

# **Pollution Prevention/Continuous Improvement Progress Report**

Prepared for the  
Clean Air Strategic Alliance  
Board of Directors



June 2004

## Introduction

The CASA board acknowledged in its strategic planning framework that a pollution prevention/continuous improvement (P2/CI) approach has potential to produce desirable environmental outcomes beyond what can be achieved through regulation.

The overriding goal of preventing pollution is to eliminate the causes rather than having to correct the problems that pollution creates. Pollution prevention means avoiding or minimizing the use of toxic chemicals, improving efficiency, and reducing waste and emissions by changing processes, practices and materials. Instead of cleaning up or collecting emissions and wastes after they've been produced, we simply don't generate them in the first place.

The notion of continuous improvement recognizes that ongoing advancement and adjustments in pollution control will further protect the environment and take advantage of innovative and creative solutions. By twinning pollution prevention and continuous improvement, we can take a more integrated approach and apply a broader range of environmental protection tools.

The CASA board confirmed its support for a pollution prevention/continuous improvement approach when it approved the recommendations of the Pollution Prevention/Continuous Improvement Project Team in June 2002. The recommendations included an overarching recommendation (#1) exhorting CASA stakeholders to adopt and implement the pollution prevention/continuous improvement framework followed by recommended actions directed to identified stakeholders (#s2-19). As further evidence of their interest and support for a pollution prevention/continuous improvement approach, the board added recommendation #20 to the team's report requiring that the CASA board review and report on progress on implementation of the recommendations by June 2004.

As a first step in preparing this report, in November 2002, the CASA secretariat contacted stakeholders identified in each recommendation and informed them of the CASA board's request for a progress report on implementation of the recommendations. The same stakeholders were contacted again in March 2004 and asked to provide a short report describing their progress in implementing the recommendations directed to them. They were encouraged to cite relevant websites and to identify contacts to enable board members and other readers to obtain more information. Despite staff turnover in some organizations, each group made a valiant effort to identify the steps taken to implement a pollution prevention/continuous improvement approach as recommended by the Pollution Prevention/Continuous Improvement Project Team. Their good spirited cooperation was appreciated.

While the Pollution Prevention/Continuous Improvement Project Team was officially disbanded in June 2002, the former co-chairs, Myles Kitagawa from the Toxics Watch Society and George Murphy from Alberta Environment, supplied the CASA secretariat with contacts for each stakeholder group referenced in the project team's report and provided advice and direction on the preparation of this progress report. The observations and conclusions below are theirs.

## **Observations & Conclusions**

- The preparation of this progress report provides a valuable snapshot in time of stakeholders' efforts to pursue pollution prevention/continuous improvement.
- The breadth and extent of pollution prevention/continuous activities listed in this report represents an encouraging record of action.
- Many pollution prevention/continuous improvement actions are ongoing and it is difficult to determine a point in time when they are "complete".
- Some actions included in this report were initiated before the Project Team made its recommendations. A commonly expressed barrier to implementing pollution prevention was the belief that pollution prevention is an exotic and expensive way to improve environmental performance. The fact that these actions are now included in a pollution prevention/continuous improvement framework suggests an increased comfort level with the concept of pollution prevention/continuous improvement.
- While good progress has been made, much remains to be done. A second report from stakeholders would provide valuable information to the CASA board of directors.

## **Recommendation to the CASA Board**

1. It is recommended that a follow-up report be prepared in 2006 reporting on further progress in implementing the recommendations in the 2002 report of the Pollution Prevention/Continuous Improvement Project Team.

## **2002 Recommendations from the P2/CI Framework**

The Pollution Prevention/Continuous Improvement Project Team recommends that:

### **Pollution Prevention/Continuous Improvement Planning**

1. CASA stakeholders adopt and implement this pollution prevention/continuous improvement framework.
2. Airshed management zones consider developing pollution prevention/continuous improvement plans.
3. Alberta Environment adopt and implement a framework based on the draft *Approach to Pollution Prevention Initiatives* framework, developed with input from the P2/CI team.

### **Industrial Ecology**

4. The Alberta government promote and advance industrial ecology as the new mode of industrial development in the province by supporting and/or participating in a world summit on industrial ecology in Alberta.
5. CASA members support and participate in a world summit related to industrial ecology in Alberta.

### **Education and Outreach**

6. Alberta Environment incorporate pollution prevention/continuous improvement messages into materials it updates and into new environmental education documents.
7. Alberta Environment encourage and assist others to incorporate pollution prevention/continuous improvement messages into their materials.
8. Alberta Environment initiate a pollution prevention/continuous improvement outreach program to industry, with particular emphasis on small and medium-sized enterprises.
9. Utilities take advantage of opportunities for public education and outreach by including a pollution prevention/continuous improvement message with their bills.
10. The CASA secretariat and Alberta Environment seek opportunities to disseminate pollution prevention/continuous improvement messages through their print and electronic communications vehicles. They should start by posting the Pollution Prevention Education and Outreach Inventory prepared for the P2/CI Project Team on their websites and establishing links to pollution prevention award websites.

### **Hospitals**

11. Alberta hospitals consider developing and implementing pollution prevention and continuous improvement programs as part of their environmental management systems.

### **Renewable Energy**

12. CASA's Electricity Project Team address renewable energy as part of its task to identify, assess and develop emissions management options and mixtures of options.

### **Electric Power Generation**

13. CASA's Electricity Project Team consider P2/CI in the development of its management approach for that sector.

### **Co-generation**

14. CASA's Electricity Project Team consider opportunities for co-generation as part of its overall approach to managing emissions from the electricity sector.

### **Transportation**

15. The CASA Vehicle Emissions Team include P2/CI in its future activities.

### **Residential Wood Combustion**

16. Alberta Environment and Environment Canada work with Natural Resources Canada to promote Natural Resources Canada's residential wood combustion initiatives.

### **Oil Sands and Heavy Oil**

17. The Cumulative Effects Management Association (CEMA) incorporate P2/CI actions and strategies into their emissions management framework.

### **Upstream Oil and Gas**

18. The Canadian Association of Petroleum Producers (CAPP) and the Small Explorers and Producers Association of Canada (SEPAC) develop and promote P2/CI programs.

### **Downstream Oil and Gas and Petrochemicals**

19. The Canadian Petroleum Products Institute (CPPI) and the Canadian Chemical Producers Association (CCPA) develop and promote P2/CI programs that will reduce emissions.

### **Implementation**

20. The CASA board review and report on progress on implementation of these recommendations by June 2004.

**2. Airshed management zones consider developing pollution prevention/continuous improvement plans.**

**Fort Air Partnership**

The Fort Air Partnership (FAP) feels its mandate is to provide relevant, credible, information, which can be used to manage air quality, and influence policy. (See: [www.fortair.org](http://www.fortair.org)) Our industry partners, who include Dow Chemical, Sherritt International, Agrium, and Shell are all actively involved with emission reductions, either through their own initiatives, or through their industry associations. While FAP cannot actually implement a pollution prevention or reduction plan, we are actively involved in promoting pollution prevention. For example, FAP was represented at this years National Framework for Petroleum Refinery Emissions Reductions conference, organized by the Canadian Council of Ministers for the Environment (Feb. 2004 in Ottawa). We also attended the Fort Saskatchewan Trade Fair in 2003 and 2004, at which we provided information to the public about air pollution and how people can reduce air pollution. We are in the process of organizing and sponsoring, in conjunction with Environment Canada, vehicle emission clinics in June 2004, in order to increase awareness of automobile emissions, and how they affect our air quality.

