CASA Clean Air Strategic Alliance 2003 Annual Report

CASA
Clean Air Strategic Alliance

Contents

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Clean Air Strategic Alliance Association
ISBN 1-896250-30-0

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About CASA

The Clean Air Strategic Alliance (CASA) is a non-profit association composed of diverse stakeholders from three sectors – government, industry, and non-government organizations such as health and environmental groups. All CASA groups, teams, and committees including the board of directors, make decisions and recommendations by consensus. Recommendations are likely to be more innovative and long lasting than those reached through traditional negotiation processes.

Vision

The air will be odourless, tasteless, look clear and have no measurable short or long-term adverse effects on people, animals or the environment.

Mission

The Clean Air Strategic Alliance (CASA) is a stakeholder partnership that has been given shared responsibility by its members, including the Government of Alberta, for strategic planning, organizing and coordinating resources, and evaluation of air quality in Alberta through a collaborative process.

Mandate

Specific air quality planning responsibilities are shared among stakeholders. Regulatory implementation, licensing, compliance, control and enforcement remain with existing government agencies. CASA's mandate is to:

1. Implement the Comprehensive Air Quality Management System (CAMS) for Alberta.
2. Conduct strategic air quality planning for Alberta through shared responsibility and the utilization of a consensus-building, collaborative approach. Planning includes:
   - Clear identification of issues.
   - Prioritization of current and emerging issues.
   - Allocation and coordination of resources.
   - Development of action plans.
   - Evaluation of results.
3. Prioritize concerns with respect to air quality in Alberta and develop specific actions or action plans and activities to resolve such concerns.

CASA supports the following air quality management goals:

1. Protect the environment.
2. Optimize economic performance and efficiency.
3. Seek continuous improvement.

Highlights

Electricity project develops long-term comprehensive framework

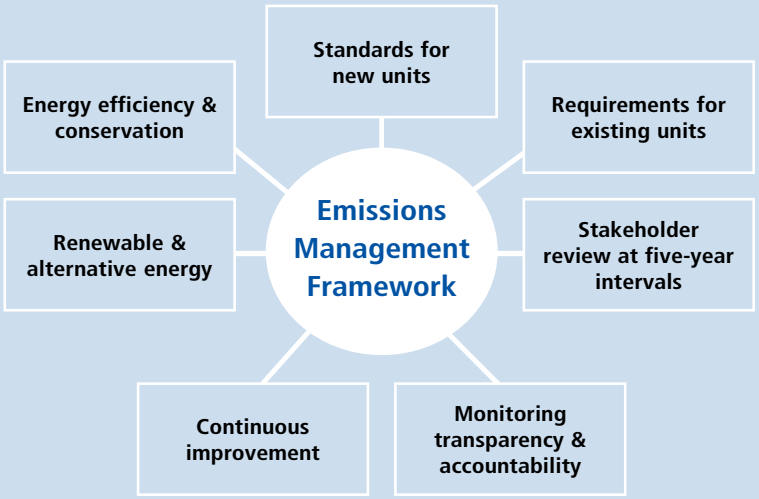
In January 2002 the Hon. Lorne Taylor, Alberta's Minister of Environment, asked CASA to develop an approach for managing air emissions from the electricity sector. CASA's electricity project team has finished its work and the framework that it developed places Alberta among North American leaders in managing air quality from electricity generation.

The framework represents a creative mix of management strategies that will increase long-term regulatory certainty for all parties, provide flexibility in reducing emissions and encourage continuous improvement of the overall management system.

Following the CASA board's approval of the framework at its November 2003 meeting, Alberta Environment, with support from Alberta Energy and Alberta Health and Wellness, initiated the government decision-making process to gain provincial approval for the framework. On March 4, 2004 the Government of Alberta accepted and adopted the framework.

More information is available on the project Web site at **http://casa-electricity.org.**

The electricity framework at a glance



The proposed framework will lead to significant reductions over time of four priority air emissions: mercury, sulphur dioxide, nitrogen oxides and primary particulate matter. The main outcomes in terms of improved performance and emissions reductions are:

Standards for new units

- New units will be governed by new emission standards for sulphur dioxide (SO_2) and nitrogen oxides (NO_X), effective January 1, 2006
- New coal-fired units will be required to add mercury controls and to reduce or offset their greenhouse gas emissions to natural gas combined cycle levels
- Effective January 1, 2006, all standards for new units will be based on best available technology economically achievable (BATEA).

Requirements for existing units

- There will be significant reductions in mercury by the end of 2009
- Mercury control technologies may provide significant co-benefits, including reductions in primary particulate matter to levels consistent with BATEA
- There is a new requirement for units to reduce emissions to the latest BATEA performance standard at the end of their design life.

Five-year review

- A defined multi-stakeholder process to evaluate the performance of the framework at five-year intervals
- The review will be publicly credible, transparent and use a participatory process that will involve stakeholders from all sectors including the public
- If core assumptions are proven wrong, the framework will be revised.

Renewable and alternative energy

- A target for the development of new renewable and alternative energy will apply to all electricity generation by 2008, subject to certain issues being resolved
- Strategies such as a "green certificate" program and emissions trading are proposed to implement the target
- A multi-stakeholder team is recommended to assess the need for a target beyond 2008.

Energy efficiency and conservation

- The framework includes strategies to reduce demand and encourage more efficient use of electrical energy
- Stakeholders will undertake further work to refine strategies in this area.

Continuous improvement and hot spots

- Special provisions to address potentially emerging "hotspots"
- Continuous improvement will occur through regular review and updating of technology performance standards
- Industry will be setting continuous improvement goals at five-year intervals.

Monitoring and transparency

- A comprehensive monitoring system to track compliance with emissions standards and reductions targets
- Greater emphasis on transparency with information available to the public
- Opportunities for public involvement in the management system.

Expected emissions reductions

Substance	Annual reductions	Reduction from 2003	Target year
Mercury	400 kg	50%	2009
Primary particulate matter (PM)	3,500 tonnes	51%	2025
Sulphur dioxide (SO_2)	52,000 tonnes	46%	2025
Nitrogen oxides (NO_X)	29,000 tonnes	32%	2025

New framework developed to manage pollutants that cause smog

Alberta industry, government, environmental and health organizations have reached consensus on a provincial framework for managing fine particulate matter and ground-level ozone, two major contributors to smog.

CASA's particulate matter and ozone project team developed the framework to help Alberta meet its commitment under the Canada-wide Standards for Particulate Matter and Ozone that was signed in June 2000 by Canadian environment ministers, except Quebec. Canada-wide standards are agreed to by federal, provincial, and territorial environment ministers to develop common environmental standards across the country.

Most areas of Alberta are below the Canada-wide Standards for Particulate Matter and Ozone. The standards apply only to urban areas with populations over 100,000, however the recommended framework goes further and applies to the entire province.

The framework creates stability between environmental, economic, social and health considerations, sets out clear ground rules and reasonable costs, provides flexibility to address local circumstances, and allows equal opportunities for Albertans, industry, government, environmental and health groups to participate in its implementation.

Alberta Environment expects to begin implementation of the framework in 2004.

More information is available on the CASA Web site at **http://casahome.org.**

Clean bus technology piloted

A one-year vehicle emissions team pilot project to evaluate if exhaust filter technology can work with heavy-duty diesel-powered vehicles in Canada's colder climate began in January 2003. Two Edmonton Transit System buses were retrofitted with diesel particulate filters and were monitored closely during the pilot period to test the filters.

Used in combination with ultra-low sulphur diesel fuel, the filter can reduce air pollutants such as particulate matter, carbon monoxide, and hydrocarbons by up to 80 per cent. The filter is an example of "after-burn" technology and can replace existing mufflers on some heavy-duty diesel-powered vehicles.

The first set of results from the January 2003 testing period was obtained while the buses maintained normal operations. Environment Canada tested the buses without the filters and then again with the filters using one-of-a-kind on-board testing equipment. Testing was conducted to see if there were significant reductions in the total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NO_x), and total particulate matter (TPM) emissions while the buses were operated with the filters.

The preliminary conclusion is that both buses showed decreases in THC (51-60 per cent), CO (68-80 per cent), and TPM (60-73 per cent). There was a significant increase in NO_x emissions on one bus, and no statistical difference in NO_x emissions on the other bus. These reductions occurred without an increase or decrease in fuel consumption levels.

More information is available on the project Web site at **http://CleanBus.ca.**

Albertans like voluntary vehicle scrappage programs

In 2002, CASA's Breathe Easy vehicle scrappage pilot project resulted in 600, older, high polluting cars in Calgary being scrapped. The successful pilot was operated by CASA's vehicle emissions team and led to the ongoing Climate Change Central "Car Heaven" vehicle scrappage program in Alberta. The Car Heaven Web site is at **http://carheaven.ca.**

Based in Calgary, the pilot program examined the feasibility of vehicle scrappage programs in Alberta. In exchange for voluntarily scrapping a high-emitting 1987 or older vehicle, owners received either 12 monthly Calgary Transit passes or a $500 credit towards the purchase or lease of a 1994 or newer vehicle.

The June 2003 Breathe Easy final report says Albertans are likely to accept a longer-term vehicle scrappage program that includes additional cities in the province. It also says Albertans prefer voluntary programs, like Breathe Easy, to be funded jointly between the public and private sectors.

The pilot program targeted 1987 and older vehicles due to significant changes in emissions controls which were introduced in 1988. Emission control standards were tightened again starting with 1994 models.

More information is available on the project Web site at **http://breathe-easy.ca.**

CASA helps Alberta livestock producers

CASA's animal health project team developed the Herd Environmental Record System (HERS) to supplement existing herd record systems and guide livestock producers in documenting all factors during normal and abnormal environmental conditions.

Used before or during possible incidences, HERS allows livestock producers to record baseline information on livestock performance, and outlines procedures for documenting incidences of environmental contamination.

HERS and the animal health project team final report with recommendations can be obtained from the CASA Web site library at **http://casahome.org.**

CASA flaring framework catches attention of World Bank

Alberta's efforts to reduce solution gas flaring at oil and gas well sites, thus preserving the environment while encouraging production optimization for the petroleum industry, are so successful they have caught the attention of the World Bank.

Michael Brown of the Alberta Energy and Utilities Board (EUB) and one of three co-chairs of CASA's flaring and venting project team designed a workshop for the World Bank. The World Bank sent representatives to Calgary from Africa, Russia and Latin America to learn how Alberta has achieved its huge reductions. EUB data for 2002 shows a solution gas conservation rate of 94.7 percent, the best ever, which means only five per cent of all volumes produced are still not captured for some economically useful, environmentally friendly purpose.

Reduction of solution gas flaring was identified as a top priority in 1997 by CASA. The flaring and venting project team is now looking at the feasibility of further reduction targets for solution gas flaring and issues such as venting, gas well testing, and gathering systems.

