CASA Clean Air Strategic Alliance 2002 Annual Report

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Contents

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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 and teams, including the board of directors, make decisions and recommendations by consensus. These recommendations are likely to be more innovative and longer 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.

Goals

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

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.

Highlights

New electricity project team established

At the request of Alberta Environment, CASA established the electricity project team (EPT) to develop an air emissions management approach including performance expectations and standards for Alberta's electricity sector.

The team's objectives include provision of recommended strategies to improve the air emissions performance of Alberta's electricity sector that reflect CASA's goals for air quality. It is expected that recommendations from the EPT will be presented to the CASA board in 2003.

Flaring and venting reduction strategies underway

The flaring and venting project team (FVPT) has made significant strides in its work to achieve flaring and venting reductions in Alberta.

In 2002, the team completed an in-depth evaluation of the issues and made 39 recommendations to reduce flaring and venting in the province based on the very successful framework for reducing solution gas flaring implemented in 1999. The framework entails a voluntary approach supported by regulatory requirements. The FVPT recommends the framework for solution gas flaring be adapted and applied to facility flaring, well test flaring and solution gas venting. Recommended processes will help operators to determine if it is possible to eliminate or economically avoid flaring or venting. Operators can also examine ways to reduce or minimize flaring or venting when economic elimination is not possible, and can work to ensure effective performance standards are maintained for flares or vents.

Real commitment from stakeholders

Developing recommendations by consensus demands a lot of time and effort by everyone around the table. In 2002, government, industry and non-government organizations contributed over 12,000 hours of their time to CASA. Partnerships are important to the success of CASA and this valuable contribution of time demonstrates a real commitment by all three sectors towards finding creative solutions to air quality issues in Alberta.

Major emitting sectors encouraged to use pollution prevention strategies

The pollution prevention/continuous improvement (P2/CI) project team continued to emphasize the importance of commitment from the major emitting sectors in developing and implementing P2/CI strategies.

P2/CI activities have the potential to contribute to significant emission reductions from major industrial sectors including electrical power generation, transportation, oil sands and heavy oil, upstream oil and gas, downstream oil and gas and petrochemicals. The team recommended that Alberta Environment adopt and implement a framework based on its draft approach to its pollution prevention initiatives framework and encourage and facilitate where appropriate, voluntary initiatives that achieve pollution prevention.
Pollution prevention is usually described as reducing or eliminating pollution, environmental disturbance or waste at the source rather than dealing with it after it has been created. Continuous improvement recognizes that ongoing adjustments to minimize the use of polluting processes, practices, materials and products are needed to protect the environment and take advantage of innovative and creative solutions that lead to pollution prevention.
P2/CI is often presented as a win-win solution because environmental benefits (reduced pollution) and better performance (e.g. reduced costs, reduced liabilities, more efficient material or energy use) may both be achieved.
According to the team, educating the public, industry and government leaders on this win-win solution is the key to its successful implementation.

Symposium looks at air quality and health

More than 250 people participated in the 2002 Science Symposium themed "air quality and health: state of the science" that was held in Red Deer.

Media coverage of the event was favourable, allowing for greater public exposure to the issues. As well, key industry, government and non-government organizations provided significant sponsorships.

The organizing committee has recommended that the event be held again in two to three years, with a focus on air quality and environmental impacts, airsheds, climate change and management and air quality policy.

The proceedings are available through the CASA Web site at ***www.casahome.org.***

Recommendations for management of acidifying emissions approved

In completing its work, the acidifying emissions management implementation team (AEMIT) presented six key recommendations to the CASA board in June 2002.