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Ongoing

**Wood Buffalo Environmental Association**

After being contacted by CASA and upon learning that Wood Buffalo Environmental Association (WBEA) had apparently been approached by CASA in 2002 regarding recommendation number two from the CASA Pollution Prevention/Continuous Improvement Project Team, WBEA's Executive Director, Colin Beddoes has taken the following action:

The P2/CI Project Team recommendation (#2) will be presented to the WBEA Governance Committee for discussion at their next meeting in May 2004. Once WBEA's Governance Committee has discussed the recommendation, CASA will be informed of any emergent results, decisions, or recommendations. In order that an informed discussion may take place, WBEA has requested a historical overview/briefing on the P2/CI initiate.

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Ongoing

**Peace Airshed Zone Association**

The Peace Airshed Zone Association (PASZA) acknowledges having received information about the CASA P2/CI Project Team’s report and being consulted prior to the report (Myles Kitagawa contacted Richard Harpe and Kevin Warren).

Report Reviewed

The report and its recommendations have been reviewed and are certainly compatible with PASZA’s mission statement:

*The Peace Air Shed Zone Association will create and implement a process that provides relevant, scientifically credible information to stakeholders who will use the information to ensure continuous improvement of regional air quality, protect environmental health, and influence policy.*

*49-Station (currently 43) Passive Monitoring Program operating since August 2002. At this time the PASZA’s focus has been the establishment of a regional air quality monitoring program and its associated processes to better understand the region’s air quality, address local issues and serve as a measurement tool for the effectiveness of existing/future management strategies that may be implemented by PASZA’s stakeholders. A five-year budget plan that reflects this focus has been discussed by stakeholders though it has not been finalized pending completion of the continuous program design.*

Ongoing

*Henry Pirker Continuous station in the City of Grande Prairie operational since January 2004. Continuous improvement has been an integral consideration in the design of the monitoring program. The program will be dynamic and evolutionary in nature and, therefore, capable of responding to changing or emerging concerns, issues, technologies, and developments in other management zones/programs.*

Ongoing

Finalization of the remainder of the continuous program is currently in progress with an application for AENV approval now scheduled for May 2004. While PASZA currently does not have a formal P2/CI plan or program, it is important to note that a number of its member organizations and companies do, eg. Alberta Environment, BP Canada, Suncor, etc. Existing and future actions and plans arising from these organizations’ P2/CI policies are ceratin to have a positive effect on emission reductions within the PASZA region.

Ongoing

In the future, once the PASZA Regional Air Quality Monitoring has been firmly established and operational, it will be possible for PASZA to direct its attention to other activities that may include a P2/CI program. (See PASZA website at [www.pasza.ca](http://www.pasza.ca) )

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**West Central Airshed Zone**

While West Central Airshed Zone (WCAS) does not have a P2/CI program in place, some of the stakeholder organizations do have P2/CI plans. WCAS offers an incentive to stakeholders in that a reduction in emissions does lower their contributions to WCAS.

Ongoing

The inventory of SO<sub>2</sub> emissions in the West Central zone includes measurements made by Alberta Environment as well as emissions calculated from the Alberta Energy and Utilities Board records of fuel usage and flare volumes. Overall 2003 SO<sub>2</sub> emission inventories decreased slightly from the previous year.

The reduction was mostly attributed to the oil and gas sector. Sulphur dioxide emissions from this sector were approximately 14% less than 2002 inventories, an indication that pro-active industrial members continue to look for ways to reduce their emissions. Changes in process management, such as acid gas re-injection programs at some of the larger sour gas facilities, have made a large difference in the amount of SO<sub>2</sub> released. Sulphur dioxide emissions for the West Central zone in 2003 were estimated at 81,000 tonnes. The utility sector emitted approximately 87% of the airshed's SO<sub>2</sub> while the oil and gas sector contributed approximately 13%. <mailto:amarok@telus.net>

WCAS has been aggressive in seeking continuous improvement. Network performance has been enhanced considerably. New equipment and dedicated technical contractors have pushed operation up times into the 97% range. Purchase of new equipment utilizing long term financing contributes to the Quality Assurance of the program. Expansion of the monitoring program to include the Wabamun and Genesee regions as well as monitoring in urban areas has added depth to the air monitoring program. WCAS will operate twelve continuous air monitoring stations, up from five, by the summer of 2004. Completion of the real life Agriculture bio-monitoring program and subsequent findings will allow WCAS to improve the Agriculture monitoring program and continue to test modeling programs designed to help predict plant damage in relation to sulphur dioxide concentrations in the air. WCAS has no plan to develop a formal P2/CI, however the essence of P2/CI is carried out on a daily basis.

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<b>Parkland Airshed Management Zone</b>	
<p>Parkland Airshed Management Zone (PAMZ) members and residents have long considered P2/CI as a primary concern specifically as it applies to air emissions. To address this concern and with some knowledge of the work that was being undertaken by the CASA P2/CI Project Team at the same time, in the fall of 2002 the PAMZ Issues Response Group made a recommendation to the PAMZ Board to hold a P2/CI workshop. The recommendation was accepted and in March 2003 a P2/CI workshop was held by PAMZ in Red Deer. The actions listed below are part of the action plan developed at the workshop. (See <a href="http://www.pamz.org/document/document_view.php?ID=24">www.pamz.org/document/document_view.php?ID=24</a> for workshop proceedings)</p>	Ongoing
<ul style="list-style-type: none"> <li>• Develop a list of initiatives in other jurisdictions that reduce emissions from wood and coal fires.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Draft letter to the Alberta Motor Association supporting mandatory vehicle emissions testing.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Investigate US EPA work on vehicle emissions testing.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Act as personal role models for family and friends.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Provide input to the EUB to extend the proliferation policy to sweet facilities.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Get CAPP to include P2 in its environmental stewardship reporting.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Write letter(s) re: tax incentives for P2 initiatives and tax breaks for hybrid vehicles.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Review Husky's program and share with PAMZ.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Establish mandatory government P2 Programs – ‘Walk the Talk’.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Investigate whether the EUB has done anything or are interested in P2: building audit.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Investigate whether the EUB has done anything or are interested in P2: carpooling.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Establish rebate program for older vehicles. Review the CASA program and report back to PAMZ.</li> </ul>	Ongoing
<ul style="list-style-type: none"> <li>• Investigate emissions control standards and whom to "lobby" if needed.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Write letter to County commending them for their use of geo-thermal energy.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Organize a PAMZ Education Task Force (for school age children and families.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Define strategy (strategic plan) for education/public awareness/media.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Recommend that industrial ecology systems for ILOs be a topic for the Industrial Ecology Summit. Include the capture of manure to covert to energy.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Share Mountain Equipment Co-op/ecological foot printing web sites.</li> </ul>	Complete
<ul style="list-style-type: none"> <li>• Encourage incentives for corporations to reduce GHG emissions. PAMZ Board to organize a presentation by Industry Canada and Climate Change Central.</li> </ul>	Not Done
<ul style="list-style-type: none"> <li>• Implement a PAMZ P2 Awards Program. George Murphy to provide information.</li> </ul>	Decided Against