In conjunction with the EUB, the team has posted a newly established database to help oil and gas companies evaluate economical and creative ways to recover solution gas and provide third party contractors with the opportunity to approach well owners with proposed solutions. The database includes raw information on site location, gas production, hydrogen sulphide content, nearby residences, and project economics for many but not all facilities, and is freely available on the CASA Web site at **http://casahome.org.**

The CASA flaring framework was instrumental in the development of EUB Guide 60: Upstream Petroleum Industry Flaring Guide which led to the following significant reductions of solution gas flaring in Alberta:

Reductions of solution gas flaring in Alberta

Year	Firm target reduction (%)	Actual reduction (%)
1999	none established	30
2000	15	38
2001	25	53
2002	50	62

Source: ST-60B: Upstream Petroleum Industry Flaring Report, EUB, 2003

Ron Hicks, president

Message from the president

The Clean Air Strategic Alliance (CASA) has developed a reputation as a credible and trusted organization committed to developing wise solutions for better air quality management in Alberta.

Representatives from government, industry and non-governmental organizations work together through many long hours as volunteers on CASA project teams. The result of their time and expertise is a process recognized provincially and across Canada for its innovation and long lasting, comprehensive solutions.

Alberta realized two substantial gains in the management of air emissions this year because of the work of CASA stakeholders.

The particulate matter and ozone project team produced a province-wide framework for the management of these two air emissions. The framework helps Alberta meet its commitment under the Canada-wide Standards for Particulate Matter and Ozone. The concepts of continuous improvement, pollution prevention and keeping-clean-areas-clean are key components of the framework.

The electricity project team also delivered a consensus management framework that will substantially reduce emissions of mercury, sulphur dioxide, nitrogen oxides and particulate matter from new and existing coal-fired and gas-fired electricity plants. Implementation of the framework will put Alberta among North American leaders in managing air quality from electricity generation.

Both frameworks enable environmental, economic, social and health goals to be achieved, set out clear ground rules, provide flexibility to address local circumstances, and allow equal opportunities for Albertans, industry, government, environmental and health groups to participate in implementation. The combined effect of these frameworks will dramatically improve the air quality in Alberta's cities and rural areas.

Consensus, from the Latin meaning 'shared thought,' is what distinguishes CASA from other approaches to managing air quality. Without stakeholder volunteers, representing diverse views, being willing to work towards consensus, innovative solutions like the particulate matter and ozone and the electricity framework would not be achieved.

The extraordinary effort of our stakeholders, supported by a professional and dedicated secretariat, has brought us even closer to our vision of clean air for all Albertans.

Board of directors As of Dec. 31, 2003

Directors

Sector: Industry

Member category	Association/affiliation	Representative
Agriculture	Alberta Beef Producers	Herman Schwenk
Alternate energy		Vacant
Chemical manufacturers	Canadian Chemical Producers Association	Wil VandenBorn
Forestry		Vacant
Mining	Mining industry	Wayne Kenefick
Oil and gas (large producers)	Canadian Association of Petroleum Producers	Dave Byler, **CASA vice-president**
Oil and gas (small producers)	Small Explorers and Producers Association of Canada	Mitch Shier
Petroleum products	Canadian Petroleum Products Institute	Dave Barrett
Utilities	Utilities	Bob Page

Sector: Government

Member category	Association/affiliation	Representative
Federal	Environment Canada	Jim Vollmershausen
Local (rural)	Alberta Association of Municipal Districts and Counties	Phyllis Kobasiuk
Local (urban)	Alberta Urban Municipalities Association	Ed Gibbons
Provincial	Alberta Environment	Ron Hicks, **CASA president**
Provincial	Alberta Health and Wellness	Art McIntyre
Provincial	Alberta Energy	Jane Currie

Sector: Non-government organization

Member category	Association/affiliation	Representative
Consumers/transportation	Alberta Motor Association	Rob Taylor
Health	Alberta Lung Association	Tracy Bertsch
Pollution	Pembina Institute	Tom Marr-Laing, **CASA vice-president**
Pollution	Toxics Watch Society of Alberta	Myles Kitagawa
Wilderness	Prairie Acid Rain Coalition and Bert Riggall Environmental Foundation	Martha Kostuch

Alternates As of Dec. 31, 2003

Sector: Industry

Member category	Association/affiliation	Representative
Agriculture	Wild Rose Agricultural Producers	Grace MacGregor
Alternate energy	Alternate energy producers	David Baker
Chemical manufacturers	Canadian Chemical Producers Association	Ken Tsang
Forestry	Alberta Forest Products Association	Neil Shelly
Mining	Mining industry	Ron Laing
Oil and gas (large producers)	Canadian Association of Petroleum Producers	Bill Clapperton
Oil and gas (small producers)		Vacant
Petroleum products	Canadian Petroleum Products Institute	Ted Stoner
Utilities	Utilities	Mike Kelly

Sector: Government

Member category	Association/affiliation	Representative
Federal	Environment Canada	Tim Goos
Provincial	Alberta Environment	John Donner
Provincial	Alberta Health and Wellness	Stephen Gabos
Provincial	Alberta Energy	Jane Clerk

Sector: Non-government organization

Member category	Association/affiliation	Representative
Consumers/transportation	Alberta Motor Association	Dan VanKeeken
Health		Vacant
Pollution	Lake Wabamun Environmental Protection Association	Linda Duncan
Pollution	Residents for Accountability in Power Industry Development	Ian Peace
Wilderness	South Peace Environmental Association	Bob Cameron

Thank you to past board members

CASA gratefully acknowledges the contribution of board members, indicated below, who stepped down in 2003.

- **Cindy Chiasson**
  Environmental Law Centre
- **Pat Eldershaw**
  Alberta Lung Association
- **Eileen Gresl**
  Alberta Lung Association
- **Bart Guyon**
  Alberta Association of Municipal Districts and Counties
- **Gord Lambert**
  Canadian Association of Petroleum Producers
- **Dermot Lane**
  Fording Coal Limited
- **Henry Pirker**
  South Peace Environmental Association

Long-time CASA board member Henry Pirker passes

Henry Pirker, a long-time friend and colleague of the CASA family passed away on May 29, 2003 in Grande Prairie. He was born in Austria on March 24, 1929. His passions about environmental issues led him to serve on the CASA board of directors from its beginning in 1994. He gave his time to many CASA teams and was involved in the formation of the Peace Airshed Zone Association.

In tribute to Henry, the Peace Airshed Zone Association unveiled the Henry Pirker Air Monitoring Station in Muskoseepi Park, Grande Prairie. Henry's many friends and colleagues at CASA miss him dearly.

Donna Tingley, executive director

Message from the executive director

A true consensus process taps into the creativity, insights, experience, and perspectives of everyone involved. Significantly, a consensus process treats differences not as problems, but as stimulants to deeper inquiry and greater wisdom.

CASA is comprised of diverse stakeholders committed to using consensus decision-making to solve air quality management issues in Alberta. The secretariat supports CASA stakeholders and the consensus process through the effective coordination and management of human and financial resources and through facilitation and project management.

CASA's well-run and effective process and organization allows stakeholders more time to devote their insights, experience, and perspectives to the issues at hand. Keeping up with the energy and enthusiasm demonstrated by CASA stakeholders this year challenged the secretariat.

The challenge did not go unanswered. In 2003 the secretariat was instrumental in supporting 17 teams (seven ongoing teams, five teams that concluded their work this year, and five new teams), and four board meetings.

The electricity project team deserves special note because in many ways it was the largest project CASA has ever managed. Developing the framework to manage emissions from electricity generation required the efforts of over 70 stakeholders, nine sub-groups, the consultation of more than 350 Albertans and the entire secretariat.

I am proud to be part of a professional secretariat that thrives on challenge and continually demonstrates integrity and pride in service of our shared vision of clean air for all Albertans.

Donna Tingley

Secretariat

Administrative assistants
Sherri Clark (as of May 26, 2003)
Brenda Heyer (until May 30, 2003)
Marlene Parker

Communications advisor
Geoff Williams

Executive director
Donna Tingley

Office manager
Bernice Lloyd

Project managers
Matthew Dance
Keith Denman

Science advisor
Marianne English

Senior project manager
Kerra Chomlak

Thank you to **Christa Cruthers, Ingrid Liepa** and **Kim Sanderson** for applying their skills as consultants to various CASA teams this year.

A special thank you goes to **Christine Macken**, employed by the Alberta Energy and Utilities Board (EUB), in agreeing to return to CASA to work with the electricity project team. Christine was the original project manager for the team until she left CASA in 2002. Thank you to the EUB and Christine for this generous in-kind contribution to CASA and the electricity project

Measuring CASA performance

The board of directors agreed to **five performance measures** that would give a good indication of the organizational performance of CASA. The five performance measures are:

1.	Improved air quality indicators in areas of CASA action.
2.	Capability to measure air quality effects on humans and the ecosystem.
3.	Number of recommendations through the Comprehensive Air Quality Management System process implemented.
4.	Degree of CASA members, partners and clients' satisfaction with the CASA approach.
5.	Degree of recognition by emitters and the general public of CASA as a major vehicle for delivering improved air quality management for Alberta.

1. Improved air quality

CASA's mandate includes the evaluation of air quality in Alberta through a collaborative process.

To assess progress, two sets of indicators have been defined; one set is based on concentrations of selected substances in the air and the other set is based on exceedances of the Alberta ambient air quality one-hour guideline of three substances. Analysis began with data from 1994 because that was the year CASA was formed.

Concentrations of selected substances

Annual average concentrations, and the annual peak concentrations across Alberta are the two indicators selected in this set. The substances were selected because:

- They are substances of concern in Alberta
- They affect air quality in Alberta
- They are associated with issues addressed by one or more CASA project teams
- Data on each substance is readily available in electronic form.

The annual average concentration of wet deposition of acidifying emissions is also analysed.

The analysis indicates a downward trend in both average and peak concentrations of sulphur dioxide, benzo(a)pyrene and benzene. For ozone, a small downward trend is indicated for average concentrations, but a small upward trend for peak concentrations. A small downward trend is indicated for peak concentrations of nitrogen dioxide but no significant trend in average concentrations. No significant trend was found either in average or peak concentrations for fine particulates and hydrogen sulphide. A significant increasing trend is indicated for the average wet deposition of acidifying emissions.