The team continued progress on work completed by its predecessor, the SO_2 management project team. The approved recommendations call for acidifying emissions objectives to be integrated with the development of a management framework. Acidifying emissions management should include the establishment of information systems, and an evaluation of management systems should be conducted every two to three years. Application of the management system framework should be considered for the integrated management of air quality in Alberta. AEMIT also emphasized the importance of increased profile for CASA's air quality management goals:

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

Vehicle scrappage pilot popular

The Breathe Easy vehicle scrappage pilot project, launched in Calgary in March 2002, achieved its target of 600 eligible applications from owners that wanted to voluntarily scrap their 1987 or older vehicle in exchange for an incentive. Originally the committee managing the project estimated this would take one year to accomplish. In fact it only took four months to receive 797 eligible applications. Since project incentives were available on a first-come, first-served basis, acceptance of applications closed much earlier than anticipated.

The project was designed to achieve three key objectives:

1. Reduce smog causing emissions and greenhouse gas emissions caused by vehicles.
2. Test the viability of a scrappage project in Alberta.
3. Increase the awareness of Calgary drivers about vehicle emissions and what they can do to minimize these emissions.

The project encouraged owners of 1987 or older, high smog and greenhouse gas emitting vehicles, to turn in their vehicles to Calgary Pick Your Part for scrapping and recycling. In return, vehicle owners could receive 12 free monthly Calgary Transit passes (a $690 value), or a $500 credit toward purchasing or leasing a 1994 or newer vehicle from a participating member of the Calgary Motor Dealers Association. Vehicles scrapped through Breathe Easy were tested using a five-gas analyser. Testing results showed that vehicles older than 1987 disproportionately contribute to vehicle emissions in Calgary. In 2002, there were over 80,000 pre-1988 vehicles registered in Calgary.

During a media event sponsored by Breathe Easy, vehicles were tested and the results publicized to educate the public about vehicle emissions. Just 10 per cent of all vehicles on the roads of Calgary produce fully half of all air emissions. Older vehicles emit 30 times more smog related emissions than newer vehicles. Beginning in 1988, vehicle manufacturers started installing more sophisticated catalytic converters. Since 1994, manufacturers have also been required by law to produce vehicles that can sustain lower levels of emissions over the life of the vehicle.

The final report for the project will be presented to the CASA board early in 2003 and will be available on the CASA Web site at ***www.casahome.org.***

Message from the president

Ron Hicks President

Confidence and trust in the Clean Air Strategic Alliance (CASA) as an organization and a process for solving air quality issues continued to grow in 2002. CASA is effective because stakeholders with wide-ranging interests continue to commit to finding optimal solutions to air quality issues that are within the best interests of everyone in Alberta.

Real commitments from stakeholders in terms of funding and in-kind support along with the support of a professional and dedicated secretariat has seen CASA succeed during this very busy year.

The CASA board of directors established the electricity project team based on a request from Alberta Environment to develop an air emissions management approach including performance expectations and standards for Alberta's electricity sector. This important opportunity was brought to CASA because it is uniquely qualified to ensure a balanced, comprehensive and creative solution to an industry-wide challenge. In many ways, the electricity project is the largest CASA has ever managed. This is particularly shown by the large number of stakeholders at the table, the team's many sub-groups, and its immense demand for current information and research on air quality.

Many project teams have identified the need for new information on air quality science and its relationship to health. CASA responded by organizing and hosting the 2002 Science Symposium that showcased the state of science for air quality and health across North America. The symposium was successful on many fronts, including fostering interaction and relationships between the scientific community and CASA stakeholders. The primary purpose was to assist current and future project teams in their activities to develop recommendations that protect the environment, optimize economic performance and efficiency, and seek continuous improvement.

Through collaboration and hard work, I am pleased to note that three CASA project teams submitted recommendations to the board of directors this year. An impressive amount of time, effort and commitment lead to the acidifying emissions management implementation team, the pollution prevention/continuous improvement project team, and the flaring and venting project team developing recommendations to further ensure our shared vision of clean air is brought one step closer to realization.

