

Towards More Innovative Air Quality Management: Proposal for a Pulp and Paper Air Quality Forum

Smart Regulations Report from the
Forest Products Association of Canada
and Environment Canada

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Foreword

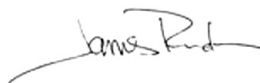
In fall 2003, the Forest Products Association of Canada (FPAC) and Environment Canada undertook a collaborative “smart regulations” project on “Innovative Management of Air Emissions from Pulp and Paper Mills.” FPAC and Environment Canada established and co-chaired a project team comprising environmental experts from the pulp and paper industry, federal and provincial governments and the environmental and Aboriginal communities. Members of the project team were invited to participate as individual experts rather than as formal representatives of particular interests or organizations. As experts, they came to the table with more freedom to be innovative and to help find approaches that would respond to all interests. This was a highly rewarding dialogue, and we have learned a lot from each other. We would like to thank the following individuals for their expert advice.

Bruce Burns, Tembec
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Craig Gammie, Ontario Forest Industry Association
André Grondin, Quebec Ministry of Environment
Jean-François Levasseur, Environment Canada
Athana Mentzelopoulos, Environment Canada
Brian Mooney, Bowater Canadian Forest Products
Anne Noonan, Nika Technologies Inc.
Ken Ogilvie, Pollution Probe
Beatrice Olivastri, Friends of the Earth
Al Strang, Howe Sound Pulp and Paper
Rachel Thibault, Quebec Forest Industry Council
Harry Vogt, B.C. Ministry of Water, Land and Air Protection

We would like to thank our project manager, Victoria Rowbotham of Environment Canada, for developing a vision of what was possible, bringing a strong expert team together and moving us towards a product that we are confident will lead to a more cooperative and effective approach to managing air emissions from pulp and paper mills.

We are grateful for the contribution of John Roberts of Stantec Consulting, whose experience and knowledge of the industry helped guide us through many challenging discussions.

We respectfully submit this report to the President of the Forest Products Association of Canada and the Deputy Minister of Environment Canada for their consideration.



James Riordan
Co-Chair
Environment Canada



Roger Cook
Co-Chair
Forest Products Association of Canada



Executive Summary

The Forest Products Association of Canada (FPAC) and Environment Canada have identified a unique “smart regulations” opportunity to

- create a climate for planned, meaningful improvements in air quality around pulp and paper mills, thereby improving the lives and health of Canadians
- coordinate air quality improvements with the investment and innovation cycles of the industry, thereby enhancing its sustainability
- reduce the possibility of regulatory conflicts among levels of government and the pulp and paper industry, thereby improving environmental performance and regulatory certainty, while reducing government costs

This is an opportunity to enhance the sustainability of one of Canada’s most important industries, while addressing important air quality issues in ways that will benefit the health and welfare of Canadians.

This proposal builds on the industry’s progress in environmental management, the maturing of environmental regulatory systems at all levels of government and the competence and innovative approaches offered by the environmental community. The proposal is intended to complement and build on the cooperative efforts of federal and provincial governments, through fora such as the Canadian Council of Ministers of the Environment (CCME) Canada-wide Standards process, and on initiatives underway within various jurisdictions.

With this report, FPAC, assisted by other industry resources, and Environment Canada are proposing to assemble a high level Pulp and Paper Air Quality Forum comprising decision-makers from industry, federal and provincial governments, Aboriginal peoples, public health organizations and the environmental community. Given the importance of provincial regulatory regimes in managing air emissions from pulp and paper mills, the participation of provincial governments in such a forum will be critical to its success. A top FPAC priority will be to work with provincial industry associations and provincial governments to discuss the forum opportunity and seek their participation. FPAC and Environment Canada will engage key decision-makers from the Aboriginal, environmental and public health communities to seek their participation.

The forum’s mandate will be to develop an evergreen, 10-year cooperative agenda for the management of air emissions from pulp and paper mills. This will be a *recommended* agenda for industry and governments, recognizing that accountability for development and implementation of regulatory programs rests with individual governments.

To develop this proposal, FPAC and Environment Canada launched a research project under the auspices of the federal “smart regulations” initiative. FPAC and Environment Canada brought together a highly qualified group of environmental professionals from industry, federal and provincial governments, and the Aboriginal and environmental communities and provided them with a clean sheet of paper. Members of this project team



did not represent their constituencies; rather, they advised the proponents as experts. This freedom permitted an exciting convergence of ideas and interest culminating in this proposal. The group members support the establishment of the *Pulp and Paper Air Quality Forum*.

Recommendation

FPAC and Environment Canada, with critical advice from a group of environmental experts drawn from provincial industry associations, provinces, Aboriginal peoples and the environmental community, have developed the concept of a *Pulp and Paper Air Quality Forum*. The shared enthusiasm among this group speaks to the unique opportunity to build a single “home” where key interests can collectively design and recommend a proactive, innovative 10-year agenda for the management of pulp and paper air emissions — an agenda which can link environmental and economic factors, streamline federal and provincial requirements and deliver environmental and economic results.

FPAC and Environment Canada recommend the establishment of a national Pulp and Paper Air Quality Forum that would bring together a group of high level decision-makers from industry, federal and provincial governments and the Aboriginal and environmental communities. The pulp and paper industry, through FPAC, will lead this forum with a strong commitment from Environment Canada to support the forum and to work with all parties to make it a success. A top priority for FPAC will be to work with provincial industry associations and provincial governments to discuss the forum opportunity and seek their participation. FPAC and EC will also work to engage Aboriginal peoples and environmental and public health communities in dialogue about this opportunity and the value of the participation of key decision-makers from these communities in the forum.



