during cruising would achieve 13.5 tonnes of reductions in SO<sub>x</sub> and 0.7 reductions in particulate at a cost of \$1,040 per tonne.
- Emission Reduction Technology. Selective Catalytic Reduction achieves major NO<sub>x</sub> reductions (20 tonnes per year), and particulate (1.4 tonnes), and, because it must be combined with marine diesel oil, achieves reductions in SO<sub>x</sub> of 14 tonnes per year at a cost of \$3,314 per tonne. This combination could also achieve reductions of 90% for NO<sub>x</sub>, 95% for SO<sub>x</sub> and 67% for particulate, when ship are at berth, at a cost of \$2,628 per tonne – one of the most cost effective emission reduction measures for vessels at berth.

#### Potential Federal Action not limited to MARPOL

The GVRD does not have the power to impose any of the above measures because fuels and ship engine technology are a vital part of a federally regulated industry. The federal government, does however, have a number of means by which it can help:

- The federal government can work to amend international laws and protocols dealing with marine pollution and adopt these under the *Canada Shipping Act* and *Canada Shipping Act, 2001*. Annex VI of the *International Convention for the Prevention of Pollution from Ships* (MARPOL) deals with air pollution from ships and enters into force on May 19, 2005. The IMO process is slow. Annex VI was adopted eighteen years after the IMO's Marine Environmental Protection Committee recommended development of air pollution provisions. And, the standards under Annex VI are so weak that they will have no impact on emissions in this region. (The limit on sulphur in bunker oil is 45,000 parts per million, considerably dirtier than most fuel in use in this region.) More stringent standards could be imposed by adopting a SO<sub>x</sub> Emission Control Area (SECA) for the Georgia Basin or a wider area. Currently, a SECA is established for the Baltic and will likely be established for the North Sea within a year. However, even within a SECA, the standards are still weak (15,000 parts per million sulphur) and the process for establishing SECAs is slow.
- The federal government can unilaterally pass regulations controlling air pollution from ships transiting Canadian (or BC) waters. Most jurisdictions, including Europe have aligned their regulations to reduce air pollution from ocean going ships with MARPOL Annex VI. However, the European Parliament has pushed MARPOL by legislating standards in advance of MARPOL standards, and by mandating consideration of more stringent standards depending on progress on the MARPOL front.
- Under the *Canada Marine Act*, the Vancouver Port Authority can adopt differential fees to encourage ships using Vancouver Port to use emission control technology or cleaner fuels. In 1996, in an effort to reduce emissions by 75% within a few years, twenty Swedish ports adopted a differential port fee system by which ship owners who verify they are using fuel oil with a

sulphur content of less than 0.5% for ferries and 1.0% for cargo vessels receive a discount on port fees. The program has been quite successful. It provided an incentive for regular port users, regardless of their flag state, to adopt environmentally beneficial technical improvements. Close to 80% of the entries to Swedish ports are now of ships using low-sulphur fuel.<sup>4</sup> According to a recent estimate, the charging system has resulted in an estimated overall emission reduction of 50 000 tons of SO<sub>x</sub> and 27 000 tons of NO<sub>2</sub> equivalent in the areas of the Baltic Sea and the North Sea.

### Dealing with Competitiveness Issues

An issue in any emission reduction strategy aimed at large ocean-going ships is its impact on competitiveness and/or profitability. Ports have argued that establishment of a SECA should be done on a North American basis, or alternatively for the entire West Coast of North America in order to avoid shifting of marine traffic to other ports. Similar arguments have been made with regard to adoption of economic instruments.

West Coast Environmental Law supports efforts to coordinate actions with other ports, but competitiveness should not be used as an excuse for inaction. In this regard, it is important to recognize that, Sweden has unilaterally adopted differential fees that apply to cargo ships and have led to major reductions in emissions. Also, Europe has established a SECA for an area (the Baltic) considerably smaller than North America or the West Coast of North America. While port fees and regulations affect competitiveness, other factors, such as proximity to Asian markets, will continue to give Vancouver an advantage. Finally, the emissions from Vancouver Port are a large contributor to a public health problem that claims many lives every year. The Vancouver Port Authority's competitiveness should not be paid for from the ill health of Greater Vancouverites.

### Recommendations:

- 10. Achievement of emission reductions from the marine sector will require action by many actors over which the GVRD has no regulatory authority. The GVRD needs to set out a clear plan that identifies the pros and cons of different emission control strategies and recommends action by the Port Authority, federal government and Province. Recommendations should be based on measures that are most effective in reducing pollutants of greatest concern.**
- 11. GVRD AQMP should call on the Province to retrofit BC ferries with emission control technologies and phase in use of ultra low sulphur diesel prior to 2010.**
- 12. GVRD should call on the Vancouver Port Authority and the federal government to fast track development of incentives for emission reduction technologies on ocean going vessels, ferries and harbour vessels. GVRD should call on the Port Authority to develop incentives comparable to those in used in Sweden.**
- 13. GVRD should call on the federal government to negotiate amendments to MARPOL that**
  - (a) Create a SECA that includes Vancouver Port**
  - (b) Establish more stringent marine bunker fuel standards in SECAs (0.5% sulphur)**
  - (c) Establish more stringent NO<sub>x</sub> standards for ships.**

**In order to stimulate international action and to avoid the 18-year delay that characterized the development of Annex IV, Canada should commit to unilateral action if IMO is not on track to develop stringent standards within a reasonable time frame.**

## Put the Legal House in Order

***In 2004, the Province replaced the Waste Management Act with the Environmental Management Act and the Waste Discharge Regulation. Under the new system, “low risk” polluters are essentially deregulated and “medium risk” facilities will eventually be de-permitted and regulated under Codes of Practice. These changes poses significant threats to air quality in the GVRD. The GVRD needs to firmly commit to continued permitting (or stringent regulation) of polluters deemed to be low and medium risk.***

### Background:

Under the *Environmental Management Act*, and previously under the *Waste Management Act*, the GVRD has a power to provide air pollution control services and the GVRD board can pass bylaws prohibiting and regulating the discharge of air contaminants. The GVRD has used that power to establish a system of permits and regulations to regulate point source emissions. Historically, the *Waste Management Act* and *GVRD Air Quality Management Bylaw No. 937, 1999* acted in parallel, with very few differences between the two. Permits issued by the district manager for industrial, commercial or institutional emitters were dual permits issued under the Act and bylaw.