As CASA's credibility grows among its stakeholders and Albertans, so does the need for it to strategically focus its efforts, both on addressing current priorities and on identifying new air quality issues. The valued partnerships formed among CASA stakeholders from industry, government, and non-government organizations continue to serve this organization and indeed all Albertans.

I want to thank Dr. Roger Palmer for serving as president last year. Roger, the executive committee, and the board of directors made sure I recognized how truly unique and successful CASA is as a process and an organization in Canada and I thank them for ensuring our continued success. I am proud to serve as its president.

CASA board of directors

Directors as of December 31, 2002

Sector: Industry

Member category	Association/affiliation	Representative
Agriculture	Agriculture industry	Herman Schwenk
Alternate energy	Alternate energy producers	Successor not yet named
Chemical manufacturers	Canadian Chemical Producers Association	Wil VandenBorn
Forestry	Alberta Forest Products Association	Successor not yet named
Mining	Mining industry	Dermot Lane
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	Successor not yet named
Petroleum products	Canadian Petroleum Products Institute	Dave Barrett
Utilities	Utilities	Bob Page

Sector: Government

Federal	Environment Canada	Jim Vollmershausen
Local (rural)	Alberta Association of Municipal Districts and Counties	Bart Guyon
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 organizations

Consumers/transportation	Alberta Motor Association	Rob Taylor
Health	Alberta Lung Association	Eileen Gresl
Pollution	Pembina Institute	Tom Marr-Laing, **CASA vice-president**
Pollution	Toxics Watch Society of Alberta	Myles Kitagawa
Wilderness	South Peace Environmental Association	Henry Pirker

Alternates as of December 31, 2001

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	Gord Lambert
Oil and gas (small producers)	Small Explorers and Producers Association of Canada	Mitch Shier
Petroleum products	Canadian Petroleum Products Institute	Ted Stoner
Utilities	Utilities	Mike Kelly

Sector: Government

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 organizations

Consumers/transportation	Alberta Motor Association	Dan VanKeeken
Health	Alberta Lung Association	Successor not yet named
Pollution	Environmental Law Centre	Cindy Chiasson
Pollution	Toxics Watch Society of Alberta	Linda Duncan
Wilderness	Prairie Acid Rain Coalition	Martha Kostuch

Thank you to past board members

CASA gratefully acknowledges the contribution of board members, who stepped down in 2002.

- **Mary Carson,** Alberta Lung Association
- **Gilles Courtemanche,** Canadian Petroleum Products Institute
- **Terry Lee Degenhardt,** Wild Rose Agricultural Producers
- **Bob Hawkesworth,** Alberta Urban Municipalities Association
- **Tamara Jonson-Shepherd,** Alberta Lung Association
- **Bill Levy,** Canadian Petroleum Products Institute
- **Prenilla Naidu,** Alberta Lung Association
- **Ken Newel,** Alternate energy industry
- **Roger Palmer,** Alberta Environment
- **Doug Tupper,** Alberta Environment
- **Eugene Wauters,** Alberta Association of Municipal Districts and Counties

Message from the executive director

Meeting the challenge through dedication and commitment is a phrase that has meaning for the CASA secretariat. Entrusted with supporting the reasoned debate that is synonymous with the CASA process, the secretariat managed the day-to-day business of CASA teams.

Donna Tingley
Executive Director

Maintaining a high level of support to stakeholders, project teams, committees, groups, and the board of directors along with the growing level of activity was challenging this year. Besides moving into a new office space, and working with 13 CASA teams the secretariat was integral in supporting five board meetings, four workshops, the 2002 Science Symposium, the Electricity Project Management Options Information Seminar, and the Breathe Easy Calgary Vehicle Scrappage Pilot Program.
In addition, there was a 50 per cent increase in the number of meetings averaging out to about 15 per month partly due to the formation of the electricity project team and its many sub-groups.