<ul style="list-style-type: none"> <li>• Invite expert (Tang Lee) to speak to PAMZ about indoor air quality.</li> <li>• Organize workshop. George Murphy to provide AEN Network Website. Encourage cross industrial sectors to share P2 initiatives on common activities ( e.g. boilers, vehicle maintenance).</li> <li>• Explore greater use of rail for freight transportation. PAMZ Board to write letter to Alberta Transportation and Transportation Canada. PAMZ Communications Committee to draft letter.</li> <li>• Have industry associations recognize, promote and share P2/CI successes. PAMZ Board to write letter to CCPA, CAPP, etc. Who is going to draft this letter?</li> <li>• Encourage PAMZ participation in summit.</li> <li>• Encourage PAMZ members to develop and implement P2/CI Programs.</li> <li>• Include a P2/CI Recognition Program.</li> <li>• Write CAPP and encourage them to hold a P2 Workshop.</li> <li>• Research and review pollution prevention audits.</li> <li>• Large companies should provide vehicles to transport employees, encourage car-pooling, and encourage employees to use public transit. Investigate whom is/is not doing this and promote.</li> <li>• Encourage financial incentives and research on CO2 reinjection/reservoir management.</li> <li>• Investigate opportunities for methane recovery from landfills.</li> </ul> <p><b>Contact:</b> Kevin Warren  Parkland Airshed Management Zone  Tel: (403) 238-6640  <a href="mailto:amarok@telus.net">amarok@telus.net</a></p>	<p>Complete</p> <p>Decided Against</p> <p>Not Done</p> <p>Not Done</p> <p>Not Done</p> <p>Complete</p> <p>Decided Against</p> <p>Not Done</p> <p>Complete</p> <p>Ongoing</p> <p>Not Done</p> <p>Complete</p>
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**3. Alberta Environment adopt and implement a framework based on the draft Approach to Pollution Prevention Initiatives framework, developed with input from the P2/CI team.**

**Alberta Environment**

Alberta Environment (AENV) finalized and is implementing the *Approach to Pollution Prevention Initiatives in Alberta Environment*. In September 2002 AENV created the Pollution Prevention and Conservation (P2&C) Section of the Environmental Partnerships and Education Branch. The new structure provides more focus on, and resources for, Pollution Prevention and Conservation activities and also strategically associates these activities with the department's education and outreach functions.

AENV encourages industry to practice pollution prevention (P2). Our approach is based on a working definition for pollution prevention; it focuses on small to medium sized enterprises; is guided by principles; and follows strategies that support the core business of the department.

AENV will continue implementation of the framework. Documents may be viewed on Alberta Environment's website at <http://www3.gov.ab.ca/env/waste/pprevention>

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Complete

**4. The Alberta government promote and advance industrial ecology as the new mode of industrial development in the province by supporting and/or participating in a world summit on industrial ecology in Alberta.**

**Alberta Environment**

The support and/or participating role anticipated that an international event on industrial ecology would occur in Alberta. This did not happen. AENV remains committed to promoting industrial ecology at the local level in Alberta. Our initiatives in this regard include:

- Inclusion of industrial ecology on our website:  
<http://www3.gov.ab.ca/env/waste/pprevention>
- Met with Alberta’s Industrial Heartland Association to discuss progress and will continue to track and support this initiative.
- Reviewed the feasibility plan for the Industrial Ecology Project in Hinton and provided comments back to the consultants.

AENV continues to watch for opportunities to support industrial ecology in Alberta. Information has been included in the Pollution Prevention and Conservation web site at: <http://www3.gov.ab.ca/env/waste/pprevention>.

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Ongoing

**5. CASA members support and participate in a world summit related to industrial ecology in Alberta.**

**Pollution Prevention/Continuous Improvement Project Team Co-Chairs**

The support and participation role anticipated that an international event on industry ecology would occur in Alberta. This event did not happen. However, CASA members continue to be active in a number of initiatives related to industrial ecology, particularly their support for the Industrial Heartland Association initiative of the four municipalities surrounding Edmonton. This Association promotes the region as an “emerging eco-industrial area...building on the considerable utilization and exchange of energy and product within plant complexes and amongst plant complexes”.

Abeyance

**6. Alberta Environment incorporate pollution prevention/continuous improvement messages into materials it updates and into new environmental education documents.**

**Alberta Environment**

Ongoing

Alberta Environment (AENV) continues to review our fact sheets, manuals and other publications where the pollution prevention/continuous improvement message could be incorporated. To date, notable instances where AENV has developed and promoted P2/CI in its documents include the *Focus on Pollution Prevention* brochure that was presented at the national Pollution Prevention Roundtable and at other workshops across Alberta. This document is available through our Information Centre and on our website: <http://www3.gov.ab.ca/env/resedu/edu/focuson/pollutionprevent.pdf>

As well, we have integrated pollution prevention into AENVs *Draft Waste Action Plan* at web site: [http://www3.gov.ab.ca/env/waste/WAP\\_draft.pdf](http://www3.gov.ab.ca/env/waste/WAP_draft.pdf) and we reported on progress in P2 in the *Northern Rivers Ecosystem Initiative P2 & Control Industry Initiatives in Northern Alberta* (released in 2003) at: [http://www3.gov.ab.ca/env/water/nrei/northern\\_rivers-alberta.html](http://www3.gov.ab.ca/env/water/nrei/northern_rivers-alberta.html). The P2 message was included in newspaper inserts for Waste Reduction Week and will be included in other 'Special Week' advertisements.

For 2004/05 we will be reviewing the Waste Minimization Fact Sheets and Manuals series of publications and our Household Hazardous Waste Handbook to update them and integrate P2 messages.

We have developed and will maintain a comprehensive Pollution Prevention and Conservation Website viewable at: <http://www3.gov.ab.ca/env/waste/pprevention/P2Approach.pdf>  
<http://www3.gov.ab.ca/env/waste/pprevention/index.html>

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**7. Alberta Environment encourage and assist others to incorporate pollution prevention/continuous improvement messages into their materials.**

**Alberta Environment**

In response to this recommendation, Alberta Environment has:

- Developed P2 material that was incorporated into Best Management Practices documents of three (3) small to medium-sized businesses (refer to recommendation #8).
- Participated in the Parkland Airshed Management Zone (PAMZ) P2 Workshop, February 2003. Developed a document “*Outline of a P2 Awards Program:*” pursuant to the PAMZ 2003 P2 Action Plan.
- Sponsored and participated in the organization of the national C2P2 Roundtable held in Calgary June 2003. Co-presented the CASA P2/CI Framework at the roundtable. We continue to support and actively participate in this event.
- Partnered with C2P2 to organize a Pollution Prevention Workshop for Alberta Environment staff to introduce them to pollution prevention and encouraged attendees to look for P2 opportunities when working with SMEs.
- Reviewed environmental documents generated by other areas of the department and other government departments to incorporate pollution prevention / continuous improvement messages, most recently, we reviewed the Alberta *Environmental Farm Plan 2000*.