Figure 1: Change in average concentration of selected substances (1994 to 2001)

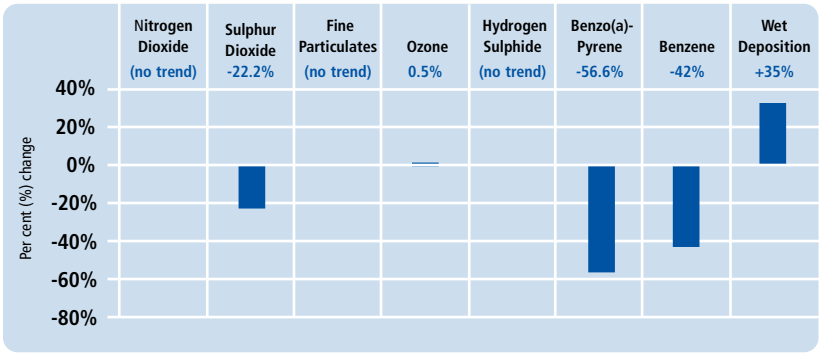
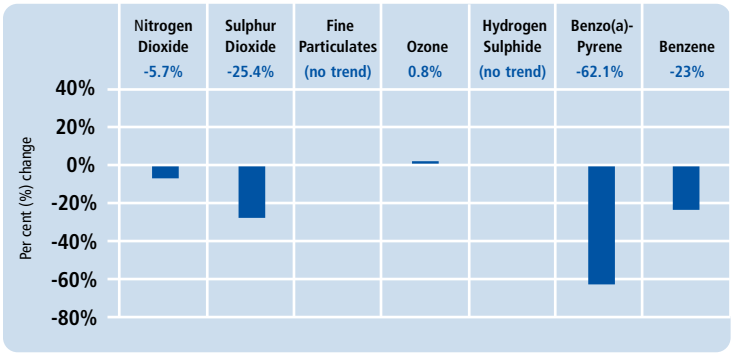


Figure 2: Change in peak concentration of selected substances (1994 to 2001)



Exceedances of the Alberta ambient guidelines

Exceedances of the Alberta ambient one-hour guideline across Alberta for three substances provided the second set of indicators. The data was obtained from industrial compliance data between 1994 and 2000. Data for 2001 was not available at the time of the analysis.

There is an overall downward trend for sulphur dioxide exceedances. No significant trend was found for hydrogen sulphide exceedances. There were not any nitrogen dioxide exceedances so a graph is not provided.

Figure 3: Sulphur dioxide – Per cent (%) exceedances from industry, airshed and provincial data (1994 to 2000)

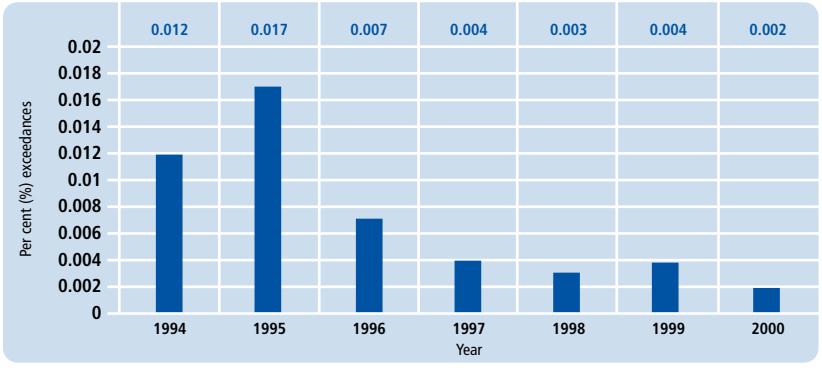
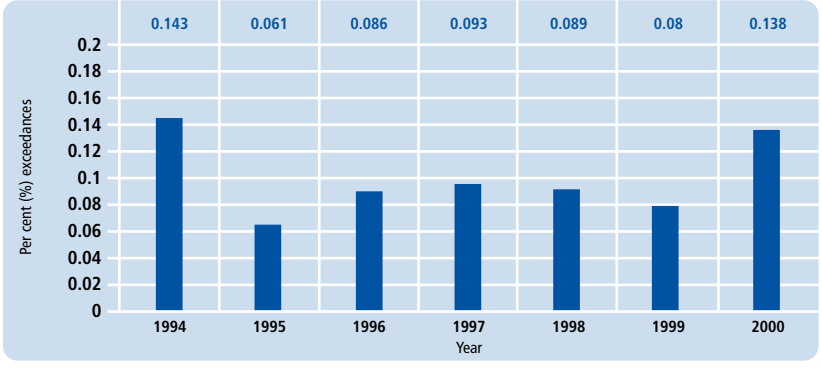


Figure 4: Hydrogen sulphide – Per cent (%) exceedances from industry, airshed and provincial data (1994 to 2000)



2. Capability to measure air quality effects

A suite of indicators is being developed to represent our capability to measure air quality effects. In order to define simple indicators it was decided to focus on an important part of measuring effects, namely monitoring. In order to define air quality effects a measure of air quality and a measure of the effects is needed resulting in the three types of monitoring indicators:

- Ambient air quality
- Ecological effects
- Human health effects.

The ambient air quality indicator is based on the number of air quality monitoring sites and instruments implemented compared to the number of sites and instruments expected to be in operation in Alberta. In 1994, the value of this ambient indicator was 31 per cent; and in 2002 it was 48 per cent. This indicates progress has been made in our capability to measure concentrations of substances of concern.

Similarly, two ecological effects monitoring indicators have been defined; one is based on the number of ecological monitoring sites that have been implemented compared to the number of expected sites. The other ecological effects monitoring indicator is simply the total number of ecological monitoring sites that have been implemented. By 2002, 33 per cent of the anticipated ecological effects monitoring sites had been implemented and there were a total of 10 ecological effects monitoring sites. In comparison, there were no ecological effects monitoring sites in Alberta in 1994.

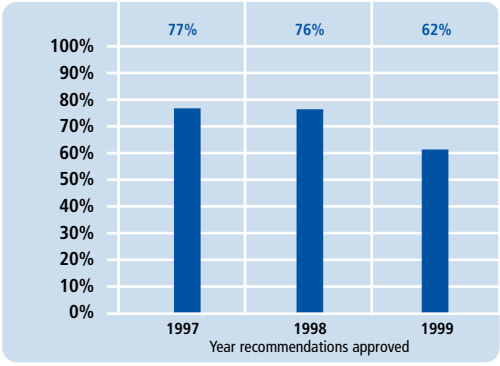
A human health monitoring indicator is presently being developed.

3. Recommendations implemented

CASA teams make recommendations for consideration by the CASA board of directors. This indicator examines the proportion of substantive recommendations that have been implemented within three years of board consideration and acceptance. Recommendations considered and accepted by the board that are administrative or operational are not included in this indicator.

In 2003, it was determined that 62 per cent of the substantive recommendations (approved by the board in 1999) had been implemented. In 2002, 76 per cent of substantive recommendations accepted in 1998 had been implemented. This is very similar to the 1997 result of 77 per cent, which was calculated in 2001.

Figure 5: Degree of Implementation of Substantive Recommendations



4. Stakeholder satisfaction

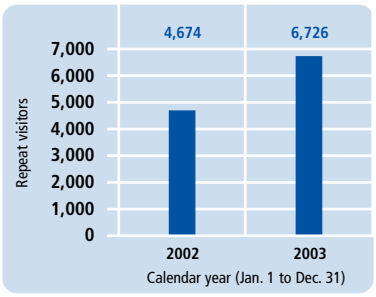
A survey to measure the degree of CASA stakeholder satisfaction was completed in 2001. The result was that 67 per cent of responding stakeholders were satisfied with the CASA way of addressing air quality issues. This compares to 53 per cent for a previous survey conducted in 1995. The next survey is scheduled for 2004.

5. Degree of recognition

To measure how well Albertans recognize CASA as an organization and its accomplishments, three indicators based on media coverage and another indicator based on CASA web site statistics are calculated each year.

Web site indicator results

In 2003 there were 6,726 repeat visitors to the CASA Web site based on 12 months of data from Jan. 1, 2003 to Dec. 31, 2003. This is an increase of 44 per cent or 2,052 more repeat visitors in 2003 compared to the revised 2002 result of 4,674.



Media hits indictor results for 2003

2003 is the first year 12 months of data was available and therefore the first time the three media hits indicators were calculated. Qualifying Alberta news stories from weekly and daily newspapers, and qualifying television and radio clips were sorted and the results are in the table below.

Number of Alberta news stories that mentioned CASA	**50**
All Alberta news stories that mentioned CASA in relation to all the Alberta news stories that mentioned air quality	**67%**
Alberta news stories that mentioned both CASA and air quality over all Alberta news stories that mentioned air quality	**21%**

CASA teams

The work of CASA is achieved largely through the participation of teams of individuals representing stakeholders who share an interest in a specific issue. Most issues are brought to the CASA board in the form of a statement of opportunity. When the board of directors agrees that CASA should take on an issue, a working group is formed to draft terms of reference for a project team. Once the board approves those terms of reference, a project team is formed. The project team is accountable to the board while individual participants are accountable to their stakeholder organizations. As appropriate, recommendations from a project team may lead to the formation of another team to oversee their implementation.

The CASA board of directors also forms committees to achieve specific organizational goals not directly associated with project teams.

Reports from CASA teams

Working groups

Ambient monitoring strategic planning

The ambient monitoring operation steering committee submitted a statement of opportunity to the CASA board to revise the original Ambient Air Quality Strategic Plan created in 1995. The CASA board agreed at its September 2003 meeting to the formation of this working group to develop terms of reference to oversee the revision of the 1995 plan.

Renewable and alternative energy, energy efficiency and conservation

A recommendation from the electricity project led to the creation of this working group in November 2003. The working group will address many issues including:

Renewable and alternative energy issues

- Setting a further target for renewable and alternative energy beyond 2008
- Seeking means by which consumer engagement mechanisms could be funded and implemented
- Seeking means by which a solar infrastructure initiative could be funded and implemented
- Examining options that would allow Climate Change Central, with the assistance of other groups such as the Office of Energy Efficiency, environmental non-government organizations, and retailers, to take the lead in the educating consumers about the sources of their electrical power
- Examining ways in which the Alberta emissions trading system might be used to assist in developing renewable and alternative energy.

Energy efficiency and conservation

- Working with Climate Change Central's Energy Solutions Alberta, relevant Alberta government agencies and existing data centres in developing measurement tools and monitoring overall electrical energy efficiency for the province
- Reviewing electrical energy efficiency and conservation tools and programs and making recommendations for their implementation, including implementation of a pilot project
- Seeking ways in which the purchase of ENERGY STAR™ appliances can be encouraged and incented
- Working with Alberta Energy, Alberta Environment, New Era, and the Alberta Electric System Operator with the goal of ensuring that the metering and transmission interconnection needs of distributed generation are met.

Human and animal health implementation

This working group was formed by the board in March 2003 based on a recommendation from the animal health project team.

Purpose:

- To provide a plan for implementation of the recommendations from the human health project team and the recommendations from the animal health project team
- Successfully complete the following specific objectives:

Objectives:

- Review and provide an implementation plan for the recommendations from the former human health project team
- Identify emerging issues in the areas of air emission effects on human and animal health, and recommend actions to address those issues
- Receive information about current and future research in the areas of human and animal health.
- Provide input into current and future research.