Introduction

In fall 2003, FPAC and Environment Canada launched an exploratory project to examine options for “smarter regulation” to manage pulp and paper mill air emissions in Canada. This project was motivated by the work of the External Advisory Committee on Smart Regulations (EACSR), a group of distinguished Canadians tasked with providing advice to the federal government on regulation across the full spectrum of policy development. FPAC and Environment Canada sought the expert advice of a group of environmental professionals from industry, federal and provincial governments, the Aboriginal community and the environmental community.

This report is the outcome of this exploratory smart regulations project. The report recommends the creation of a high level Pulp and Paper Air Quality Forum to bring key decision-makers from industry, the federal and provincial governments and the Aboriginal, environmental and health communities. The proposed forum is intended to complement the cooperative efforts of federal and provincial governments, through fora such as the Canadian Council of Ministers of the Environment (CCME) Canada-wide Standards process, and related programs and processes underway within various jurisdictions.

This report is intended to stimulate a broader dialogue with provinces, industry, the federal government, Aboriginal peoples and environmental and health communities on the creation of a Pulp and Paper Air Quality Forum.

“I see a major opportunity for this industry to become a globally competitive environmental and sustainability leader, drawing upon the strength of vibrant forest industry communities, skilled workers and broad societal support.”

*Ken Ogilvie
Pollution Probe*

Economic, Environmental and Social Sustainability

A new, more cooperative approach to air emissions management can contribute to the economic, social and environmental sustainability of the industry and the communities in which it operates.

Canadian Industry in the Global Marketplace

The pulp and paper sector is a major contributor to the Canadian economy, but it is facing major economic and technical challenges from global competitors.

The pulp and paper industry is an important part of the Canadian economy and is vital to the economic and social sustainability of hundreds of communities across the country. There are mills in nine provinces. Total industry sales are currently over \$22 billion, a significant share of which contributes to federal and provincial government revenues. Most pulp and paper manufactured in Canada is exported and, along with the



other products of the forest industry, contributed more than \$34 billion to Canada's balance of trade in 2002.

The pulp and paper industry is a global business. The U.S. is by far Canada's biggest export market, and Canadian mills must work to sell their product in a highly competitive international commodity market. The global marketplace has undergone a major transformation over the past decade, with Scandinavian countries dominating technology development and the emergence of new competitors from Brazil and Indonesia with modern, low-cost mills. Canada's share of world pulp and paper exports has dropped from 40% to 32% since 1990.

These challenges have had a significant effect on the industry. Return on capital employed is a major indicator of the financial health of the industry. Over the past decade, rates of return for market pulp (2.2%), newsprint (5.9%) and other papers (5.4%) have been substantially lower than the 9–12% generally viewed as acceptable to investors and critical for the long term health of the industry. Although industry has invested billions in technology renewal, it is faced with unsatisfactory economic returns and has reduced capital expenditures. Research and development expenditures are substantially lower than in the main competing industries in the U.S. and Scandinavia. The industry is also faced with an aging workforce, an outdated image as a "sunset" industry and a rural situation in an increasingly urbanizing population. This poses a major challenge in attracting the new employees required to renew the industry.

Industry's Environmental Performance

Canada's pulp and paper mills have invested over \$6 billion in environmental performance improvements since 1990, leading to better water quality, more use of recycled paper and reductions in air pollution and greenhouse gas emissions.

Despite tough economic challenges, Canada's forest industry has made many improvements in environmental performance over the past 15 years. Since 1990, Canada's pulp and paper mills have spent over \$6 billion on environmental improvements. Effluent quality, measured as the reduction in biochemical oxygen demand, has been improved by over 90% with the installation of new effluent treatment systems and in-plant controls. Chlorinated dioxin and furans from chemical pulp mills have been reduced to non-measurable levels through changes made to the bleach plants to eliminate the use of chlorine. The industry's use of recycled fibre has increased by 300% since 1990. In addition, air pollution controls and equipment upgrades have reduced particulate emissions and odour emissions by 35% and 50%, respectively. The pulp and paper industry has reduced greenhouse gas emissions by 28% since 1990 — leading other industrial sectors. Much work has gone into achieving these results, but more remains to be done to improve environmental performance while increasing competitiveness and meeting the ever more stringent demands of customers, communities and regulators.



Social Fabric in Mill Communities

Pulp and paper mills offer opportunities in hundreds of communities for employment and business ventures in a high-tech, environmentally responsible industry. As well, they are strongly involved in community life and contribute to social activities.

There are pulp and paper mills in 154 communities across the country. These mills are a critical part of the economic and social fabric of these communities. As the single largest employer in many communities, mills are the source of income and benefits for thousands of families. In 2002, the industry provided direct employment for some 57,500 Canadians at an average annual salary of \$54,000. Indirect employment is estimated at 250,000 jobs. Reports from companies and third parties indicate the health of the workers in the industry is generally better than that of the general population, and mills continue to focus on the importance of a healthy and safe working environment.

There is a long history of mills across the country contributing to community infrastructure and programs. In addition to providing corporate leadership, mills make an important contribution to the social fabric of their communities through individual employees who act as youth group leaders, service club members, minor sports coaches, volunteer firefighters and perform other forms of community service.