We will continue to focus on this activity in the future.

Our Pollution Prevention and Conservation Website provides information and linkages to other resources that may be used to develop P2/CI messages:  
<http://www3.gov.ab.ca/env/waste/pprevention>

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Ongoing

**8. Alberta Environment initiate a pollution prevention/continuous improvement outreach program to industry, with particular emphasis on small and medium-sized enterprises.**

**Alberta Environment**

Alberta Environment worked on four programs to encourage pollution prevention and continuous improvement.

Ongoing

- 1) Mercury Switch Out Program (Switch Out Alberta)  
Partnered with the Clean Air Foundation and Alberta Auto Recycling Industry to launch a program to collect and recycle mercury switches from retired automobiles. AENV will continue taking an active role in the program in 2004/05 and 2005/06. Approximately 13,158 switches were diverted from the Alberta environment August 2003 to January 2004. This is equivalent to approximately 10.5 Kg of Mercury (Hg), enough to contaminate 210,000 acres of lakes and wetlands.
- 2) Alberta Ready Mixed Concrete Association (ARMCA)  
An Environmental Committee, consisting of members from the private sector and Alberta Environment, worked on ARMCA's Best Management Practices document, Go Green, which contains information on Pollution Prevention. The ARMCA plans to release this document in the Spring of 2004.
- 3) The Canadian Plastics Industry Association (CPIA)  
CPIA is currently developing a National Code of Practise [Preserve, Prevent & Protect – Sustainability Management Program (P3 SMP)] for the entire Canadian Plastics Industry. The project will explore accountability and responsibility aspects of environmental health, occupational health, standards and practices that can be put in place, audited and certified. A pollution prevention message has been incorporated into the text. As a partner in this initiative, AENV will provide support in 2004/05 and cost-share eight workshops to the Association's membership in Alberta.
- 4) Alberta Road Builders and Heavy Construction Association  
In partnership with Environment Canada and the Alberta Road Builders and Heavy Construction Association, developed a Best Practices Manual "Pollution Prevention Manual for Alberta Road Builders and Heavy Construction" that complements the ARHCA's ECO Plan framework by describing much of the detail on "how to" undertake positive environmental practices. The Best Practices may be ordered from ARHCA's website at <http://www.arhca.ab.ca> under ARHCA Publications & Products (contact Heidi Harris, ARHCA Communications Manager, at [heidi@arhca.ab.ca](mailto:heidi@arhca.ab.ca) or by phone at (780) 436-9860).

Albert Environment will continue to pursue opportunities to encourage P2 through SME organizations. Information on these initiatives may be viewed on Alberta Environment's website at: <http://www3.gov.ab.ca/env/waste/pprevention/P2Approach.pdf>  
<http://www3.gov.ab.ca/env/waste/pprevention/ppplans.html>  
<http://www3.gov.ab.ca/env/waste/pprevention/initiatives.html>

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**9. Utilities take advantage of opportunities for public education and outreach by including a pollution prevention/continuous improvement message with their bills.**

**TransAlta Corporation**

Since January 1, 2001, Alberta customers may elect to take electricity service from their choice of suppliers in the marketplace. Retail affiliates of distribution wire owners (e.g. ENMAX, EPCOR) as well as independent retailers, may offer competitive electricity service to customers in the province.

Currently, only three (3) Retailers are licensed to sell electricity as a competitive retailer in Alberta. These are ENMAX, EPCOR, Direct Energy preferred (residential) and Direct Energy Business Services which are a Direct Energy partnership businesses managed by Direct Energy Markets Limited (DEML). Starting June 1, 2004, Atco and Direct Energy will officially commence the previously announced transfer of the retail energy supply businesses of ATCO Electric to DEML.

While the three current retail energy providers have been contacted for this update, only two responses were received towards this recommendation – EPCOR & Direct Energy. Generally it appears that those companies involved in the retail distribution of power have taken a very proactive approach towards public outreach with regards to methods consumers may take in reducing their energy usage. Methods for public outreach have expanded beyond including pollution prevention improvement messages in bills – TV, radio, billboard and print media have also been used to disseminate the message that energy consumption should be reduced. In addition, retail energy companies like EPCOR have included valuable methods and resources to help the public determine how they can reduce consumption. It is unknown if a correlation between the messages and resources provided by the retail companies and an associated reduction in residential energy use has been made at present. However, the public is driving the increased efforts by retail companies to provide this information in increasingly sophisticated ways.

For example, the public can access energy audit tools on the EPCOR website as well as watch videos of experts discussing specific energy reduction strategies. ATCO provides resources for in-house energy audits of customer homes. No doubt, there may be a direct correlation between rising energy prices and consumers interest in resources towards reducing their use of energy. With the increase in energy costs and public’s right to choose who provides them energy, the impetus for retail companies to provide public education and ‘pollution prevention/continuous improvement’ messages with their bills would appear to be market driven.

The following is a synopsis of current programs employed by the three primary power distribution and retail companies in Alberta:

*Direct Energy* – Direct Energy includes energy conservation information on the backs of their bills and mails out a separate brochure detailing methods and resources for customers to reduce their energy use. More information can be obtained from Jennifer Cummings, Marketing Manager, (403) 290-4620. Web site is [directenergy.ca](http://directenergy.ca)

Ongoing

**TransAlta Corporation Continued**

*EPCOR* – In addition to including regular energy conservation with billing, EPCOR distributes a conservation newsletter with seasonal energy saving tips. EPCOR’s bills clearly show comparisons of energy use throughout the year (in months) so customers can track energy use. Starting in 2002 EPCOR initiated a public outreach education campaign to inform their customers of energy conservation. This campaign is widespread and includes all forms of media such as outdoor building, transit (buses), TV, radio and print media. The EPCOR website contains a wealth of energy conservation resources including an on-line energy audit tool geared for households. Commercial and large industrial clients are invited to participate in a program called ‘Envest’ which is geared towards assisting these large users of energy find ways to reduce usage. More Information can be obtained from Megan Young at 780-412-3582. Website also contains information at <http://www.epcor.ca>.

*ATCO* – ATCO Gas and ATCO Electric established the ATCO EnergySense program to provide Albertans with energy efficiency advice and services for their home or business. The program helps customers:

- Save money on energy costs,
- become more energy efficient, and
- contribute to improving the environment.

In addition to the ATCO EnergySense program, ATCO Gas and ATCO Electric have actively promoted energy efficiency to customers through our website, publications, appearances at trade shows and conferences and bill inserts such as Energyline, our quarterly newsletter.

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Ongoing

**10. The CASA secretariat and Alberta Environment seek opportunities to disseminate pollution prevention/continuous improvement messages through their print and electronic communications vehicles. They should start by posting the Pollution Prevention Education and Outreach Inventory prepared for the P2/CI Project Team on their websites and establishing links to pollution prevention award websites.**

**Alberta Environment**

Alberta Environment developed and launched a Pollution Prevention website. The site contains information about Alberta Environment's approach to pollution prevention, how these ideas can be incorporated into an environmental management system, components of a pollution prevention plan, and Alberta's involvement in pollution prevention initiatives. The sections of the Pollution Prevention web site include: Pollution Prevention Techniques and Practices; P2 in the Environmental Management Hierarchy; AENV's Approach to Pollution Prevention; Small and Medium-Size Enterprises (SMEs); Industrial Ecology; Pollution Prevention Plans; What Can You Do; and numerous Resources. There is a link to the CASA website.