Indoor air quality working group

In recent years, indoor air quality (IAQ) has become an important health, environmental and occupational health concern, mainly as a consequence of the trend toward more tightly sealed buildings and various energy conservation measures and practices. The board of directors agreed to the formation of an indoor air quality working group to develop and recommend terms of reference. The terms of reference may include the following:

- Determine the nature, scope and extent of concerns associated with IAQ
- Identify health issues related to IAQ
- Review current programs and regulatory processes, and identify gaps in addressing IAQ problems at various levels of government
- Develop a strategic framework involving multiple stakeholders to manage IAQ in Alberta.

Priority setting workshop

With the help of the CASA secretariat, a stakeholder management committee and an expert science advisory team, Alberta Environment (AENV) held a priority-setting workshop in October 2000 to receive stakeholder input to prioritize substances nominated for the guideline development process. The purpose of the workshop was to provide an opportunity for stakeholders to:

- Identify substances that are a high priority for guideline development
- Provide advice on whether existing guidelines needed to be reviewed
- Identify substances for which further information is needed.

Based on information provided in a workshop evaluation form, the vast majority of participants felt that the workshop was useful and worthwhile and recommended this type of process be repeated in the future to identify subsequent rounds of priorities. The air section of AENV consequently developed a three-year work plan to address the priority substances and is near its completion.

AENV has again requested assistance in selecting substances for the next three years of air quality objectives development. To this end, CASA has formed the priority setting workshop working group.

Project teams

Airshed zones

Goals:

- To achieve consensus on revised CASA guidelines for airshed zones that are consistent with the CASA goals and principles
- To achieve consensus on the role of CASA in working with Alberta Environment (AENV) to implement the airshed alliance item of the department's business plan.

Objectives:

- CASA will have a clearly defined relationship with the airshed zones and, where appropriate, will be able to assist both Alberta Environment and the airshed zones in fulfilling their mandates
- The Government of Alberta will be able to work with CASA, airshed zones, industry, and community members with the assurance that the roles of zones and CASA in meeting the monitoring needs of the province are clear
- Stakeholders will understand how airshed zones can be formed and their relationship to CASA and the provincial government.

Report for 2003:

Over the last ten years a number of airshed zones have been established in Alberta. They are locally driven, multi-stakeholder, consensus-based organizations that seek to improve air quality by addressing local issues and by implementing ambient air monitoring systems. While these organizations are independent of the CASA board, they have an ongoing relationship with CASA through the board and through participation on some CASA project teams.

In the intervening years different opinions have emerged about the relationship between CASA, Alberta Environment and airshed zones and about the use and content of the Zone Air Quality Management Guidelines. The airshed boundaries task team, which reported to the CASA board in March 2001, resolved some but not all of the issues which arose at that time. At its March 2003 meeting, the CASA board decided to establish the airshed zones working group with a view to resolving a number of issues relating to airshed zones, and to further the CASA vision.

The terms of reference for the airshed zones project team were approved at the September 2003 CASA board meeting.

Animal health

Goal:

To prevent short and long-term adverse impacts of air contaminants on animal health.

Objectives:

- Identify key concerns regarding the effects of air emissions on animal health
- Investigate animal health impacts attributable to air contaminants
- Develop a management response system to manage identified risks
- Assess air quality guidelines and objectives and make recommendations to ensure animal health is protected
- Document and summarize scientific and local/traditional knowledge regarding the effects of air emissions on animal health
- Identify research gaps and make recommendations to fill the gaps
- Communicate with stakeholders.

Report for 2003:

Since 1999, the animal health project team has accomplished several key activities within its mandate including:

- The team sponsored a survey that identified issues and concerns regarding air quality and animal health
- One major area of focus was the development of a management response system, the Herd and Environmental Record System (HERS), to monitor livestock health issues potentially associated with air emissions
- The team identified a need to help communities undertake their own community monitoring programs and developed a brochure describing the types of programs and assistance available. Information from the brochure is posted on the CASA Web site at **http://casahome.org/AQ**
- The team made ongoing proactive contributions to the Western Canada Study undertaken by the Western Interprovincial Scientific Studies Association (WISSA)
- The team sponsored a workshop to learn about traditional and scientific knowledge.

The board of directors at its March 2003 meeting approved the team's report with recommendations and struck a working group to provide terms of reference for a human and animal health team.

Climate change

This team is in abeyance and did not hold meetings in 2003.

Electricity

Goal:

To develop an air emissions management approach including standards and performance expectations for the Alberta electricity sector.

Objective:

Recommend strategies to improve the air emissions performance of Alberta's electricity sector that reflect CASA's support for the following air quality management goals, namely:

1. Protect the environment.
2. Optimize economic performance and efficiency.
3. Seek continuous improvement.

Report for 2003:

The electricity project developed an emissions management framework for Alberta's electricity sector in about two years. The proposed framework will lead to significant reductions over time in four priority air emissions: mercury, sulphur dioxide, nitrogen oxides and primary particulate matter.

The framework is a creative mix of management strategies that will increase long-term regulatory certainty for all parties, provide flexibility in reducing emissions and encourage continuous improvement of the overall management system.

Following the CASA board's approval of the framework at its November 2003 meeting, Alberta Environment, with support from Alberta Energy and Alberta Health and Wellness, initiated the government decision-making process to gain provincial approval for the framework. On March 4, 2004 the Government of Alberta accepted and adopted the framework.

Key benefits of the proposed framework are many, and include:

- Significant reductions in four priority substances with anticipated co-benefits for a second list of substances
- Emission reduction requirements that will put Alberta among the leaders in air quality management in North America, and help to guide the development of national standards for mercury and greenhouse gases
- A sustainable emissions management system in terms of achieving environmental improvement within time frames that are economically achievable
- Increased long term regulatory certainty for all parties
- Ongoing multi-stakeholder input to the management of emissions from the electricity sector
- A blend of management tools, including an emissions trading system, that will provide industry with a wider range of choices, thus enabling it to minimize cost while meeting emission reduction targets
- Control strategies that can be applied to bring about emissions reductions in more than one substance.

Additional information and highlights on the framework are included in the ***Highlights*** section of this annual report.

More information is also available on the project Web site at **http://casa-electricity.org.**

Flaring and venting

Goals:

- To assess the performance of and make recommendations regarding the Alberta solution gas flaring and venting management framework
- To develop recommendations to address a broader range of flaring and gas venting issues in Alberta.

Objectives:

- Determine whether the solution gas flaring reduction targets for 2000 and 2001 have been met
- Determine, based on improved information, firm future reduction targets, timelines and threshold volumes for solution gas flaring and venting
- Evaluate the royalty treatment of flared and vented gas and cost sharing programs and its implication for achieving future reduction targets
- Review performance requirements and efficiency standards, and determine the feasibility of combustion efficiency standards for all flares
- Assess research findings and their implication for management of flaring and venting
- Review information on gas venting and mitigation approaches and recommend a venting management framework, including short-term actions and long-term strategies
- Review and develop recommendations with regard to Alberta Energy and Utilities Board (EUB) Guide 60, and Guide 60 Updates and Clarifications document.

Report for 2003:

Following on the success of its earlier work, the flaring and venting project team is working towards consensus on future reduction targets. It commissioned an economic analysis of flaring and venting in the province, and has arranged for the release of economic information that may lead to new uses of solution gas across the province.

The compiled data can be used to evaluate if conserving solution gas from oil batteries is economically feasible. The team hopes this information will help companies in the oil and gas industry find economical and creative ways to recover solution gas instead of it being flared or vented.

This is a win-win scenario where more efficient use of a resource can lead to less impact on the environment and a new market opportunity. The data can be used by contractors to propose to well owners, creative options to recover solution gas.

The Alberta Energy and Utilities Board (EUB) issued General Bulletin 2002-05 and Interim Directive 2002-02 requiring industry to submit information including site location, gas production, H_2S content, number of residences nearby and project economics conducted as per EUB Guide 60.

Particulate matter and ozone

Goal:

To reach consensus on recommendations for an Alberta implementation plan for achieving the provisions of the Canada-Wide Standards (CWS) for Particulate Matter (PM) and Ozone.

Objectives:

- Recommend strategies to achieve the CWS for PM and Ozone
- Recommend key components of the strategies
- Achieve stakeholder support for the implementation plan.

Report for 2003:

In June 2000 the federal, provincial, and territorial governments, except Quebec, signed the Canada-wide Standards (CWS) for Particulate Matter (PM) and Ozone, thereby agreeing to national ambient target levels for $PM_{2.5}$ and ozone and related provisions. Each jurisdiction committed to develop and share an implementation plan to meet the levels by 2010 and to report on achievement in 2006 and 2011.

After the CWS was signed, Alberta Environment asked CASA to form a multi-stakeholder project team to make recommendations on implementation of the CWS in the province. Building on the work of its predecessor, the multi-stakeholder group for particulate matter and ozone (MSG), the particulate matter and ozone project team developed the Particulate Matter and Ozone Management Framework that addresses the CWS with the goal of ensuring that ambient air quality for all Albertans remains as clean as possible. The framework and recommendations achieved consensus at the September 2003 CASA board meeting.

Since 2000, the particulate matter and ozone project team has accomplished the activities within its mandate including:

- Board approval of a Particulate Matter and Ozone Management Framework that implements the Canada-wide Standards for Particulate Matter and Ozone in Alberta
- Board approval of the Guidance Document for the Management of Fine Particulate Matter and Ozone in Alberta; a comprehensive resource for Albertans on implementation of the framework
- Completion of three major projects to increase understanding of particulate matter and ozone in Alberta
- Recommendations on further scientific research and analysis to fill key information gaps.

Alberta Environment expects to begin implementation of the framework in 2004.

Implementation teams

Ambient monitoring operations steering committee

Purpose:

To provide overall direction for the cooperative monitoring system by:

- Tracking progress in achieving the strategic plan
- Setting the annual budget for the CASA data warehouse Web site at **http://www.casadata.org**
- Approving the annual work plan
- Establishing policies and procedures
- Revising the strategic plan as required
- Reviewing and evaluating the system.

The ambient monitoring operations steering committee (OSC) provides overall direction, tracks progress and makes budgetary decisions regarding the implementation of the provincial ambient air quality monitoring network.

Report for 2003:

The OSC has looked at a process for revising the 1995 board approved Strategic Plan for Air Quality Monitoring in Alberta. The committee believes the plan needs to be updated to incorporate new air quality management strategies such as:

- The guidance document created by the CASA particulate matter and ozone project team
- CASA's emission management framework for electricity generation in Alberta created by the electricity project team
- Alberta Environment's new direction to support a comprehensive network of airsheds for the expansion of the provincial air quality monitoring network.