However, in July 2004, the Province repealed the *Waste Management Act*, replacing it with the *Environmental Management Act*. Under the *Environmental Management Act* and the *Waste Discharge Regulation*, there is no longer a general prohibition against pollution. Under the new regime, sources deemed to be “medium risk” (e.g., slaughterhouses, asphalt plants, sawmills, petroleum storage, and agricultural operations) will, over time, be regulated by ministerial regulations known as Codes of Practice. Sources deemed to be “low risk” (e.g., commercial printers, machine shops and steel fabricators, coffee roasters, certain manufacturers) are subject only to a prohibition against causing substantial impairment to the usefulness of the environment.

### Concerns regarding application of Environmental Management Act system to GVRD

West Coast Environmental Law believes that the system imposed under the *Environmental Management Act* should not be adopted by the GVRD for several reasons:

- The new approach to low risk emitters would make effective regulation of small emitters in the context of a dense urban area virtually impossible. First, proving “substantial impairment to the usefulness of the environment” is a very difficult legal standard. Second, in many cases, a single emitter will only have contributed to a regional problem, not caused it.
- The so-called “low risk” emitters that are virtually deregulated under the *Environmental Management Act* can have significant impacts on local neighbourhoods. These emitters include commercial printers, machine shops and steel fabricators, coffee roasters, certain manufacturers. These emitters can have significant smell impacts on their neighbourhood, and their operations can be contentious. For instance, the Quebecor plant on Marine Drive was recently subject to controversy, but would be virtually

- deregulated under the *Environmental Management Act*. Small “low risk” emitters may also emit hazardous air pollutants that are a cause for concern in an urban setting.
- Permits are necessary to deal with proposed AQMP strategies related to dealing with local effects.
  - Standards in provincial Codes of Practice for “medium risk” facilities can be far lower than standards incorporated into GVRD permits. For instance, GVRD standards for boilers used to heat greenhouses are 24 times more stringent than standards in the province’s *Agricultural Waste Control Regulation*.
  - The appeal system applicable to permits is an important mechanism for empowering community response to polluters that affect neighbourhoods. Under the new system, it is eliminated for all but the largest emitters.

Given the fact that GVRD and provincial legislation have historically paralleled each other, it is important for the GVRD to clearly communicate its commitment to continuing to regulate low and medium risk emitters by way of permit or relatively stringent regulation.

Recommendations:

**14. GVRD firmly commit to continuing to use permits to regulate point sources that are deemed by the province to be low or medium risk.**

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- <sup>1</sup> Conrad Schnieder, *Diesel and Health in America: the Lingering Threat* Boston: Clean Air Task Force, 2005 available at [http://www.catf.us/publications/reports/Diesel\\_Health\\_in\\_America.pdf](http://www.catf.us/publications/reports/Diesel_Health_in_America.pdf)
- <sup>2</sup> *Canadian Pacific Limited v. Ontario* (1993) 103 D.L.R. (4th) 255 (Ont. C.A.), aff’d [1995] 2 S.C.R. 1028. Similarly, the Supreme Court of Canada has ruled that provincial environmental protection laws apply to federal undertakings (e.g., inter-provincial railways). Key issues in that and other cases dealing with application of provincial laws to federal undertakings are that the provincial laws do not indirectly stop essential activities of the railway, didn’t interfere with the management of the railway or affect an integral part of railway operation. Courts in other provinces have ruled that provincial building permit requirements and fire safety laws apply to federal land: *Brantford (Township) v. Doctor* (1995), 29 M.P.L.R. (2d) 300 (Ont. C.J.); *R v. Fiddler*, [1993] 3 W.W.R. 594.
- <sup>3</sup> GVRD has the power under section 32 of the *Environmental Management Act* to regulate air contaminants for the purposes of ‘air pollution control’ and ‘air quality management’. “Air” is defined by the *Environmental Management Act* as meaning the atmosphere, and “air contaminant” includes a substance that is introduced into the air (atmosphere) and that “damages or is capable of damaging the environment.” While neither the province nor the regional government have in the past used the Act to regulate greenhouse gases, both clearly have the authority to do so as greenhouse gases are emitted into the atmosphere and, in excess quantities, are damaging the environment. Regulation of greenhouse gas would be consistent with the purpose of GVRD’s power (“air pollution control”) as pollution is broadly defined to mean the presence in the environment of substances or contaminants that substantially alter or impair the usefulness of the environment. Clearly, the enhanced greenhouse effect, caused by the presence in the atmosphere of excess greenhouse gases, alters the usefulness of the environment. Thus, regulating greenhouse gases falls within GVRD jurisdiction.
- <sup>4</sup> The Swedish NGO Secretariat on Acid Rain *Air Pollution from Ships* online: Swedish NGO Secretariat on Acid Rain site ,[http://www.acidrain.org/ship\\_brief03.htm#int\\_action](http://www.acidrain.org/ship_brief03.htm#int_action)> (date accessed September 30, 2004).