Howe Sound Pulp and Paper is situated close to several communities in coastal British Columbia, with a combined population of about 25,000. It employs 600 people. The company donates about \$100,000 annually to local charities and community organizations and sponsors many cultural activities such as the Sunshine Coast Summer School of Celtic Music. In partnership with its unions, it donates scholarships to local schools. Over the past decade, the union has raised more than \$187,000 to support children with cancer and to help cancer survivors to attend summer camp.

Modern mills offer a variety of employment opportunities and must work hard to attract and retain workers. As the industry continues to increase its use of innovative computerized production and control systems, high technology skills are critical to the success of pulp and paper mills. Yet many Canadians view the industry as “low tech” and “dirty.” There is a need to better communicate the industry’s track record with respect to technology investment and environmental improvement in order to entice highly qualified new employees to the industry.

“I would like the pulp and paper industry to be widely recognized as a responsible steward of the country’s resources; a valuable contributor to the health and well being of the communities in which it operates; a desirable industry in which to work; and a profitable industry.”

*Al Strang
Howe Sound Pulp and Paper*



“Healthy forests providing abundant wildlife habitat and an adequate supply of quality fibre to efficient processing in state-of-the-art mills. The results? Even the most discerning global customers are delighted, the expectations of local communities are exceeded, the shareholders are satisfied, and employees have a safe and rewarding working environment.”

*Roger Cook
Forest Products Association
of Canada*

Bowater Canadian Forest Products’ mill in Gatineau, Quebec, constructed in 1926 on the Ottawa River, employs over 600 people. In order to increase public awareness of the pulp and paper industry, the mill holds an annual “open house” day when the public is welcome to tour the mill. Mill employees visit primary and secondary schools in the region to teach students the workings of the different environmental protection systems installed in the mill. The company returns approximately \$50,000 annually to the community, including donations to the Gatineau–Bowater City Library, the Gatineau Arts Centre, the Gatineau Hospital and various health and community charities. The employee charity fund has returned more than \$53,000 to the community since 1998.

Aboriginal peoples make a valuable contribution to mill employment and to many mill communities across the country. They possess a wealth of knowledge about forests and their resources. Their relationship with the pulp and paper industry varies from community to community, and their interests span a range of sustainable development concerns. Aboriginal people have concerns about human health and air quality in their communities. They also recognize the importance of a vibrant and competitive forest products industry, which can provide employment and business opportunities for Aboriginal peoples. Rising education levels for Aboriginal people together with the increasing number of Aboriginal business entrepreneurs provide an opportunity for Aboriginal peoples to develop stronger, mutually beneficial relationships with pulp and paper mills and the forest industry generally in Canada. FPAC is currently working with its Aboriginal Affairs Committee to better understand the employment and community engagement opportunities for Aboriginal peoples in relation to pulp and paper mills.

Increasingly there are joint venture arrangements with Aboriginal communities on forestry operations and mill ventures. FPAC has recently partnered with the National Aboriginal Forestry Association and the First Nations Forestry Program to better understand the types of joint ventures currently in place and the challenges involved in establishing new ones. This survey will be completed in 2004.

NorSask Forest Products (40% owned by the Meadow Lake Tribal Council) and Millar Western Pulp formed a joint venture in Saskatchewan called Mistik Management Ltd. Mistik is responsible for the management of all forest operations related to 3.3 million hectares of crown land in the Meadow Lake district. Mistik was established with a philosophy of co-management involving First Nation, Métis and non-native communities.



Protecting Human Health and Air Quality

Air emissions from pulp and paper mills contribute to air pollution. Air pollution has important effects on human health.

Federal and provincial governments, industry, Aboriginal peoples and the environmental community have all identified “health” as a shared priority in managing air emissions from pulp and paper mills. Federal, provincial and territorial governments (with the exception of Quebec) have agreed on national ambient air quality standards through the “Canada-wide Standards (CWS) for Particulate Matter (PM) and Ozone.” This agreement was driven by health concerns regarding the impacts of smog, ozone and fine particulate matter. Quebec’s provincial air quality objectives for PM and ozone are equivalent to the CWS, and Quebec has made a commitment to meet these objectives.

The dominant health risk associated with smog is respiratory illness, ranging in severity from impaired breathing to mortality. There is considerable scientific evidence of the health risks associated with fine particulate matter (PM_{2.5}). In addition to respiratory illness, PM_{2.5} has been linked to cardiovascular anomalies and changes in immune system responses. There is no lower PM_{2.5} threshold for these health effects. Studies of the direct effects of SO₂ and NO₂ — both PM_{2.5} precursors — indicate lung function problems and respiratory symptoms, similar to those related to PM_{2.5}.

Levels and sources of fine PM and ozone vary from region to region. Jurisdictions are currently working to develop appropriate action plans for their regions to meet nationally agreed air quality objectives. There is a broad range of emissions sources including transportation, electricity generation and a large number of industrial sectors such as pulp and paper. Nationally, the pulp and paper industry ranks in the top five industrial sectors for emissions of criteria air contaminants including PM, SO_x, NO_x, VOC and CO. The contribution of mill emissions to air quality varies from region to region.

In addition to health concerns related to these common air contaminants, a number of other air pollutants emitted by pulp and paper mills raise health concerns. According to the National Pollutant Release Inventory (NPRI) the pulp and paper sector contributes significantly to total emissions to air of acetaldehyde, chlorine dioxide (ClO₂) and hydrogen sulphide (H₂S). Based on a federal risk assessment done under CEPA 1999, acetaldehyde was determined to be toxic due to its characterization as a carcinogen and as a respiratory irritant. Scientific literature on other pollutants such as ClO₂ and H₂S indicates health effects, and these are being or will be taken into account in current and future risk assessments for these substances.