The committee prepared a statement of opportunity for the CASA board which led to the formation of the ambient monitoring strategic planning working group which will develop terms of reference to oversee the revision of the 1995 strategic plan.

The provincial monitoring network expanded to include a new monitoring station in Lethbridge. The station is owned by Alberta Environment (AENV) and is operated in co-operation with the City of Lethbridge.

The Alberta Ambient Air Data Management System, also known as the CASA data warehouse, currently contains continuous (hourly) air quality data from 29 provincial and airshed stations. The data warehouse contains historical data back to 1989 from AENV stations. Some data collected by non-continuous methods such as particulate data and air toxics data has recently been added to the data warehouse. Development of the warehouse's capabilities continued this year. New stations have been added and reporting capabilities were also enhanced. Plans are underway to add data from approximately 100 existing compliance stations to the warehouse. The CASA data warehouse has proven to be an important source of air quality data and information.

More information is available on the CASA data warehouse Web site at **http://casadata.org.**

Vehicle emissions

Goal:

Recommend initiatives to reduce vehicle emissions and support the CASA vision of clean air.

Objectives:

- Identify, evaluate and recommend areas of further action to reduce vehicle emissions
- Implement initiatives approved by the CASA board of directors
- Influence/advocate implementation of policies and programs that reduce transportation emissions
- Serve as a resource and give expertise to CASA teams and other organizations
- Identify and recommend communication/public education on vehicle emissions
- Identify gaps and make recommendations to fill gaps.

Report for 2003:

The vehicle emissions team (VET) made substantial progress in meeting its goals to pilot, monitor and evaluate vehicle emission reduction initiatives approved by the CASA board of directors.

Highlights:
Diesel particulate filter project:

Two diesel-powered Edmonton Transit Service (ETS) buses were retrofitted with diesel particulate filter (DPF) emission reduction devices to test filter effectiveness in colder climates. 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.

Preliminary results from the two sets of emissions tests were favorable and will be available sometime in the summer of 2004.

More information is available on the project Web site at **http://CleanBus.ca.**

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. A final report is expected in the summer of 2004.

Breathe Easy vehicle scrappage pilot program

One year after the completion of the Breathe Easy pilot project, the vehicle emissions team surveyed program participants to determine their ongoing transportation choices. The report will be completed in the spring of 2004.

The Breathe Easy Pilot Program led to the ongoing Climate Change Central "Car Heaven" vehicle scrappage program which started operating in Calgary and Edmonton in 2003. The Car Heaven Web site is at **http://carheaven.ca.**

More information is available on the Breathe Easy project Web site at **http://breathe-easy.ca.**

CASA board committess

Communications Committee

Goals

1. Increase and maintain stakeholder awareness, understanding, support for, engagement, and commitment to the CASA process and vision.
2. Increase individual Albertans' awareness, understanding, support for, engagement, and commitment to the CASA process and vision.
3. Move toward influencing individual Albertans' decisions and behaviours related to air quality in support of the CASA vision.

Objectives

1. To develop a clearly defined communications framework, priorities, and plans that sustain stakeholder involvement in order to:
   - Foster ongoing support and commitment to CASA's vision and process
   - Foster effective communications among project teams
   - Communicate project teamwork and results to stakeholders and individual Albertans.
2. To ensure ongoing evaluation of progress in relation to the communications framework, priorities and plans, and report regularly to the CASA board of directors.
3. To bring together stakeholder organizations involved in education and outreach related to air quality management in order to leverage, focus and amplify efforts to influence individual Albertans' behaviours.

Report for 2003:

Revised terms of reference for the communications committee were approved at the September 2003 CASA board meeting. The new terms of reference expanded the communications committee's focus to include education and outreach as part of its mandate. The new goals and objectives for the committee are listed above.

The committee completed a needs analysis/situational audit to examine internal strengths and weaknesses and external opportunities and threats. This process and the information gleaned from it helped the committee in two important ways. Firstly, common understanding of CASA as an organization and a process was achieved. Secondly, the analyses began the process to strategically align the CASA Communications Planning Framework with organizational priorities contained within the CASA Business Plan 2003 – 2005. The committee expects to present to the board a clearly defined communications plan with a framework, priorities, and actions in 2004.

To measure how well Albertans recognize CASA's accomplishments the communications committee worked with the performance measures subcommittee to create and calculate indicators for CASA's degree of recognition performance measure. There are three indicators based on media coverage and another based on CASA Web site statistics.

The results for the performance indicators are available in the ***Measuring CASA performance*** section of this annual report.

Executive committee

The executive committee is composed of four positions; the president, two vice-presidents, and the secretary-treasurer. Members from each sector (government, industry and non-government organizations) are represented on the executive committee.

The members of the executive committee at the end of 2003 were:

Ron Hicks, president
Representing the government sector

Tom Marr-Laing, vice-president
Representing the non-government organization sector

Dave Byler, vice-president
Representing the industry sector

Donna Tingley, secretary-treasurer
Executive director of CASA

Performance measures sub-committee

Objectives:

- To define one or more appropriate performance indicator(s) for each of five numbered performance measures:
  1. Improved air quality indicators in areas of CASA action.
  2. Capability to measure air quality effects on humans and the ecosystem.
  3. Number of recommendations through the Comprehensive Air Quality Management System process implemented.
  4. Degree of CASA members, partners and clients' satisfaction with the CASA approach.
  5. Degree of recognition by emitters and the general public of CASA as a major vehicle for delivering improved air quality management for Alberta.
- To develop a plan for obtaining a baseline for each indicator and calculate the indicator
- To assess progress by comparing the current value of the indicator with the baseline
- To report to the CASA board on performance.

Report for 2003:

In 2003, the subcommittee applied the approved framework for calculating the average degree of implementation of CASA recommendations from 1999. The result was 62 per cent of substantive board approved recommendations from 1999 have been implemented.

The subcommittee also defined two new ecological monitoring indicators; one, the per cent implementation of the ecological monitoring provisions in the 1995 Strategic Plan for Air Quality Monitoring in Alberta and two, the number of ecological effects monitoring sites with co-located ambient monitoring. The direction of progress for each of the two indicators is positive.

The results for all the performance indicators are available in the ***Measuring CASA performance*** section of this annual report.

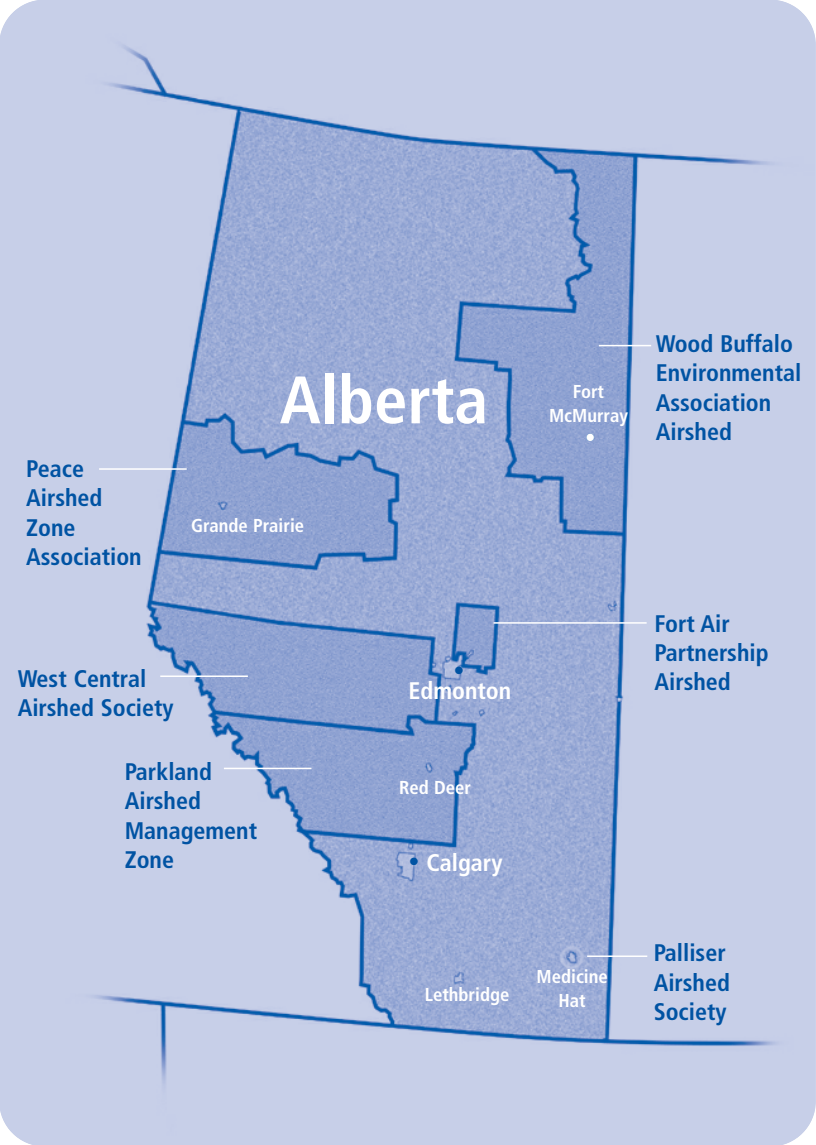
Airshed zones

Airshed zones are established as a means of dealing with air quality issues in a specific region. Stakeholders in a local region drive the establishment of an airshed zone. CASA provides the framework within which an airshed zone functions but each operates independently from CASA as a non-profit society or association. Airshed zones are consensus-based and support the CASA vision.

Passive and/or continuous ambient air quality monitoring is conducted in each airshed zone and is funded by the partners in the airshed zone.

In 2003 there were six airshed zones operating in Alberta. Interest in forming new zones has been expressed in the Cold Lake area, the Edmonton-Wabamun area, the Bow Valley corridor, and the Lethbridge region.

The Palliser Airshed Society started operations in Medicine Hat and Redcliffe in 2003 and is seeking official endorsement by the CASA board of directors. For more information about the Palliser Airshed Society visit **http://www.palliserairshed.ca.**



Reports from CASA airshed zones

Fort airshed

The Fort Air Partnership (FAP) is a voluntary partnership - a group of stakeholders that sees the benefit of sitting down at the same table and working through issues together to produce relevant, credible information that can be used to manage and improve air quality, protect environmental health, and influence public policy.

FAP is a registered, non-profit society whose committee members use a consensus decision-making model. As one of Alberta's six airsheds, FAP serves a specific area of approximately 4,500 square kilometres in size. The organization's vision is that people living and working in the Fort Saskatchewan area have air quality that compares favourably with other areas in Alberta.

In 2003, FAP went on-line with real time air quality monitoring data from seven of its eight ambient air monitoring stations, with the final station expected to go on line in the first half of 2004. The goal is to ensure the network is functioning over 98 per cent of the time. A technical working group sub-committee is responsible for deciding on which equipment needs replacing, to ensure high uptime and lower maintenance costs. An on-going project of this group is to prepare a feasibility study of implementing a passive monitoring network.