Another type of success this year can be characterized as the "human dimension." I am referring to how secretariat staff genuinely believe in the core ideals and values of this organization and its consensus-based process. People in an organization perform at a much higher level when they personally identify with organizational values. I have been privileged to see the integrity, dedication, and pride continually demonstrated by the secretariat staff.

It's been a good year and as we move forward, I want to thank everyone for their dedication and commitment to CASA as both an organization and a process for solving air quality issues for all Albertans.

Donna Tingley

Secretariat

Working at CASA before it was incorporated in 1994, Christine Macken left the secretariat in June 2002 to live in Calgary. She put an enormous amount of her skill, energy and intellect into managing numerous CASA project teams. Thank you Christine for bringing us closer to our shared vision of clean air for all Albertans.

Science advisor
Marianne English

Senior project manager
Christine Macken
(until June 30, 2002)
Kerra Chomlak
(as of Aug. 1, 2002)

Project managers
Matthew Dance
(as of April 8, 2002)
Keith Denman
(as of Sept. 1, 2002)

Office manager
Bernice Lloyd

Executive director
Donna Tingley

Communications advisor
Geoff Williams

Administrative assistants
Brenda Heyer
Marlene Parker

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

Measuring CASA performance

CASA's five 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.

The board of directors agreed to five performance measures that would give a good indication of the overall organizational performance of CASA. The following results are indicators of progress.

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. (See Fig. 1., below).

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

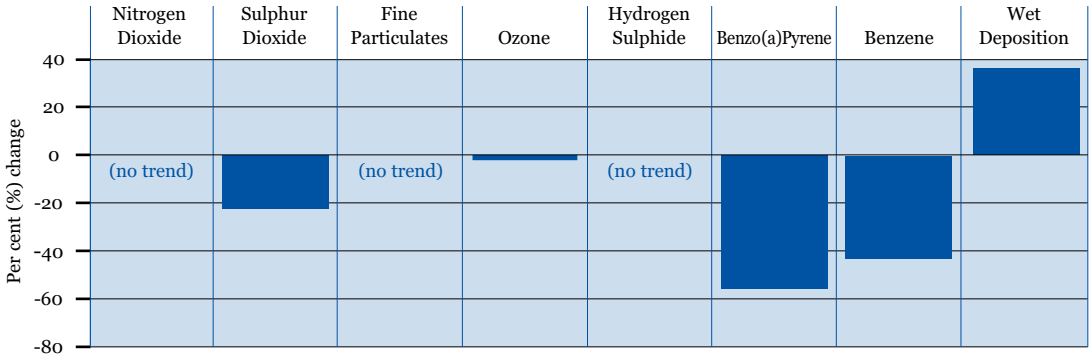
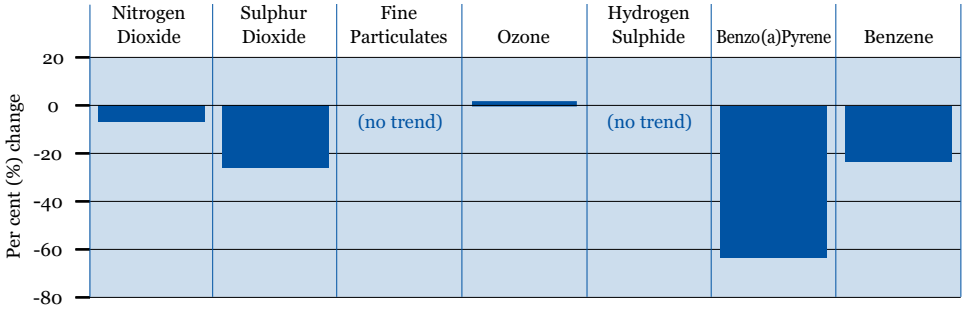


FIGURE 2: Change in peak concentration of selected substances (1994 to 2001)



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.