“Clean air is critical to the health of all Canadians including mill workers, mill neighbours and citizens, young and old, whose lives are enhanced by pulp-related products like books, newspapers and magazines. With leadership and commitment by industry and governments, a Pulp and Paper Air Quality Forum could deliver cleaner air sooner and more cost effectively than is currently the case.”

*Beatrice Olivastrì
Friends of the Earth*



The Current Air Emissions Management Regime

Mechanisms in place today within and among federal and provincial governments and industry provide a strong foundation for the improved management of air emissions. However, there is no national sector-based mechanism to coordinate air emissions management for the pulp and paper sector.

Federal-Provincial-Territorial Cooperation

The Canada-wide Standards approach to intergovernmental cooperation provides a foundation for the management of air quality.

Management of air pollution in Canada is a responsibility shared by federal, provincial and territorial governments. Under the auspices of the Canadian Council of Ministers of the Environment (CCME), governments (except Quebec) have agreed to meet national air quality objectives set out in the CWS for PM and ozone.

CWS Ambient Standards

fine particulate matter (PM_{2.5}):

- 30 µg/m³, 24-hour averaging time, achievement to be based on the 98th percentile annual ambient measurement, averaged over three consecutive years, by 2010

ground-level ozone:

- 65 ppb, 8-hour averaging time, achievement to be based on the fourth-highest annual ambient measurement, averaged over three consecutive years, by 2010

The CWS agreement also includes a requirement that jurisdictions develop strategies for continuous improvement and “keeping clean areas clean.” This is intended to ensure that in the vast areas of Canada with air quality better than the CWS numerical targets for PM and ozone, air quality is not significantly degraded and is maintained or improved to the extent practicable, to minimize risk to human health and the environment for the benefit of future generations.



Jurisdictions are committed to developing implementation plans. A number of actions, primarily focused on reducing emissions from the transportation sector, are in place federally and in a number of provinces.

The CWS agreement also identified a number of industrial sectors for “joint initial action” to develop multi-pollutant emissions reduction strategies. These sectors include electric power generation, steel, smelters, concrete and asphalt, allied wood products and pulp and paper. Governments and stakeholders worked together to develop information and analysis on emission reduction options and costs in these sectors, as resource material to support development of jurisdictional plans. CCME’s *Multi-pollutant Emissions Reduction Analysis Foundation (MERAFA)* report for the pulp and paper sector was completed in fall 2002. Jurisdictions are currently developing plans of action to achieve the standard for PM and ozone. A national sector-based mechanism for pulp and paper would bring together and coordinate the efforts of the industry and various jurisdictions on an ongoing basis, thus contributing to the achievement of the CWS.

Quebec has agreed in principle to meet the standard for PM and ozone. Industrial releases that need to be addressed will be handled through current mechanisms, i.e. upgrading of regulations or within the industrial permit program, *Reduction of industrial releases: attestation d’assainissement*.

“I wish to see the pulp and paper industry continue to show leadership to effectively reduce harmful emissions by employing all means available to them. This Forest Products Association of Canada initiative to be inclusive by bringing a wide range of stakeholders together to discuss the problem demonstrates their commitment. The Pulp and Paper Forum will embody their resolve.”

Anne Noonan
Nika Technologies Inc.

Provincial Regimes for Pulp and Paper Mills

Provinces follow different approaches to establishing and enforcing air emission objectives, and they use various instruments, ranging from mill-specific permits to broader regulations.

There are pulp and paper mills in every Canadian jurisdiction except Prince Edward Island and the territories. Most provincial governments have well-established regimes to manage air emissions from pulp and paper mills. Key drivers for provincial regulators include public health, public complaints and environmental protection. With respect to public complaints, provincial regulators respond to a range of concerns such as odour, dust, Sulphur Dioxide (SO₂), noise, hazardous air pollutants, volatile organic compounds (VOCs) and visibility. More generally, with respect to environmental protection, jurisdictions favour a broad-based approach that requires the use of *best available technology economically achievable* (BATEA) for major modifications and new installations.

Provinces generally use three types of management tools to limit mill emissions. *Regulations* define minimum requirements province-wide for existing, new and modified sources. *Permits, licenses and construction approvals* are facility-based instruments that establish mill-specific limits for discharges of pollutants. *Compliance monitoring and enforcement* programs are used to collect source discharge data and to ensure compliance.

Permitting regimes are a central part of emissions management in most provinces. The nature of the mechanisms used varies from province to province. Process regulations specific to the pulp and paper sector along with general air regulations are used in Quebec. Operating permits are used in most jurisdictions. Construction approvals for



specific equipment are used in Ontario, Quebec and Newfoundland. The duration of permits varies considerably across the country — ranging from 1 to 10 years with no specified renewal period in some jurisdictions.

Mill-specific features of provincial permits include a description of the equipment and control systems, a limit on emissions concentration or mass emissions rate (or proof that point of impingement limits are met) and monitoring requirements (i.e. stack sampling, continuous emission monitors and quality control measures). Provincial permits generally include emission limits for the following pollutants: Particulate Matter (PM), Hydrogen Sulphide (H₂S), Total Reduced Sulphur (TRS), Nitrogen Oxide (NO_x), Sulphur Dioxide (SO₂) and Carbon monoxide (CO). These limits have generally shown a downward trend over the last decade. This corresponds with a declining emissions trend at most mills for total particulate matter and total reduced sulphur compounds, even with increased production from many mills.