As part of its 2003 business plan to be accountable to all stakeholders, FAP published reports to the community in several local newspapers. In March 2003, FAP conducted a telephone survey of 400 adults who live within the boundaries of the airshed to help identify air quality concerns in the area. FAP participated in the annual Fort Saskatchewan trade fair in April to raise awareness about the organization and air quality in the community. An article exploring the relationship of air quality and human health in the Fort Saskatchewan area was published on the FAP Web site in December 2003. As part of its objective to continuously improve the FAP Web site, health fact sheets will be developed on subjects determined by the health subcommittee. Two of these fact sheets were posted in 2003.

Part of FAP's business plan for 2003, which will continue into 2004, is to identify further financial and in-kind resources that can be committed to implementing, maintaining and sustaining the Fort Air Partnership's air monitoring and information programs.

Palliser airshed

The Palliser Airshed Society (PAS) was established in the spring of 2003 to take responsibility for assessing air quality issues within an approximate 150 square kilometre area of south eastern Alberta, with a population of approximately 53,000 people. The Palliser airshed is the first to be developed in southern Alberta and as such shows the commitment to air quality issues from all the stakeholders in the Medicine Hat area and will seek official endorsement by the CASA board of directors in the spring of 2004.

The PAS air quality monitoring network consists of one continuous station and six passive monitoring sites. The continuous site will provide real time data for nitrogen dioxide (NO_2), ozone (O_3), total hydrocarbons (THC), fine particulate matter ($PM_{2.5}$) and meteorological data. Monthly data from the passive sites will include nitrogen oxides (NO_X), sulphur dioxide (SO_2) and ozone.

Parkland airshed

2003 marked the fifth year of operation of the Parkland Airshed Management Zone Association's (PAMZ) regional air quality monitoring (AQM) program. Throughout the year the association continued to organize and hold public meetings and workshops with a common theme of exploring air quality-related issues and seeking input into strategies and plans to address them.

In February, a Pollution Prevention Workshop was held in Red Deer. Guest speakers included representatives from Alberta Environment, the CASA pollution prevention and continuous improvement project team and a pollution prevention expert from the United States. Recommendations and actions from the workshop were incorporated into a PAMZ pollution prevention action plan approved by the association's board of directors in March. The plan is currently being implemented by PAMZ and workshop attendees.

In May a public meeting was held in Dovercourt, a hamlet southeast of Rocky Mountain House, to identify possible locations for the PAMZ portable air quality monitoring station for 2004. The four monitoring locations chosen based on input received at this meeting were Dovercourt, Rimbey, Red Deer city centre and a location associated with a large-scale "best practices" hog farming operation. In June, PAMZ hosted a two-day Environment Canada "Let's Drive Green" Vehicle Emissions Inspection Clinic in Red Deer at the Bower Mall Shopping Center. The event was a total success with 243 vehicles tested and a pass rate of 86 per cent.

In July, the Ozone Research Monitoring Program was expanded to include high volume sampling for beryllium-7 at the Harlech Station, located in the foothills northeast of Nordegg. Environment Canada is providing the equipment and materials for this sampling and the analysis is being conducted by the Saskatchewan Research Council. Additionally, Environment Canada is also providing funding for the operation of the Harlech Station that includes equipment loaned to PAMZ by Alberta Environment.

In late November, utilizing surplus equipment from other PAMZ stations and equipment donations from several member-companies, a second portable monitoring station was added to the PAMZ AQM program. This station will be used primarily to fill data gaps that may exist for technical issues, e.g. ozone and fine particulate matter and for monitoring at locations specifically to build a historical and geographical zonal air quality database.

PAMZ launched its revamped Web site at **http://www.pamz.org** at the beginning of December. The Web site is now operated by PAMZ and contains zone air quality data, an events calendar, a survey page and several other innovative features.

Throughout the year PAMZ continued to work with Alberta Health and Wellness and the David Thompson Health Region on the design and development of a community exposure and health effects assessment program scheduled to start in 2004.

During 2003, PAMZ continued its series of public presentations to raise public awareness and knowledge of air quality issues including ozone in Alberta – a federal perspective, ground-level ozone in Alberta, transportation emissions in Alberta, health effects associated with short-term exposure to low levels of hydrogen sulphide, and indoor air quality and its effect on occupant health.

Peace airshed

2003 was a monumental year for the Peace Airshed Zone Association (PASZA) with the association receiving the endorsement in March of the CASA board of directors. Another milestone was the establishment of an office operation in Grande Prairie where the administration, accounting, field support and data quality assurance/quality control operations are now centralized.

In June, the passive monitoring network was rationalized from 49 to 43 stations based on a review of the first eight months of data collected by the program. At the close of the year amendments to Alberta Environment operating approvals for 17 PASZA member facilities were nearing the final stages of completion. These amendments will replace the facilities' previous compliance static air quality monitoring (AQM) programs with their participation and support of the more comprehensive PASZA regional passive AQM program.

Start-up of the Henry Pirker Air Monitoring Station, originally scheduled for the fall, was deferred due to a relocation of the original site. The station will be dedicated to the memory of the late Henry Pirker, a lifelong environmentalist, apiarist and resident of the Debolt area. Henry was also a CASA board member who made

important contributions to PASZA in its formative years and also to several CASA project teams and other organizations all with the common goal of improving air quality.

The Henry Pirker Station will continuously monitor Grande Prairie's air quality by measuring concentrations of five pollutants: carbon monoxide, fine particulate matter, nitrogen dioxide, ozone and sulphur dioxide. From these measurements, an hourly air quality index will be calculated to provide city residents with an indicator of air quality that is simple and easy to understand.

At the end of the year the station itself had been completed using purchased, leased and loaned equipment. Final approval from the City of Grande Prairie for a site in Muskoseepi Park along with installation is expected in early January 2004.

Throughout 2003, work continued on the design and implementation of the remainder of the PASZA continuous AQM program utilizing as much as possible, instrumentation and equipment from existing government and industry-operated stations in the region. A minimum of two more continuous stations are scheduled for start-up in 2004.

West central airshed zone

West Central Airshed Society (WCAS) has completed it eighth successful year. The society has continued to provide an in depth understanding of air quality in the region. Expansion of the boundaries and the monitoring program has proven to be a large challenge. A scientific review of the monitoring program and a review and optimization of the monitoring in the Wabumun and Genesee areas was undertaken. A joint expansion submission from WCAS, TranAlta and EPCOR was submitted to Alberta Environment and was subsequently approved in August of 2003.

The new program includes the construction of four new continuous air-monitoring stations. The new stations will provide a good understanding of air quality in the Wabumun and Genesee areas and will add to the regional base of air quality information. Twelve passive monitoring sites were also established in the eastern boundary region to provide an indication of air quality travelling to and from the City of Edmonton.

Year eight brings to a close the agriculture bio-monitoring study on the effects of air quality on Alfalfa (Medicago sativa L.) and Saskatoons (Amelanchier alnifolia Nutt.). Dr. Sagar Krupa, Dr. Allan Legge and Dr. Milo Nosal will complete a paper on the results of this study early in 2004.

The major goal of this program was to gather enough data to test a computer model that could predict plant injury in response to sulphur dioxide. Agriculture bio-monitoring will continue to be a part of the WCAS program. The agriculture program will determine its future direction once the final report is available.

An agreement with Weldwood of Canada was negotiated in November and WCAS installed a new air monitoring station in Hinton. WCAS will operate and maintain the station and will be responsible for data collection and reporting. The Hinton station data is available on the WCAS Web site at **http://www.wcas.ca** and is reported on a real time basis. This station is the first urban station WCAS operates, two more urban stations are planned for Drayton Valley and Edson. Both of these stations will be operated in 2004 for Weyerhaeuser Canada. Adding urban stations to the network provides a new dimension and balance to the air monitoring program for the region.

WCAS recognizes the need to communicate with the public and does this by providing numerous public presentations, the Web site, and the publication of two newsletters. The newsletters were mailed out to thousands of homes in the region and will continue in 2004.

Wood buffalo airshed

The Wood Buffalo region is currently undergoing a period of unprecedented industrial growth. The Wood Buffalo Environmental Association (WBEA) continues to keep pace with monitoring the effects of industrial and non-industrial development and provides a circle within which multi-stakeholder dialogue can take place.

The 2003 operating year has been one of transition for the WBEA and its subcommittees continue to take on new projects. During 2003, new contracts have been awarded for ambient air monitoring, the analysis of volatile organic compounds, and for investigation of the terrestrial effects of airborne emissions.

WBEA members continue to build upon the association's strengths and initiatives in all areas. A well attended strategic planning session at year end facilitated the re-visiting of the WBEA vision and mission, core values, and affirmed desired organizational outcomes. As a direct result, implementation has begun on a results-based management process where outcomes will be shaped and then monitored directly by members. As new members join WBEA and its subcommittees the organization's level of effectiveness increases.

The association's activities have been consolidated in four core operational areas:

1. Monitoring environmental quality.
2. Focused investigation, data and information gathering.
3. Communicating information on environmental quality.
4. Collaborative environmental decision-making and action.

Within each of the core operational areas, specific indicators were established to measure the achievement of goals put forward by our members.

Monitoring environmental quality

Considerable effort in the areas of planning and operations was applied by WBEA members and staff in order to ensure a smooth transition of the operation and maintenance contract for the WBEA air monitoring network. Parallel data collection was set up during December at a number of WBEA stations to ensure that data quality would not be compromised with switching over to a new data collection system. Members of the ambient air technical committee (AATC) also worked diligently during the last quarter of 2003 on an initiative to enhance the existing VOC monitoring program in the region.

Focused investigation, data and information gathering

The terrestrial environmental effects monitoring committee and science subcommittee continues to pursue its goals of providing reliable data on the terrestrial effects of air emissions. Ongoing lichen, soil microbiology and forest heath assessments are aimed at understanding the range and effects of air emissions in the region.

Communicating information on environmental quality

During 2003, WBEA and its communications committee continued to attend community events, distribute a quarterly newsletter, and communicate with stakeholders and the public through the media. Its goal is to ensue that the public receives data and information in a timely manner and in a readily understandable form. The human exposure monitoring committee has focused its efforts on establishing a formal community consultation and communications process and timeline for its community oriented monitoring program. Groundwork was initiated in order to establish a mechanism for providing information on common sources of indoor air contamination to the public. The development of innovative and locally appropriate communication materials continues.

Collaborative environmental decision-making and action

The WBEA continues to promote its mandate relative to other environmental organizations in the region and to expand its membership to include stakeholders in the region whose actions and policies impact the environment. Dynamic circles and processes that support dialogue and collaborative decision-making have been established and continue to facilitate growth and development.