AENV advises its stakeholders each year when the CCME P2 Award nominations are announced. Information is posted on AENV's web site, promoted in presentations and public events and congratulates and recognizes winners on our web page. As well, CASA notifies stakeholders.

The Pollution Prevention and Conservation website can be accessed at:  
<http://www3.gov.ab.ca/env/waste/pprevention/P2Approach.pdf>  
<http://www3.gov.ab.ca/env/waste/pprevention/ppplans.html>  
<http://www3.gov.ab.ca/env/waste/pprevention/index.html>

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Ongoing

<p><b>Clean Air Strategic Alliance</b></p> <p>CASA developed and launched a pollution prevention area in the “For Albertans” section of its Web site. The content in the pollution prevention area contains the following information:</p> <ul style="list-style-type: none"> <li>• Definition of P2/CI</li> <li>• Links to the CASA P2/CI final report, and the accompanying P2/CI inventory of programs in Alberta</li> <li>• Essential elements for P2/CI program success</li> <li>• P2/CI success stories</li> <li>• A listing of the potential P2/CI tools and strategies</li> <li>• P2/CI awards and programs in Alberta and Canada</li> <li>• Links to more information on P2/CI including Alberta Environment’s Pollution Prevention and Conservation web site.</li> </ul>	<p>Ongoing</p>
<p><b>Clean Air Strategic Alliance Continued</b></p> <p>Messages about P2/CI in the form of the air quality management goals CASA supports have been included in a number of CASA publications including Clean Air Bulletin, annual reports and news releases. They are:</p> <ul style="list-style-type: none"> <li>• Protect the environment.</li> <li>• Optimize economic performance and efficiency.</li> <li>• Seek continuous improvement.</li> </ul> <p><b>Contact:</b> Geoff Williams, Communications  CASA  Tel: (780) 427-9793  <a href="mailto:gwilliams@casahome.org">gwilliams@casahome.org</a></p>	

**11. Alberta Hospitals consider developing and implementing pollution prevention and continuous improvement programs as part of their environmental management systems.**

<p><b>Alberta Health and Wellness</b></p> <p>Alberta Health and Wellness has brought this proposal to the attention of the Public Health Authorities Association of Alberta who have advised that there is no review body that is currently mandated to initiate or monitor the implementation of a P2/CI program among health facilities.</p> <p>As an alternative facilities could be contacted individually to promote the development of a P2/CI program (including key outcomes) tailored towards that facility. P2/CI monitoring could then be implemented on a self-reporting basis against identified objectives and outcomes.</p> <p><b>Contact:</b> Kevin McLeod, Senior Team Leader          Environmental Public Health, Disease Control and Prevention          (780) 427-8118  <a href="mailto:Kevin.mcleod@health.gov.ab.ca">Kevin.mcleod@health.gov.ab.ca</a></p>	<p>Ongoing</p>
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**12. CASA’s Electricity Project Team address renewable energy as part of its task to identify, assess and develop emissions management options and mixtures of options.**

<p><b>Electricity Project Team</b></p> <p>This work is complete; the CASA Electricity Project Team (EPT) addressed renewable energy as part of its task to identify, assess and develop emissions management options and mixtures of options for the electricity sector in Alberta. In December 2002, the EPT formed a Renewables Subgroup to help the EPT address a number of issues related to renewable energy. After much discussion at both the subgroup and the team level, the EPT agreed to 10 final recommendations, which address renewable energy. Specifically the EPT’s recommendations address:</p> <ol style="list-style-type: none"> <li>1) The provincial target for new renewable and alternative energy;</li> <li>2) How the target is translated into a megawatt/hour generation target;</li> <li>3) Defining what constitutes renewable and alternative energy;</li> </ol>	<p>Complete</p>
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- 4) The methodology to determine achievement of the target for new renewable and alternative energy generation;
- 5) Mechanisms to assist in achieving the renewable and alternative energy target;
- 6) A retailer-based method for achieving the renewable and alternative energy target as the preferred target implementation strategy;
- 7) Encouraging green power purchases when Alberta negotiates sectoral agreements;
- 8) Net metering and net billing;
- 9) Infrastructure needs; and
- 10) Formation of a renewable and alternative energy implementation team to further work on some of the recommendations and other issues related to renewable and alternative energy.

The EPT's final report outlines the detailed recommendations in each of these ten areas. The report can be found on the CASA website at <http://www.casa-electricity.org>. The recommendations of the EPT were agreed to by consensus at the CASA board level in November 2003, and are currently in the implementation phase.

As per the tenth recommendation above, the Renewable and Alternative Energy Project Team was established in March 2004. The goal of this team is to implement the renewable and alternative energy recommendations found within the EPT report with the aim of increasing the supply of renewable and alternative electrical energy in the province to meet the target of 3.5% new renewable and alternative electrical energy, as defined in recommendation 58 of the EPT report, by January 1, 2008.

The CASA Board has asked the Renewable and Alternative Energy Project Team to provide a progress report in September 2004, including recommendations on their first objective, if possible. The first objective of the team is: "Develop tools and mechanisms to facilitate meeting the target and to implement the renewable and alternative electrical energy recommendations as described in the EPT report." The final report of the team is expected in March 2005.

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**13. CASA's Electricity Project Team consider P2/CI in the development of its management approach for that sector.**

**Electricity Project Team**

This work is complete; the EPT considered P2/CI in the development of its management approach for the electricity sector. The EPT emissions management framework addresses P2/CI both generally and specifically. Generally, the electricity framework includes both pollution prevention and continuous improvement. Using the P2/CI team’s definition of Pollution Prevention, it could be said that the EPT’s emissions management framework, which uses output-based emission standards, encourages and incents the use of processes, practices, materials, products and energy to avoid or minimize the creation of pollutants or wastes from the generation of electricity sector (the source). As well, the EPT’s framework embodies the P2/CI team’s definition of Continuous Improvement, which is to “continuously improve air quality by minimizing the use of polluting processes, practices, materials and products”, and has a continuous improvement planning and reporting process. (See the diagram on Page 1 and the description on Page 68 of the EPT final report, which is available on the CASA website at [http://casahome.org/uploads/Emissions\\_Mgmt\\_Framework.pdf](http://casahome.org/uploads/Emissions_Mgmt_Framework.pdf)).

Complete

Specifically, the EPT’s final recommendations address continuous improvement as part of the Five Year Review (Recommendation 29). After considering a number of approaches to continuous improvement, the EPT agreed to add a specific element to the Five-Year Review in which the electricity sector will report on continuous improvement activities undertaken during the previous five years and identify goals for the next five-year period to be considered by the review team.