In addition to provincial regulatory regimes for the management of emissions from pulp and paper mills, non-regulatory approaches have been emerging in many jurisdictions to inform and engage other stakeholders. These include community-based consultation processes and consultative regional airshed management strategies.

Canadian Environmental Protection Act, 1999

This Act of Parliament mandates the federal government to ensure that the issue of toxic air pollutants is addressed nationally.

The federal government, through Environment Canada and Health Canada, has a mandate to protect the health of Canadians and the environment. The *Canadian Environmental Protection Act, 1999* (CEPA 1999) is the key piece of legislation that mandates and enables this protection with respect to air quality. CEPA 1999 obligations and authorities include information collection, transboundary and international issues, vehicles and fuels regulation and the management of toxic substances.

The Toxic Substances Management Policy (TSMP) provides guidance for the management of toxic substances and other substances of concern across all federal agencies. The Risk Management Strategy is central to the TSMP and to federal obligations under CEPA 1999 to manage toxic substances. It details how Environment Canada and Health Canada plan to manage a given toxic substance. Key components include the following: problem definition, domestic and international actions underway to manage the substance, identification of sectors posing the greatest risk, risk management objectives, risk management tools and instruments, implementation plan and consultation approach.

When a substance is determined to be toxic under CEPA 1999, this triggers a requirement by the Minister of the Environment to publish within 24 months a proposed instrument that establishes *preventive or control actions* to reduce or eliminate risks to the environment and human health. The Minister must also publish the chosen instrument within a further 18 months. Each instrument is assessed on a case-by-case basis to determine whether or not it meets the legal test of establishing *preventive or control actions*. There is a broad range of instruments available under CEPA 1999.



Instruments authorized under CEPA 1999 include

- regulations
- pollution prevention plans
- administrative agreements
- environmental emergency plans
- codes of practice
- environmental quality objectives and release guidelines

Additional measures include

- provincial/territorial acts (e.g. regulations, permits)
- voluntary approaches (e.g. environmental performance agreements)
- other economic instruments (e.g. fiscal incentives)
- joint federal/provincial/territorial initiatives (e.g. CCME guidelines, CWS)
- other federal acts (e.g. Fisheries Act, Hazardous Products Act)

A number of substances emitted by pulp and paper mills are on the CEPA 1999 toxic substances list including respirable particulate matter less than or equal to 10 microns ($PM \leq 10$), ozone (O_3), Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Volatile Organic Compounds (VOC) that participate in atmospheric photochemical reactions and acetaldehyde. A number of substances common in the pulp and paper industry are on the Domestic Substances List (i.e. chemicals in commerce in Canada) and are slated for CEPA 1999 risk assessments including Chlorine Dioxide (ClO_2) and Hydrogen Sulphide (H_2S).

Environment Canada is committed to considering the full range of management measures and to recognizing jurisdictional roles and actions when developing risk management strategies for substances that are determined to be toxic under CEPA 1999.



The Pulp and Paper Air Quality Forum Opportunity

By agreeing to share air quality outlooks, business directions, current and future requirements and other critical information, industry, provinces and the federal government can coordinate air quality improvement, research and investment cycles and reduce regulatory conflict and costs while enhancing industry sustainability.

The pulp and paper industry is in the process of a major economic transformation to remain competitive in the global marketplace. At the same time, there is growing pressure on the industry to reduce the emissions of a number of air pollutants to meet local concerns and provincial and federal requirements. The priorities for air emissions management at the local, provincial and federal level are often quite different. To compound this challenge, the list of toxic pollutants that must be managed by the industry is expected to grow over time.

In addition, the federal government places a high priority on the issue of climate change and wants to encourage improvements in energy efficiency and other actions by industry to address both air pollution and climate change concerns.

The current air emissions management regime in Canada provides a foundation for actions by governments and industry to improve environmental performance. There is an opportunity to build on this foundation with a national sector-focused cooperative management approach that would look ahead and explore innovative ways to manage emissions in a more streamlined, efficient and effective way. A cooperative management approach could avoid colliding agendas, confusion, mistimed investments by industry, misspent resources by governments and less effective environmental management than desired. By strengthening cooperation and getting the governance mechanism right, there can be significant environmental and economic performance improvements.

The forum concept offers industry a chance to get more clarity and predictability with respect to air emissions requirements, more guidance on setting priorities for environmental investments, increased flexibility to integrate investments into business and capital planning cycles and more streamlined, coordinated federal and provincial requirements. It offers federal and provincial governments the opportunity to meet current and future Canada-wide Standards commitments and other obligations (e.g. CEPA 1999 obligations, local/regional air quality commitments) in the most effective and efficient way, thereby reducing costs. As well, it offers governments an opportunity to plan ahead in the context of an overall commitment to maintaining a strong, competitive and clean



forest products sector. And it offers the environmental and Aboriginal communities an improved opportunity to influence the direction of industry and governments.

Forum members would have an opportunity to develop a cooperative agenda that is more than an amalgamation of their separate agendas. This will require exploration of new approaches. The group of environmental experts advising FPAC and Environment Canada explored a number of innovative approaches including linked federal pollution prevention plans and provincial permits, equivalency agreements, fiscal incentives, multi-facility emissions caps with trading, and research partnerships. A description of these approaches is included in Annex 1.