Funding

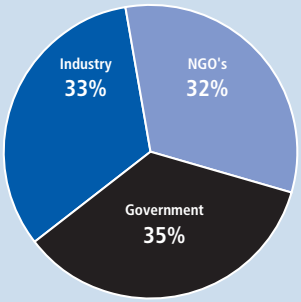
The core operations of CASA are supported by equal financial contributions from Alberta Environment, Alberta Health and Wellness, and Alberta Energy. Industry, government and non-government organizations provide additional funding and in-kind support for CASA teams and in-kind support and funding for the airsheds.

CASA has tried to put an actual dollar figure on the support and assistance provided by each sector. The figures are compiled by examining time and travel costs, as well as cash and in-kind contributions and almost certainly under-record and under-estimate the actual value of stakeholder contributions. These figures are offered in the spirit of acknowledging and recognizing participant involvement.

CASA teams

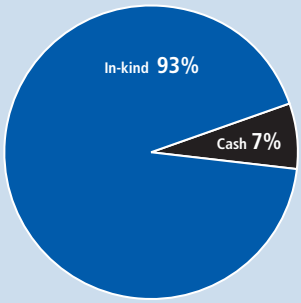
Cash and in kind contributions by sector:

Industry:	$ 1,152,475
Government:	$ 1,252,126
Non-government organizations:	$ 1,127,730
Combined:	**$ 3,532,331**



Total cash and in kind contributions:

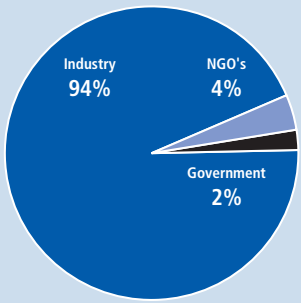
In kind:	$ 3,271,281
Cash:	$ 261,050
Combined:	**$ 3,532,331**



Airsheds

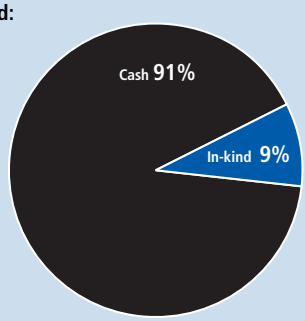
Cash and in kind contributions by sector:

Industry:	$ 4,238,092
Government:	$ 190,245
Non-government organizations:	$ 98,260
Combined:	**$ 4,526,597**



Total cash and in kind contributions:

In kind:	$ 401,292
Cash:	$ 4,125,305
Combined:	**$ 4,526,597**



The airshed figures are provided by the following organizations: ■ Fort Air Partnership Association ■ Parkland Airshed Management Zone Association ■ Peace Airshed Zone Association ■ West Central Airshed Society ■ Wood Buffalo Environmental Association.

The people

The following people have given their time, effort, goodwill and expertise in the pursuit of the CASA vision. A profound thank you goes out to all our stakeholders and the organizations with which they are affiliated.

Barbara Anderson
Randy Angle
Janet Annesley
Mark Antoniuk
Judith Athaide
David Backstrom
Margaret Bailey
David Baker
Justin Balko
Trent Bancarz
Sandra Barnett
Dave K. Barrett
Keri Barringer
Rick Barteluk
Laurie Bates-Frymel
Larry Begoray
Tracy Bertsch
Peter Blackall
Bill Bocock
Karina Bodo
Alex Bolton
Locke Boros
Pat Bowes
Ron Braun
Barry Breau
James Brown
Michael Brown
Wayne Brown
Brian Browning
Alan Brownlee
Carol Burelle
Oliver Bussler
Dave Byler
Christine Byrne
Robert (Bob) Cameron
Mark Campbell
Marilyn Carpenter
Claude Chamberland
Denise Chang-Yen
Cindy Chiasson
Ward Christensen
Bill Clapperton
Jane Clerk
Simon Cobban
Ron Collins
Robert Coppock
Jeff Cormier
Jennifer Cummings
Jane Currie
Peter Davis
Gur Dhaliwal
Kendall Dilling
Jim Dixon
Randy Dobko
John Donner
Susan Dowse
John Drinkwater
Linda Duncan
Louise Durocher
Kim Eastlick
Goldie Edworthy
Jason Edworthy
Pat Eldershaw
Randy Ellis
Gerry Ertel
Rob Falconer
Graeme Feltham
Rick Ferster
Margaret Fisher
Eric Flanagan
Shannon Flint
Long Fu
Greg Gabert
Stephan Gabos
Pat Garvin
Dave Geake
Ed Gibbons
Paul Godman
Tim Goos
David Graham
Geoff Granville
Eileen Gresl
Mary Griffiths
Jim Guthrie
Bart Guyon
Russell Hantho
Richard Harpe
Catherine Hart
Lynda Harvey
Howaida Hassan
Karen Haugen-Kozyra
Chris Hay
Bob Hearn
Stewart Henderson
Jill Hendren
Dennis Herod
Ron Hicks
Wayne Hillier
Brad Howard
Gordon Howell
Theresa Howland
Bill Hume
Dianne Humphries
Paul Hunt
Judy Huntley
Rick Hyndman
Hasan Imran
Doug Innes
Dan Jack
Hanna Janzen
Geoffrey Johns
Barb Johnson
Ila Johnston
Kevin Johnston
Les Johnston
Wayne Johnston
George Jones
Gray Jones
Peter Jones
Tamara Jonson-Shepherd
Chris Kaiser
Roy Kanten
Markus Kellerhals
Mike Kelly
Joe Kendall
Wayne Kenefick
Murray Kerik
Myles Kitagawa
Simon Knight
Phyllis Kobasiuk
Brent Korobanik
Joe Kostler
Martha Kostuch
Bevan Laing
Ron Laing
Brent Lakeman
Kirk Lamb
Gord Lambert
Tim Lambert
Dermot Lane
Leah Lawrence
Sheila Leggett
Frank Letchford
David Lewin
Dean Lien
Chow-Seng Liu
Satwant Lota
Allan Lowe
Wendy Lyka
David MacDonald
Don Macdonald
William Macdonald
Grace MacGregor
Alexander MacKenzie
Jerry MacPherson
Tom Marr-Laing
Matt McCulloch
Paije McGrath
Art McIntyre
Kevin McLeod
Sandra McMillan
Lynn McNeil
Domenic Mignacca
Brian Mitchell
Russell Miyagawa
Krista Moroz
Larry Morrison
Penny Mosmann
Art J. Murphy
George Murphy
Bob Myrick
Jaideep Narayanan
Carol Newman
Carmelita Olivotto
Ken Omotani
Ted Ostrowski
Bob Page
Andrew Pape-Salmon
David Parker
John Parr
Bob Patrick
Dennis Paul
Rick Paul
Ian Peace
Jeff Pearson
Bill Peel
Melissa Peters
Henry Pirker
Bob Piro
Albert Poulette
Mark Psutka
Keith Purves
Saad Rahim
Robert Raimondo
Barry Ranger
Dwight Redden
Rosalyn Reid
Duane Reid-Carlson
Arnie Reimer
Dave Reynolds
Greg Rideout
Jonathan Robb
Mayne Root
Kim Royal
Ronnie Sadorra
Richard Sakaguchi
Jagtar Sandhu
Warren Sarchuk
Gary Sargent
Doug Sasaki
Ron Schafer
Lawrence Schmidt
Ron Schmitz
Ed Schultz
Al Schulz
Herman Schwenk
Bob Scotten
Chris Severson-Baker
Doug Shaigec
Nashina Shariff
Neil Shelly
Dean Sheppard
Mike Sheppard
Mitch Shier
Rob Shymanski
Elizabeth Siarkowski
Rod Sikora
Song Sit
Colin Smigelski
Michael Smith
Ralph Smith
Jim Spangelo
Colleen Sparks
David Spink
John Squarek
Dennis Stefani
Ron Steffan
Bob Stone
Ted Stoner
Lisa Strosher
David Swann
Elizabeth Swanson
Rob Taylor
Terence Taylor
Tim Taylor
Andy Teal
Jack Thompson
Justin Thompson
Gloria Trimble
Ken Tsang
Reed Turner
Harry Tyrrell
Kerry Van Camp
Wil VandenBorn
Joyce VanDeurzen
Dan VanKeeken
Didem Varol
Karen Veitch
Jim Vollmershausen
Brian Waddell
Sarah Waddington
Darcy Walberg
Evelyn Walker
Kevin Warren
Don Wharton
Brian Wiens
Gary Woloshyniuk
Raymond Wong
Mary-Frances Wright
Ruth Yanor
Bev Yee
Brian Young

Volunteers

Thank you to **Matt Boutillier**, **Laura Ferguson**, CMA, and **Pat Humphries** who volunteered their time to assist with the administrative needs of CASA. Their contributions are truly appreciated.

The organizations

The following organizations have offered financial and in-kind support to CASA. This support ensures the continuing success of CASA.

Agrium

Alberta Agriculture, Food and Rural Development

Alberta Association of Municipal Districts and Counties

Alberta Beef Producers

Alberta Energy

Alberta Energy and Utilities Board (EUB)

Alberta Environment

Alberta Environmental Network

Alberta Federation of Rural Electrification Associations

Alberta Forest Products Association

Alberta Health and Wellness

Alberta Infrastructure

Alberta Lung Association

Alberta Motor Association

Alberta Motor Transport Association

Alberta Research Council

Alberta Road Builders and Heavy Construction Association

Alberta Transportation

Alberta Urban Municipalities Association

AltaGas Services Incorporated

AMAROK Consulting

ATCO Electric

ATCO Gas

ATCO Power

Bert Riggall Environmental Foundation

Bow Ark Energy Limited

BP Canada

British Columbia Ministry of Energy and Mines

Buyers of Power Purchase Agreements

Calgary Health Region

Calgary Motor Dealers' Association

Calgary Pick-Your-Part

Calgary Transit

Calpine Canada

Canadian Association of Petroleum Producers

Canadian Chemical Producer's Association

Canadian Natural Resources Limited

Canadian Petroleum Products Institute

Canadian Public Health Association

Citizens for Better Transit

City of Calgary

City of Edmonton

Climate Change Central

County of Grande Prairie

Direct Energy

Dow Chemical Canada Incorporated

Dr. Joyce Van Donkersgoed Veterinary Services Incorporated

Edmonton Friends of the North

Edmonton Journal

Edmonton Transit System

Elk Valley Coal Corporation

EnCana Corporation

ENMAX Energy Corporation

Environment Canada

Environmental Law Centre

Environmental Resource Centre

EPCOR

Exxon Mobil Canada

First Nations Energy Task Force

Fleetguard Emission Solutions

Focus

Fort Air Partnership

Graymont Western Canada

Health Canada

Heenan Blaikie LLP Lawyers

Howell Mayhew Engineering Incorporated

Husky Energy Incorporated

Imperial Oil Resources

Inland Cement Limited

KeySpan Energy Canada

Kidney Foundation

LaFarge Canada Incorporated

Lake Wabamun Enhancement & Protection Association

Luscar Limited

Mewassin Community Action Council

National Farmers Union

Natural Resources Canada

Natural Resources Conservation Board

Northern Alberta Institute of Technology

NOVA Chemicals Corporation

Palliser Airshed Society

Parkland Airshed Management Zone

Peace Airshed Zone Association

Pembina Institute

Penn West Petroleum Limited

PetroCanada

Phoenix Engineering Incorporated

Prairie Acid Rain Coalition

Residents for Accountability in Power Industry Development

Rose Ridge Citizens

SaskPower

Shell Canada Limited

Small Explorers and Producers Association of Canada

South Peace Environmental Association

Suncor Energy Incorporated

Syncrude Canada Limited

Toxics Watch Society of Alberta

TransAlta Corporation

TransCanada Corporation

University of Alberta

Veterinary Services Incorporated

Vision Quest Windelectric Incorporated

West Central Airshed Society

Weyerhaeuser Canada

Wildrose Agricultural Producers

Wood Buffalo Environmental Association

Financial Statements of The Clean Air Strategic Alliance Association

Auditor's Report

To the Members of
The Clean Air Strategic Alliance Association

We have audited the balance sheet of The Clean Air Strategic Alliance Association as at December 31, 2003 and the statements of revenue, expenditures and fund balances and cash flow for the year then ended. These financial statements are the responsibility of the Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement.