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 this 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 - % Exceedances – Industry, Airshed, Provincial Data

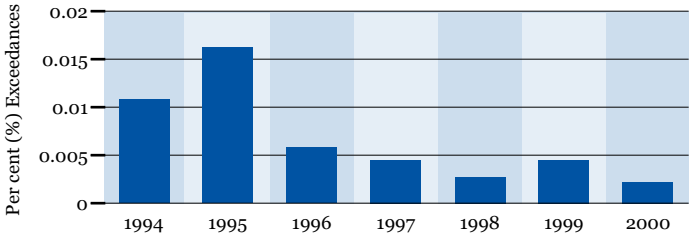
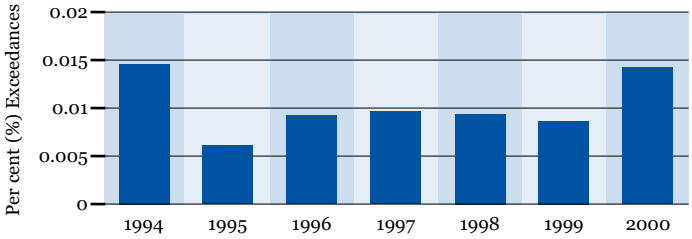


FIGURE 4: Hydrogen Sulphide - % Exceedances – Industry, Airshed, Provincial Data



2. Capability to measure air quality effects

A suite of indicators is being developed to represent our capability to measure air quality effects. One indicator has been finalized and is based on the number of air quality monitoring sites and instruments implemented compared to the number of sites and instruments expected in operation in Alberta for a given year. In 1994, the value of this ambient indicator was 31%; and in 2002 it was 48%. This indicates progress has been made in our capability to measure concentrations of substances of concern.

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. By 2002, 76% of substantive recommendations accepted in 1998 had been implemented. This is very similar to the 1997 result of 77%, which was calculated in 2001.

4. Stakeholder satisfaction

A survey to measure the degree of CASA stakeholder satisfaction was completed in 2001. The result was that 67% of responding stakeholders were satisfied with the CASA way of addressing air quality issues. This compares to 53% 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's activities, we count the number of people who visit the CASA Web site ***(www.casahome.org)*** more than once during a one-year period. A trend over five years will indicate the change in the general public's recognition of CASA. 3,895 people visited the CASA Web site more than once in 2002. This is the first time a full-year of data has been available and therefore the first reported result.

CASA teams

The work of CASA is achieved largely though the participation of teams of individuals representing stakeholders who share an interest in a specific issue. Most issues are brought to the board in the form of a statement of concern/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. Sometimes, recommendations from a project team 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.

Project teams

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 2002:
The animal health project team (AHPT) has reached consensus on a management system to prevent short and long-term impacts of air contaminants on animal health. The team has developed a herd and environmental records system (HERS) – a best practices protocol to be used to provide guidance to livestock producers generally and cattle producers specifically on the collection and recording of animal health data. It is recommended that this data be collected prior to, during, and after the onset of any oil and gas activity in proximity to livestock operations. The data will be useful to identify potential health impacts on livestock as a result of air emissions from oil and gas or other activities (e.g. slash or straw burning, quarry activities, road paving). The purpose is to establish a consistent, credible record of livestock health and changes that may occur in order to enable resolution of conflicts.

The AHPT continued to provide considerable input to the Western Interprovincial Scientific Studies Association (WISSA) on its *Western Canada Study on Animal and Human Health Effects Associated with Exposure to Emissions from Oil and Gas Field Facilities.*

A sub-group has nearly completed a monitoring brochure aimed at providing information to local communities about the monitoring initiatives in Alberta, and to list available resources to learn more or to pursue their own monitoring. The information will be included in the team's new section on the CASA Web site at ***www.casahome.org/AQ.***

The team hosted a number of speakers in 2002, in keeping with its objective to educate team members on issues related to air quality and animal health. The final report for the animal health project team will be presented to the CASA board early in 2003. The team will most likely recommend the establishment of an implementation team on human and animal health.