Recommendation to Establish a Pulp and Paper Air Quality Forum

FPAC and Environment Canada recommend the establishment of a national Pulp and Paper Air Quality Forum that would bring together a group of high level decision-makers from industry, the federal and provincial governments and the Aboriginal and environmental communities.

"I see a major opportunity for governments, industry and non-government organizations to work together to build a truly sustainable pulp and paper sector – one which connects major advances in environmental performance with the technical and economic modernization of the industry."

*James Riordan
Environment Canada*

The pulp and paper industry, through FPAC, will lead this forum with a strong commitment from Environment Canada to support the forum and to work with all parties to make it a success. A top priority for FPAC will be to work with provincial industry associations and provincial governments to discuss the forum opportunity and seek their participation. FPAC and EC will also work to engage Aboriginal peoples and environmental and public health communities in dialogue about this opportunity and the value of the participation of key decision-makers from these communities in the forum.

Guiding Principles

The Pulp and Paper Air Quality Forum should be guided by the following principles. These principles were developed by the expert team to guide both the nature of the dialogue among forum members and the products that emerge from their interaction. Mutual respect for the mandates, interests and ideas of all members will be critical to the success of the forum.

Cooperation and mutual respect	Equity
Effectiveness	Transparency
Predictability and clarity	Accountability
Flexibility	Innovation

A more detailed list of these principles is included in Annex 2.



Forum Mandate and Membership

The forum's mandate will be to develop a 10-year cooperative agenda for the management of air emissions from pulp and paper mills. This will be a recommended agenda for industry and governments, recognizing that accountability for development and implementation of regulatory programs rests with individual governments.

Forum members will consider the air quality and emissions issues confronting the industry in the long term, the policy objectives and requirements of federal and provincial governments, the economic and technical plans for the industry and the concerns of communities as expressed by environmental, health and Aboriginal groups. The forum would be supported by a Technical Advisory Group which would respond to questions from the forum, identify shared interests and opportunities for the forum and support it in the development of a 10-year cooperative agenda.

Forum members would commit to work together to look forward and find progressive solutions. They would have an opportunity to bring their "outlooks" to the table, to explore flexibilities in meeting commitments and to develop an innovative and cooperative 10-year agenda. Environment Canada would bring to the table its current and proposed risk management agenda for air emissions and its "outlook" for future pressures based on scientific studies and risk assessments. Provincial governments would bring their forecasts of air quality pressures, regional airshed considerations and proposed management plans to the table. Industry would bring its modernization agenda to the table, identify what the environmental implications of that agenda would be and provide information on environmental and economic pressures from local communities. Members from non-governmental organizations and the Aboriginal community would be actively engaged as forum partners in developing smarter ways to manage air emissions. With all of this information on the table and with dialogue and exploration, the forum would be in a unique position to develop a more effective, innovative cooperative 10-year agenda.

Forum members would not commit to the implementation of actions by their organizations. Instead, they would make a commitment to carry recommendations to formal decision-makers in their organizations and to carry forward and support forum recommendations in public venues. Members would also make a commitment to report to the forum on success with implementing actions under the 10-year agenda.

The forum would be chaired by a senior (i.e. at the Chief Executive Officer level) "champion" from the industry and would comprise about 16 members along the following lines. The Chair of the proposed Technical Advisory Group and the head of a small industry-run secretariat would support the forum.

"I am excited about this groundbreaking opportunity to establish a collaborative process that improves the regulatory management of emissions while addressing questions of environmental and health impacts. I see a process that encourages sustainable development and the strengthening of the economy with the ultimate outcome being a 'minimal environmental impact' pulp and paper industry that is competitive, healthy and a source of pride for our communities."

*Rachel Thibault
Quebec Forest Industry
Council*



Proposed Membership of Pulp and Paper Air Quality Forum

Industry:

- six members including CEO-level chair
- forum chair would be chair of FPAC's Sustainability Steering Committee
- blend of companies and national and provincial associations with geographic mix

Environment Canada:

- two members at Assistant Deputy Minister and Director General levels

Provinces:

- five or more members to represent provinces with pulp and paper mills

Non-Governmental Organizations:

- three members at executive director level with geographic diversity
- blend of expertise in conservation, pollution and health

Aboriginal Peoples:

- one member with interest and expertise in health issues

Technical Advisory Group Mandate and Membership

Under the direction of the Pulp and Paper Air Quality Forum, the Technical Advisory Group (TAG) would develop reliable information on a variety of air management topics assigned by the forum, using the expertise available in the TAG and hiring external expertise in accordance with its budget.

The TAG would play an important role in supporting the Air Quality Forum. The expertise of those more actively involved in day-to-day air emissions management is important to ensure that the forum delivers practical, innovative ways to manage emissions. The TAG should include expertise from industry on industrial processes, technologies, investment cycles and business conditions. A member from an industry research organization (e.g. Paprican, the National Council for Air and Stream Improvement [Canada] [NCASI-Canada]) would provide valuable expertise on sustainable development technology opportunities. Federal and provincial government members would provide expertise on regulatory and governance structures and requirements of relevance to pulp and paper mills. Within the federal government, economic and technical expertise from Natural Resources Canada and expertise from Health Canada would be valuable on the TAG. Members from the Aboriginal, environmental and public health communities would provide their knowledge and perspectives.