An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Association as at December 31, 2003 and the results of its operations and changes in its financial position for the year then ended in accordance with Canadian generally accepted accounting principles.

Deloitte & Touche LLP

January 30, 2004

Deloitte Touche

Deloitte & Touche LLP
2000 Manulife Place
10180 - 101 Street
Edmonton, Alberta T5J 4E4

Telephone: (780) 421-3611
Facsimile: (780) 421-3782
www.deloitte.ca

Balance sheet

Year ended December 31, 2003

	2003				2002
	Core	External Projects	National Climate Change	Total	Total
Assets					
CURRENT					
Cash	$ 61,826	$ 166,032	$ 3,554	**$ 231,412**	$ 151,845
Investments	440,000	130,000	266,000	**836,000**	840,000
Accrued interest	-	122	441	**563**	706
Accounts receivable	22,699	20,000	-	**42,699**	46,268
Interfund receivable (payable)	8,874	(8,101)	(773)	**-**	-
Prepaid expenses	2,658	-	-	**2,658**	2,848
	536,057	308,053	269,222	**1,113,332**	1,041,667
CAPITAL ASSETS (Note 3)	7,183	-	-	**7,183**	10,261
	$ 543,240	$ 308,053	$ 269,222	**$ 1,120,515**	$ 1,051,928
Liabilities					
CURRENT					
Accounts payable	$ 18,020	$ 42,474	$ -	**$ 60,494**	$ 16,991
Deferred contributions (Note 4)	258,609	265,579	-	**524,188**	784,527
Due to National Climate Change Secretariat (Note 5)	-	-	269,222	**269,222**	-
	276,629	308,053	$ 269,222	**853,904**	801,518
FUND BALANCES					
Board restricted	200,000	-	-	**200,000**	200,000
Unrestricted					
Invested in capital assets	7,183	-	-	**7,183**	10,261
Available for operations	59,428	-	-	**59,428**	40,149
	$ 543,240	$ 308,053	$ 269,222	**$ 1,120,515**	$ 1,051,928

APPROVED BY THE BOARD

Ron Hicks, director

Donna Tingley, director

Statement of revenue, expenditures and fund balances

Year ended December 31, 2003

	2003			2002
	Core	External Projects	Total	Total
REVENUE				
Grants	$ 921,791	$ 358,592	**$ 1,280,383**	$ 1,643,873
Interest	16,201	8,169	**24,370**	29,586
	937,992	366,761	**1,304,753**	1,673,459
EXPENSES				
Projects	496,920	-	**496,920**	427,574
Communications	82,554	-	**82,554**	75,882
External Projects	-	366,761	**366,761**	857,462
Board support	70,128	-	**70,128**	80,057
General and administrative	256,988	-	**256,988**	207,745
Statement of concern	15,201	-	**15,201**	5,820
	921,791	366,761	**1,288,552**	1,654,540
			16,201	18,919
NET REVENUE	16,201	-		
FUND BALANCE, BEGINNING OF YEAR	250,410	-	**250,410**	231,491
FUND BALANCE, END OF YEAR	$ 266,611	$ -	**$ 266,611**	$ 250,410

Statement of cash flow

Year ended December 31, 2003

	2003	2002
NET INFLOW (OUTFLOW) OF CASH RELATED TO THE FOLLOWING ACTIVITIES		
OPERATING ACTIVITIES		
Net revenues	$ **16,201**	$ 18,919
Add item not requiring an outlay of cash		
Depreciation	**3,078**	4,398
	19,279	23,317
Decrease in accrued interest	**143**	786
Decrease (increase) in accounts receivable	**3,569**	(41,004)
Decrease (increase) in prepaid expenses	**190**	(197)
Increase in accounts payable	**43,503**	10,432
Decrease in deferred contributions	**(260,339)**	(73,280)
Increase in Due to National Climate Change Secretariat	**269,222**	-
	75,567	(79,946)
INVESTING ACTIVITIES		
Purchase of capital assets	**-**	(4,511)
INCREASE (DECREASE) IN CASH AND SHORT-TERM INVESTMENTS	**75,567**	(84,457)
CASH AND SHORT-TERM INVESTMENTS, BEGINNING OF YEAR	**991,845**	1,076,302
CASH AND SHORT-TERM INVESTMENTS, END OF YEAR	$ **1,067,412**	$ 991,845
REPRESENTED BY:		
Cash	$ **231,412**	$ 151,845
Treasury bills with maturities under 90 days	**836,000**	840,000
	$ **1,067,412**	$ 991,845

Notes to financial statements

Year ended December 31, 2003

1. DESCRIPTION OF OPERATIONS

The Clean Air Strategic Alliance Association ("CASA") is a non-profit organization incorporated March 14, 1994 under the Societies Act of Alberta. The Association is comprised of members from three distinct stakeholder categories; industry, government and non-government organizations. The Association has been given shared responsibility by its members for strategic air quality planning, organizing and coordination of resources, and evaluation of results in Alberta. In support of these objectives, the Association receives cash funding from the Province of Alberta as well as cash and in-kind support from other members.

2. ACCOUNTING POLICIES

These financial statements have been prepared on a fund accounting basis using the deferral method of accounting in accordance with Canadian generally accepted accounting principles and include the following significant accounting policies:

Funds Maintained:

Core Project Fund:

Funds provided by governments together with interest earned are used to support general operations. The fund balance is an accumulation of interest earned. In 2000, the Board of Directors internally restricted the accumulation of this fund to $200,000 to pay necessary expenses in the event of the wind down of the Association. The unrestricted portion of this fund consists of:

- the undepreciated balance of capital assets entitled investment in capital assets; and
- the remainder of the fund entitled available for operations.

The change on the investment in capital assets represents the amount of depreciation recorded during the year.

External Projects Fund:

Funds provided by CASA stakeholders together with interest earned are raised and expended by project teams for specific purposes.

Cash and cash equivalents

Cash and cash equivalents consist of cash in bank and term deposits with original maturity dates not exceeding 90 days.

Capital assets

Capital assets are recorded at cost. Depreciation, which is based on the cost less the residual value over the useful life of the asset, is computed using the declining-balance method at the rates disclosed in Note 3.

2. ACCOUNTING POLICIES (continued)

Non-monetary support

Association members contribute non-monetary support including staff resources, meeting space and publication support. The value of this non-monetary support is not reflected in these financial statements.

Use of estimates

The preparation of financial statements in conformity with Canadian generally accepted accounting principles requires management to make estimates and assumptions that affect the recorded amounts of assets and liabilities at the date of |the financial statements and the reported amounts of revenues and expenditures during the reporting period. Actual results could differ from these estimates.

Interest rate and credit risk

The Association is exposed to interest rate risk on interest earned from term deposits because the interest rate fluctuates with the prime rate. The Association is exposed to credit risk through accounts receivable. This risk is minimized as the core funding is received from governments and project funding is received prior to expenditures being incurred.

Fair value of financial instruments

The carrying amounts in the balance sheet of all financial assets and liabilities approximate the fair value due to the short-term maturities of these instruments.

3. CAPITAL ASSETS

	2003				2002
	Depreciation Rates	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
Computer equipment	30%	$ 32,659	$ 25,848	$ 6,811	$ 9,730
Furniture and equipment	30%	4,419	4,047	372	531
		$ 37,078	$ 29,895	$ 7,183	$ 10,261

4. DEFERRED CONTRIBUTIONS

Core Fund:

During the period, the Association received grants totaling $758,751 (2002 - $910,000) from the Province of Alberta. The purpose of the grants is to provide core funding in support of the Association's objectives as described in Note 1. The regulations to the Department of the Environment Act, the Department of Energy Act and the Department of Health Act, under which the grants have been provided, specify that grants must either be used for the purposes specified in the grant, be used for different purposes if such different purposes are agreed to by the applicant and the respective Minister, or be returned to the Province. Accordingly, in the event that the Association does not utilize the funds in pursuit of its objectives, any unexpended grant monies remaining may have to be repaid to the Province of Alberta.

	2003	2002
Deferred core fund contributions, beginning of year	**$ 384,774**	$ 365,786
Grant monies received	**758,751**	910,000
Grants receivable	**11,875**	-
Other funds received	**-**	6,066
Grant funds received allocated from (to) external projects	**25,000**	(100,000)
Revenue recorded based on allowable expenditures	**(921,791)**	(797,078)
Deferred core fund contributions, end of year	**$ 258,609**	$ 384,774

External Projects Fund:

Deferred external project contributions are comprised of monies received for specific external projects, which have not been expended for the purposes specified in the mandates of the projects.

	2003	2002
Deferred external project contributions, beginning of year	**$ 399,753**	$ 356,853
Grant monies received and interest earned	**257,587**	418,327
Grant funds received allocated from (to) external projects	**(25,000)**	100,000
Revenue recorded based on allowable expenditures	**(366,761)**	(475,427)
Deferred external project contributions, end of year	**$ 265,579**	$ 399,753

5. DUE TO NATIONAL CLIMATE CHANGE SECRETARIAT

The Association is holding $269,222 on behalf of the National Climate Change Secretariat. This amount, for which a refund cheque was issued during 2002 but not cashed, remains payable to the Secretariat. Final disbursement is subject to direction from the Secretariat.

Photography by Rona Marak and Shannon Jacobi.

This annual report is recyclable and has been printed using vegetable-based inks.
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