The team also agreed to focus the continuous improvement components of its framework on performance improvements for the electricity generation system as a whole. Modelling done for the team predicts a significant overall reduction in emissions between 2003 and 2025 as older units shut down and are replaced with more efficient and cleaner generation technologies equipped with the best commercial pollution control technologies of the day. The management framework is expected to contribute to continuous improvement in the following ways:

- There will be a regular review and updating of Best Available Technology Economically Achievable levels for new units.
- There will be a regular review and communication of opportunities for existing units. Further, the availability of emission reduction credits will create an economic incentive to reduce emissions further and faster than might otherwise occur.

The team also has an expectation that cost-effective continuous improvement measures will occur as part of normal good business.

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**14. CASA’s Electricity Project Team consider opportunities for co-generation as part of its overall approach to managing emissions from the electricity sector.**

**Electricity Project Team**

This work is ongoing. Co-generation units are considered part of the Alberta electricity sector and, as such, are addressed within the overall emissions management framework. The benefits of co-generation in terms of energy efficiency and associated lower emissions were recognized by the EPT. The Renewables and Alternative Energy Implementation Team recommendation (#64b) specifically asks the team to look at “determining ways in which larger co-generation and waste heat facilities can be encouraged and incented.” NOx emissions from co-generation facilities have been addressed in detail within the EPT’s final recommendations, but further work is ongoing with respect to GHG emissions from co-generation facilities, both of which affect “opportunities” for cogeneration.

Ongoing

In the EPT’s reduction strategy for priority emissions, specific consideration was given to co-generation and how to address its NO<sub>x</sub> emissions. Recommendations 10 and 10a in the EPT’s November 2003 final report ([http://casahome.org/uploads/Emissions\\_Mgmt\\_Framework.pdf](http://casahome.org/uploads/Emissions_Mgmt_Framework.pdf)), address NOx emissions from natural gas fired co-generation units as well as from co-generation units that are fired by other fuel sources.

The EPT also agreed that there was more work to be done to address greenhouse gas emissions from co-generation facilities and a sub-group has been established to complete this part of the EPT mandate (the GHG subgroup). Two of the objectives of the GHG sub-group are: to recommend a GHG emissions reduction target or approach for the thermal generation sector; and to recommend whether emissions from co-gen are included in the target and, if so, how the emissions would be allocated between the steam/heat output and power (electricity) output.

The GHG sub-group has examined several methodologies for allocating co-generation emissions between steam/heat and electricity generated, and has looked at the impact of each methodology on co-generation emissions intensities in an effort to determine which approach(es) should be considered for adoption. A factor in the discussions has been to try and develop an approach that is an incentive, or at least is not a disincentive, for co-generation units. Agreement has been reached on an allocation methodology that splits the emissions between steam and electricity based on efficiency related factors, and what these factors should be. The subgroup is currently assessing a number of possible management approaches that have been evaluated based on their impact on emission reductions.

The GHG subgroup is hoping to have its work finalized by the end of April so that it can go to the EPT and the CASA board to allow Alberta Environment representatives to take the plan to their federal counterparts in mid-to-late June. .

Ongoing

For further information about the methodologies/approaches being contemplated by the GHG sub-group or related technical analysis, please contact any of the co-chairs at:

<b>Contact:</b>	Nashina Shariff Toxics Watch (780) 439-1912 <a href="mailto:nashina@telusplanet.net">nashina@telusplanet.net</a>	David Lewin EPCOR (780) 412-3196 <a href="mailto:dlewin@epcor">dlewin@epcor</a>	Larry Morrison Alberta Environment (780) 422-0188 <a href="mailto:larry.morrison@gov.ab.ca">larry.morrison@gov.ab.ca</a>
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**15. The CASA Vehicle Emissions Team include P2/CI in its future activities.**

**Vehicle Emissions Team**

*New Technology*

*Diesel Particulate Filter Project:*

Two diesel-powered Edmonton Transit Service (ETS) buses were retrofitted with Diesel Particulate Filter (DPF) emission reduction devices. Emissions of particulate matter (PM), hydrocarbons (HC) and carbon monoxide (CO) were monitored from January 2003 to January 2004 while these buses operated in revenue service as part of the regular ETS bus rotation. (See [www.cleanbus.ca](http://www.cleanbus.ca))

Ongoing  
w/ Summer  
2004  
completion

The VET is currently considering a pilot project to demonstrate NOx reduction technology on heavy duty off road vehicles in the oil sands as well as a follow up of the ROVER project where remote sensing technology will be used to assess the emissions from vehicles in a real time application.

Ongoing

**Contact:** Lawrence Schmidt  
Alberta Transportation  
Tel: (780) 415-0682  
[Lawrence.Schmidt@gov.ab.ca](mailto:Lawrence.Schmidt@gov.ab.ca)

*Alternative Modes*

*Employer Based Transportation Demand Management (TDM):*

The TDM sub-group is examining whether there are opportunities for a reduction in vehicle emissions through the implementation of employer based transportation demand management measures with a focus on the major urban regions in the immediate vicinity of Calgary and Edmonton. Once completed, the final report will be found at [www.casahome.org](http://www.casahome.org).

Ongoing  
w/ Spring  
2004  
completion

**Contact:** Myles Kitagawa  
Toxics Watch  
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*Driver Education for Fuel Efficiency*

*AutoSmart and FleetSmart:*

The VET has, in the past, promoted and advocated for the AutoSmart and FleetSmart driver education for fuel efficiency programs. AutoSmart and FleetSmart are programs that are being used by the Federal Government. AutoSmart has been renamed the Personal Vehicle Initiative.

Complete

Personal Vehicle Initiative web link: <http://oee.nrcan.gc.ca/vehicles/home.cfm>  
FleetSmart web link: <http://oee.nrcan.gc.ca/fleetsmart/home.cfm?PrintView=N&Text=N>

*Smog Free*

In conjunction with the Environment Canada vehicle inspection clinics, members of the Alberta public volunteered to have their vehicle emissions assessed. Smog Free was an educational program that provided information for Albertans on how to reduce the emissions from their vehicles. Web link: [http://www.ec.gc.ca/transport/clinics/index\\_e.htm](http://www.ec.gc.ca/transport/clinics/index_e.htm)

Complete

## Vehicle Emissions Team Continued

### *Fuel Formulation*

Although the VET is not in a position to influence fuel formulation, several initiatives are underway at a federal level as follows:

Sulphur standards for fuels. (See : [http://www.ec.gc.ca/energ/fuels/fuel\\_home\\_e.htm](http://www.ec.gc.ca/energ/fuels/fuel_home_e.htm))

Gasoline	2002 – 2004	150 ppm S Avg. 300 ppm S Max.
	2005	30 ppm S Avg. 80 ppm S Max.
On-road Diesel	2006	15 ppm S Max
Non-road Diesel	2007	500 ppm S Max.
	2010	15 ppm S Max.
Rail and Commercial Marine	2007	500 ppm S Max.