The TAG would be chaired by industry (possibly by the chair of the FPAC Air Quality Committee) and proposed membership would be as follows:

- total of 15+ members
- 4–5 members from industry (including a research organization)
- 2–3 members from the federal government (Environment Canada, Natural Resources Canada)
- 5+ members from provincial governments
- 2–3 members from environmental and public health communities
- 1 member from the Aboriginal community

Establishing the Forum – Next Steps

FPAC and Environment Canada will, over the next few months, engage provinces, other federal departments, environmental groups, public health groups, Aboriginal peoples and research organizations to obtain strong commitment to establish and ensure the success of the Pulp and Paper Air Quality Forum.

FPAC and Environment Canada, with critical advice from a group of environmental experts drawn from provincial industry associations, provinces, Aboriginal peoples and the environmental community, have developed the concept of a Pulp and Paper Air Quality Forum. The shared enthusiasm among this group speaks to the unique opportunity to build a single “home” where key interests can collectively design and recommend a proactive, innovative 10-year agenda for the management of pulp and paper air emissions – an agenda that can link economic and environmental factors, streamline federal and provincial requirements and deliver economic and environmental results.

Over the next few months, FPAC will engage provincial industry associations and provincial governments to seek their participation on the forum. Environment Canada will engage federal colleagues from Natural Resources Canada, Industry Canada and Health Canada to discuss their possible participation in forum activities. FPAC and Environment Canada will work together to obtain the support and participation of key decision-makers from the Aboriginal, environmental and public health communities.



Annex 1

Innovative Approaches to Cooperative Air Emissions Management

The expert project team co-chaired by the Forest Products Association of Canada (FPAC) and Environment Canada explored a number of innovative approaches to emissions management that could emerge from a cooperative mechanism such as the Pulp and Paper Air Quality Forum. These are provided as information for future forum members and others interested in opportunities for management of air emissions from pulp and paper mills.

Federal CEPA 1999 Pollution Prevention Plans

Pollution prevention plans (P2 plans) are one of a number of CEPA 1999 instruments that could be designed to link to provincial permitting regimes. This may be a useful way to develop a “single window” for federal and provincial requirements.

Pollution prevention planning is a new “results-based” legislative instrument. Under CEPA 1999, the federal Minister of the Environment has the authority to establish environmental objectives and to require facilities to prepare and implement pollution prevention plans to meet those objectives. The notice requiring P2 plans identifies who is required to prepare plans and specifies the substance(s), the objective(s) and the timeframes for preparing and implementing the plans.

Under “factors to consider,” a P2 planning notice for pulp and paper mills would likely include emissions reduction objectives or emission limits. A P2 plan can be prepared for a group of substances. In response to a federal P2 planning notice, facilities must submit a declaration to the Minister within 30 days of the period specified in the notice that the P2 plan has been prepared and is being implemented. The form of this declaration is specified by the Minister and would include the following types of information: basic facility data, emissions baseline, emissions reduction objectives and expected results, indication of measures being taken, and plans for monitoring, measuring and reporting. Thirty days after the implementation date specified in the notice, the facility must submit a second declaration outlining the results attained and how they match commitments made. The facility is not required to submit its P2 plan to the federal government unless requested by the Minister. Under the legislation, facilities can be granted time extensions for the preparation or implementation phases of pollution prevention planning.

Linked Pollution Prevention Planning and Provincial Permits

It may be possible to link a federal pollution prevention plan process to a provincial permitting system in a way that provides pulp and paper mills with an integrated set of



air emissions requirements, requires a single mill plan to achieve these and streamlines reporting to federal and provincial governments. This approach is enabled by flexibilities within the CEPA 1999 Pollution Prevention planning process and within provincial permitting systems. An important element of flexibility under CEPA 1999 is equivalency of other pollution prevention plans: for example, a facility's plan to meet provincial requirements can also meet CEPA 1999 requirements provided the plan meets federal timelines and considers federal factors. Under a linked arrangement, a province could incorporate federal P2 planning requirements into its permits for pulp and paper mills. A mill would then be able to produce one plan to meet federal and provincial requirements. Parties would still have to find a way to meet federal obligations to “inform” the federal government about the development and implementation of plans.

There are a number of potential benefits to this kind of approach:

- Industry is able to meet multi-pollutant federal and provincial environmental performance requirements with a single facility-based plan.
- The federal government meets CEPA 1999 requirements with more effective P2 plans strengthened through tie-in to provincial regulatory systems.
- Provinces get more comprehensive, multi-pollutant control through the provincial regulatory system.
- The environment gets action tailored to higher risk sites. For example, federal P2 plan notices are likely to indicate general emissions objectives for all mills. The link with provincial permitting can lead to refinement of facility objectives based on environmental needs, provincial requirements and local conditions. The link to provincial permitting also strengthens enforcement.

Emissions Trading

There is growing interest in emissions trading regimes as an effective and efficient way to manage air pollution. Ontario is developing a multi-sector cap and trade regime for NO_x and SO_x, starting with an emissions trading system for the electricity sector. There is also interest in possible Canada–U.S. transboundary trading regimes where this could help to manage emissions in regional airsheds that straddle the border. The development of a national emissions trading system in Canada for greenhouse gas emissions is also under consideration.

It will be important that evolving approaches to managing air emissions from pulp and paper mills be able to dovetail with, or take advantage of, multi-sector regional emission trading regimes, where such regimes can offer effective and efficient solutions. It will also be important to watch closely the development of emissions trading and other approaches to reducing greenhouse gases from pulp and paper mills. Development of industrial programs to reduce greenhouse gas emissions should be informed by federal, provincial and industry approaches to managing air contaminants and toxics and vice versa.

In some parts of Canada, a small number of pulp and paper mills operate in close proximity. And in many small communities, there are a small number of major emissions



sources, including mills. There may be opportunities in cases such as this to explore the use of a multi-facility emissions caps with trading. Under this approach, an emissions cap would be set for a number of facilities in the same airshed, and permits would be allocated to each major source. Allowing these facilities to buy and sell permits among themselves can ensure that the total limit for the airshed is met in the most cost-effective way. Prince George, British Columbia is an example of an airshed where this type of approach may be worth exploring.

Fiscal Incentives

Where there are investment opportunities that would allow mills to simultaneously improve environmental and economic performance, fiscal incentives could play an important role in encouraging such investments. Two forms of fiscal incentive can be particularly useful in establishing innovative air emissions control technology: incentives that aid in the financing of original research and incentives that reduce the tax burden of building new, clean, state-of-the-art facilities.

Currently there is a great deal of work worldwide on the gasification of kraft black liquor to improve the overall energy efficiency of mills and their ability to export electricity. The industry has enjoyed the benefit of financial support from Natural Resources Canada on many projects in the past, and strengthened support of black liquor gasification and other projects will be crucial to gains in air quality and energy efficiency. Governments and industry outside Canada are leading much of the research, but there is an important opportunity to develop Canadian expertise in specific areas such as construction materials. Accelerated capital cost allowances (ACCA) can increase the likelihood that new and innovative technologies are introduced to Canadian mills. ACCA is currently allowed for some biomass energy projects but not for black liquor. Review of this rule could improve the chance of seeing this innovative approach applied in Canada.

Equivalency Agreements

There is a section under CEPA 1999 entitled *Agreements Respecting Equivalent Provisions*. This section can be used in the context of regulations under the Act, but not with respect to other more flexible instruments such as pollution prevention plans and codes of practice.

In order for the Minister of the Environment to make a “declaration of equivalent provisions” related to provincial regulation, the Minister and the provincial government must agree in writing that there is in force under laws applicable in the province, provisions that

- are equivalent to the federal regulation; and
- similar to the federal regulation for investigation of alleged offences under environmental legislation of that jurisdiction



Under CEPA 1999, the Minister must offer a comment period following notice of such an agreement, publish in the *Canada Gazette* a report that summarizes how comments or objections were dealt with, and then publish the final agreement in the *Canada Gazette*. The Minister must also include a description of the agreement and how it is working in an annual report to Parliament.

Innovative Research Partnerships: The Dioxins and Furans Example

When the concern about dioxins and furans from coastal pulp and paper boilers was first identified, the industry did not have a clear understanding of how dioxins and furans are formed in mill boilers. The industry embarked on a two-year research program and set up an innovative partnership with federal and provincial governments and the research community to better understand the issue. The research was jointly funded by industry and Natural Resources Canada and guided by representatives from industry; Environment Canada; the B.C. Ministry of Water, Land and Air Protection; the Pulp and Paper Research Institute of Canada; and the University of British Columbia.

The research project revealed that there are two mechanisms in the mill boilers which form dioxins and furans — one related to poor combustion caused by wet fuel and the other to the temperature profile in the back end of the boilers. Many suspected the salt concentrations to be a major factor. Interestingly, increasing salt concentrations in the fuel did not have a large impact on the level of dioxins and furans. However, other changes in the process did have a significant impact. This discovery changed peoples' thinking about solutions. Through applying the findings of the research, coastal pulp and paper mills have made major reductions — a 68% cut — in dioxin and furan emissions from their boilers.

The Pulp and Paper Air Quality Forum offers an opportunity for governments and industry to identify new and emerging issues and establish partnerships to prevent pollution and find the best solutions.



Annex 2

Guiding Principles for Pulp and Paper Air Quality Forum

Cooperation and Mutual Respect

Industry, federal and provincial governments, First Nations organizations and stakeholders recognize and respect each other's interests and obligations and will work together in good faith to develop a recommended 10-year cooperative agenda.

Federal and provincial governments will work together to determine who is "best situated" to deliver elements of a cooperative agenda.

Effectiveness

The forum, through its recommended cooperative agenda, must deliver air quality results in line with the air emissions objectives and obligations of participants. (Science-based ambient air quality objectives will be determined through other processes outside the forum.)

Predictability and Clarity

The forum's 10-year cooperative agenda must provide clarity and predictability for all participants with respect to air emissions priorities and the timing of commitments and investments.

Flexibility

Industry and governments come to the forum not only with obligations and priorities but also with flexibility on how and when issues can be addressed (e.g. timing, choice of instrument). The exploration of flexibilities is a critical feature in developing a cooperative agenda.

Equity

The forum's cooperative agenda should provide general fairness across mills in terms of air emissions requirements — i.e. all mills should address the same kinds of environmental demands, but the details, action priorities and timing can be tailored to individual mills and local needs.

Transparency

The forum and its outputs should be open and transparent to the public, with regular public reporting on activities and progress.

Accountability

The forum will develop a recommended cooperative agenda, which will clearly articulate proposed actions for federal and provincial governments and industry.

Accountability for development, implementation and enforcement of regulatory programs rests with individual governments.

Innovation

The forum should consider and encourage innovative approaches to the management of air emissions including pollution prevention, technological opportunities and new policy approaches that integrate and streamline federal and provincial instruments.