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### *Breathe Easy*

The Breathe Easy Pilot Program operated in Calgary between March 21 and November 30, 2002 with the goal of reducing vehicle emissions by removing older high emitting vehicles from the road by offering cleaner transportation incentives to drivers who surrendered their vehicles to the Breathe Easy Program. During this time 712 applications were approved resulting in the removal of 712 pre-1988 vehicles from Calgary roads substantially reducing harmful vehicle emissions. Since November 2002, Climate Change Central, in partnership with the Clean Air Foundation, have launched the Alberta Wide the Car Heaven Program, modelled after the Breathe Easy Program. The Breathe Easy final report can be found at [www.casahome.org](http://www.casahome.org), details of the Car Heaven vehicle scrappage program can be found at [www.climatechangecentral.com](http://www.climatechangecentral.com).

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### *Anti-tampering*

Working with the Alberta Government, the Vehicle Emissions Team has been supporting anti-tampering legislation for out of province vehicles. This legislation would require that out of province vehicles be inspected to ensure that their catalytic converter has not been tampered with or removed.

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Complete

Complete

In Progress

**16. Alberta Environment and Environment Canada work with Natural Resources Canada to promote Natural Resources Canada’s residential wood combustion initiatives.**

**Alberta Environment**

Under the national Canada-Wide Standards for PM & Ozone initiative there are two task groups operating to address residential wood combustion; AENV is active on both:

- Task Group on CSA Standards and National Regulation
- Task Group on Education and Change-out

In Alberta, Alberta Environment (AENV) supported and participated in the *Burn- It-Smart* campaign led by the Prairie Chapter of the *Hearth Patio Barbecue Association of Canada*. A series of twelve seminars, following a program and printed material developed by Natural Resources Canada, were presented. Seminar attendees learned about strategies to deal with emissions caused by inefficient wood burning appliances. Seminars were held in Calgary, Cochrane, Sundre, Lethbridge and Red Deer. AENV continues to distribute Burn-It-Smart promotional material through its regional offices, as well as through our Edmonton Information Centre. We have linked our website with the Burn-It-Smart site at: ([www.burnitsmart.org](http://www.burnitsmart.org)).

The Residential Wood Combustion Initiatives can be accessed at:  
<http://www3.gov.ab.ca/env/waste/pprevention/P2Approach.pdf>  
<http://www3.gov.ab.ca/env/waste/pprevention/ppplans.html>  
<http://www3.gov.ab.ca/env/waste/pprevention>

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Complete

<p><b>Environment Canada</b></p> <p><i>Standards for New Wood Burning Appliances:</i>                  Environment Canada co-chairs (with Newfoundland) the Inter-Governmental Working Group on Residential Wood Combustion (IGWGRWC). This group is working to meet the commitment for a national regulation in the Joint Initial Actions under the Canada-wide Standard for Particulate Matter and Ozone. Although a federal regulation was the preferred option for regulating residential wood combustion appliances, neither the <i>Canadian Environmental Protection Act, 1999</i> (CEPA 1999) nor the <i>Hazardous Products Act</i> provided feasible options for developing the desired regulation. As a result, Environment Canada will seek an amendment to CEPA 1999 to provide the authority to develop a regulation regarding the manufacture, installation and/or sale of residential wood combustion appliances. In the interim, the IGWGRWC has been directed by the Joint Actions Implementation Committee to develop a model regulation by December 2004 to effectively limit the emissions from wood burning appliances. The model regulation could be used by provinces, territories or the federal government in the future.</p> <p><b>Contact:</b> Alain Gosselin, Co-chair IGWGRWC                  Environment Canada, Quebec Region                  Tel: (514) 283-4110  <a href="mailto:Alain.Gosselin@ec.gc.ca">Alain.Gosselin@ec.gc.ca</a></p> <p><i>Residential Wood Burning Education Web Site:</i>                  Environment Canada is in the process of developing an educational website on the subject of residential wood combustion. The website will contain information on topics such as the health and environmental effects of wood smoke and actions Canadians can take to reduce wood smoke pollution.</p> <p><b>Contact:</b> Chantal Duhaime, Coordinator, Residential Wood Burning                  Environment Canada, Quebec Region                  Tel: (514) 283-2837  <a href="mailto:Chantal.Duhaime@ec.gc.ca">Chantal.Duhaime@ec.gc.ca</a></p>	<p>Ongoing</p> <p>Ongoing</p>
<p><b>17. The Cumulative Effects Management Association (CEMA) incorporate P2/CI actions and strategies into their emissions management framework.</b></p>	
<p><b>Cumulative Effects Management Association</b></p> <p>No report available as at June 2004.</p> <p><b>Contact:</b> Robert Nowosad                  Tel: (780) 799-8140  <a href="mailto:cema.ed@shawlink.ca">cema.ed@shawlink.ca</a></p>	

**18. The Canadian Association of Petroleum Producers (CAPP) and the Small Explorers and Producers Association of Canada (SEPAC) develop and promote P2/CI programs.**

**Canadian Association of Petroleum Producers**

*Stewardship Initiative* - Stewardship is a system to help CAPP member companies make continuous improvement in environment, health, safety and socio-economic performance. Through this initiative, CAPP members will be recognized by our stakeholders and government as responsible leaders in petroleum development.

Mandatory/  
Ongoing

Stewardship is about:

- doing business that will ensure the long term sustainability of our industry
- committing to continuous improvement
- implementing a systematic management system to ensure environment, health, safety and socio-economic improvements
- developing basic tools, processes and training that facilitates continuous improvement
- demonstrating industry's EHS & SE performance through credible data

Our evolving Stewardship initiative helps by giving companies sound direction through Industry Recommended Best Practices (IRPs) in environment, health, safety and socio-economic performance and through guidelines for effective public involvement.

**Stewardship Vision**

Stakeholders recognize Stewardship members as ethical and credible leaders in the responsible exploration for, development and production of Canada's petroleum resources.

**Stewardship Principles**

CAPP member companies:

- Recognize Stewardship as a high corporate priority and is integrating it into operations and business planning
- Acknowledge and respond to public concerns when examining risk
- Establish effective communication and reporting with internal and external stakeholders
- Establish objectives and targets to measure performance and continuously seek opportunities to improve
- Support applied, peer-reviewed research that increases our knowledge, assists decision-making and develops solutions to industry environment health, safety and socio-economic issues
- Pursue proactive strategies and support the implementation of sound management systems
- Promote the understanding of sustainable development and the efficient and wise use of resources

CAPP's mission is to enhance the economic well-being and sustainability of our industry in a socially and environmentally safe and responsible manner. We are convinced that Stewardship will help us fulfill this mission.

**Canadian Association of Petroleum Producers Continued**

*National Air Issues Committee (NAIC)* – CAPP’s goal is to take a proactive approach to address evolving air issues through Stewardship, workshops, peer to peer learning, and research and development. CAPP also encourages continual improvement in the quality of emission inventories.

Ongoing

*CAPP Guide: A Recommended Approach to the NPRI for the Upstream Oil and Gas Industry – 2003 Reporting on Criteria Air Contaminants (CAC’s)*. The use of the Guide will enable operators of upstream petroleum facilities to determine amount of CAC’s emissions released from their equipment and processes using data that is readily available. CAPP recommends companies use the Guide to determine their NPRI emissions.

Annual

*Benzene Technical Advisory Team)* – CAPP has been engaged in an initiative to monitor and support the implementation of efforts to control benzene emissions from glycol dehydrators and to determine whether the existing program can achieve a major reduction in these emissions (without additional regulation). This initiative has been successful with a 77% reduction in benzene emissions from glycol dehydrators from 1995 – 2002.

Ongoing

*Flaring and Venting* – CAPP has been engaged in the CASA proposal regarding flaring and venting. Operators and equipment suppliers have made significant progress in conserving solution gas and in the reduction in flaring and venting. At the end of 2003, industry’s performance resulted in a 73% reduction in solution gas flaring since 1996, and a 50% reduction in solution gas venting since 2000.

Ongoing

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**Small Explorers and Producers Association of Canada**

*Involvement in Government/Industry Stakeholder Groups* – SEPAC has been an active participant, together with CAPP and other industry organizations in a number of initiatives relating to the control and reduction of air emissions. These include the CASA process on flaring and venting, the Benzene Technical Advisory Team and industry groups working with the federal and provincial governments on reductions in greenhouse gas emissions from the upstream oil and gas industry. Details of the improvements achieved by the first two initiatives are contained in CAPP’s report on Pollution Prevention/Continuous Improvement. SEPAC has also played an important role in other government/industry initiatives to improve environmental performance in the upstream oil and gas sector including those relating to the abandonment and reclamation of oil and gas wells and facilities.

Ongoing

*Involvement in Industry Sponsored Environmental Initiatives* – The fact that SEPAC is a volunteer organization without any dedicated staff dealing with environmental issues makes it difficult for it to internally develop and pursue environmental policies for its members. Having said this, communication with CAPP on initiatives that it is implementing occurs on a regular basis, both formally and informally, at both the board and committee level as well as directly at the membership level. As a result, initiatives such as CAPP’s environmental stewardship program are well known to SEPAC and its members. We are in the process of communicating with our membership in an effort to determine to what degree they have adopted the principles set out in the CAPP stewardship program or other pollution prevention/continuous improvement policies and procedures. We will also be asking our membership to share any success stories that they have. We are aware of a number of small energy companies – both oil and gas producers and service companies – who have undertaken innovative environmental protection and improvement initiatives. These include the utilization of flare gas for electricity generation and the development of sulphur recovery systems for small-scale oil and gas production operations. We will be sharing with CASA the information we obtain from these requests of our membership.

Ongoing

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**19. The Canadian Petroleum Products Institute (CPPI) and the Canadian Chemical Producers Association (CCPA) develop and promote P2/CI programs that will reduce emissions.**

**Canadian Petroleum Products Institute**

NFPRER - The CPPI has recognized an opportunity to lead in the development of a new approach to regulating industry air emissions in a manner that could achieve benchmark performance while maintaining or strengthening competitiveness. The CPPI members agreed to participate in a multi-stakeholder process to develop a framework for evaluating current performance. This review was sponsored by the Canadian Council of Ministers of the Environment (CCME) - National Air Issues Coordinating Committee. The result was the development of the National Framework for Refinery Emission Reductions (NFRER). The study compared the performance of comparable U.S refineries to Canadian refineries in order to establish a benchmark level of performance. The results have demonstrated that the Alberta based refineries are achieving results better than the mid-point of the benchmark data. ([www.ccme.ca/initiatives/climate.html](http://www.ccme.ca/initiatives/climate.html) ) The future challenge will be for the Alberta refineries to maintain this emission performance. One of the principles of this program is to provide a consistent level of environmental performance and health protection associated with petroleum refineries across Canada and be consistent with continuous improvement and keeping clean areas clean.

Ongoing

Energy Efficiency – CPPI member refineries continue to demonstrate improvements in energy efficiency. This is demonstrated through trends in the Energy Intensity Index values for each site. Member company’s energy efficiency was ahead of CPPI’s target for the past year. CPPI member companies have committed to improve EII by one per cent per year over the period of 2000-2004. Additional details can be found in the annual CPPI Environmental and Safety Performance Report at: <http://www.cppei.ca/espr.htm>

Ongoing

Fuels Reformulation – Very low sulphur fuels are required to enable the vehicle emissions control technology to work as efficiently as possible. CPPI member companies moved on two different phases to-date in this area:

Complete

- All Alberta refineries have completed construction and start-up of facilities for production of low sulphur gasoline which is required by 2005.

- All CPPI companies are in the stages of identifying facility requirements and funding requirements for lowering sulphur levels in distillate based fuels. (necessary for the period phase-in of 2006-10) Additional details can be found at: [www.cppei.ca/espr.htm](http://www.cppei.ca/espr.htm).

Ongoing

Leak Detection and Repair (LDAR) – CPPI has voluntarily committed to meeting the intent of the CCME Code of Practice for measuring and controlling fugitive emissions within the refineries and large distribution terminals. These emissions are the potential emissions of hydrocarbon vapours from the many small valves, pumps and flanges utilized in the refinery complexes. As the leak detection and repair code of practice is implemented at all Alberta refineries, the volume of fugitive emissions has decreased to a level over 50% lower than the 1997 levels. <http://www.cppei.ca/espr.htm>

Ongoing

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## Canadian Chemical Producers Association

CCPA's policy statement on Responsible Care® provides member companies with guidance in managing their environmental performance. The policy is supported by a number of principles, which provide detailed direction for reducing emissions. This encourages members to:

- continuously reduce emissions with the goal of preventing unacceptable risk to the environment and human health;
- meet or exceed the letter and spirit of all legal requirements which affect operations or products;
- apply a broad range of options including reducing, reusing, recycling and recovering, and as a last resort, end of pipe treatment solutions to effectively manage the environmental impact of processes;
- eliminate or find substitutes for chemicals which science has shown present unreasonable risks and cannot be otherwise managed;
- work actively and assist governments and selected organizations to foster and encourage equitable and attainable standards;
- utilize responsible non-regulatory approaches to the extent they are effective in environmental management. Regulations should be used when society's expectations are not being met by non-regulatory initiatives;
- report publicly on their progress

Which reduction techniques can be used and how quickly they can be implemented depends on many factors, including age and size of the plant, the technology and chemistry involved in the process, safety, economics and markets. Since 1992, CCPA members, nationally, have reduced their emissions to air, water and land by more than 72 percent in total. The levels of emissions projected for the year 2007 approach 27 percent of total emissions in 1992.

Reducing Emissions, a report on emissions inventory and five year projects, has been issued on an annual basis and is currently in its eleventh edition. 'Reducing Emissions 11, 2002 Emissions inventory and five year projections' is available through the CCPA's public website at <http://www.ccpa.ca>

Some of the regional highlights of the report include:

- In Alberta, total emissions decreased by 4 percent since 2001, and have decreased by 2 percent since 1992. Emissions to water by CCPA member companies in Alberta (25 tonnes in 1992), have been reduced by 81 percent. At the same time chemical production has nearly doubled, resulting in a 50% reduction in emissions per unit of chemical output.
- Several company specific pollution prevention and continuous improvement examples, by Alberta member companies such as Dow Chemical Canada Inc. and NOVA Chemicals are featured in the 'Taking Action – Case Studies' throughout the report.

**Contact:** <http://www.ccpa.ca/english/contact/offices/index.html>

Ongoing

Ongoing