Climate change

Goal:
To contribute to greenhouse gas reductions by developing, assessing, prioritizing, explaining and recommending actions/measures to government and stakeholders that will broaden the scope of early action and assist in deciding on subsequent action.

Objectives:

- To identify, define, explain and recommend quick-start measures for adoption by Alberta stakeholders.
- To identify the implications for climate change of actions considered by other CASA teams focused on other air issues.
- To enable individual stakeholders to contribute to the design of measures in the national process, by promoting communication and by providing a forum for measures assessment and design from an Alberta perspective.
- To strengthen the Alberta process for responding to the climate change issue by contributing specific greenhouse gas reduction actions to the Alberta Cabinet Committee on Climate Change (C-4) process.
- To identify, define and recommend longer-term climate change response measures, to assist on-going decision-making on climate change.

Report for 2002:
The team is currently in abeyance and did not hold meetings in 2002.

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 goals for air quality, namely:

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

Report for 2002:
The team has worked to develop a common information base and has identified information needs and strategies to fill information gaps where needed. A workshop held in May 2002 allowed for information gathering, including examination of potential health impacts. In September 2002 the Management Options Information Seminar was held to inform team members and other participants of management approaches being used in other parts of Canada and the United States. The seminar provided valuable information on potential options for managing impacts related to emissions originating from the Alberta electricity sector.

The team has identified priority air emissions related to the electricity sector. The priority substances are sulphur dioxide, nitrogen oxides, particulate matter, greenhouse gases, and mercury. Work to identify, assess and develop emissions management options and mixtures of options for these priority substances is underway. This includes standards and performance targets and measures for existing and new electricity facilities.

It is expected that the team's final report will be presented to the CASA board in 2003.

Flaring/venting

Goals:

- To assess the performance and make recommendations regarding the Alberta solution gas flaring 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.
- 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 its 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 2002:

In completing its objectives, the flaring/venting project team (FVPT) carried out three primary tasks:

1. Review the results of the implementation by CASA stakeholders of the 1998 flaring project team recommendations, including the solution gas management framework.
2. Evaluate and recommend ways to similarly reduce the venting of natural gas.
3. Review and, if necessary, make recommendations on reducing natural gas flaring at facilities and during well testing.

The FVPT evaluated in detail, gas flaring and venting and made a total of 39 recommendations to reduce flaring and venting in Alberta. The recommendations, dealing with solution gas flaring/venting, facility flaring, well test flaring and flare performance standards were presented in an interim report to the CASA board in June 2002. The report is available on the CASA Web site at ***www.casahome.org.***

FVPT evaluated solution gas flaring reduction targets for 1999 and 2000 and preliminary data from 2001 and determined that reduction targets were either met or exceeded. Results confirmed that the use of the solution gas management framework, developed previously and listed in EUB Guide 60, contributed to positive outcomes.

In its interim report, FVPT recommended that the frequency and volume of flaring and venting be reduced through the implementation of a series of decision trees, modified as needed from the 1998 flare management decision tree for venting, facility flaring, and well test flaring. These processes will help operators to:

- Determine if it is possible to economically eliminate or avoid flaring or venting.
- Reduce or minimize flaring or venting when economic elimination is not possible.
- Ensure effective performance standards for flares and vents.

As a result of the performance to date, the FVPT recommended that a firm reduction target of 50 per cent of the 1996-revised baseline be adopted for solution gas flaring to ensure that the gains made to date are maintained.

For venting, the team recommended that during 2002 and 2003 all large vents be evaluated and that those that are economic be conserved during 2003 and 2004.

The EUB has now posted a revised Guide 60 for final consultation. The document captures the recommendations of the team.

The FVPT encountered a significant data gap with respect to the certainty of vented gas volumes and the economics of further reductions in solution gas flaring. The team will continue to analyse this data through 2003. The team will reconvene early in 2003 to assess the data and discuss the appropriateness of reduction targets for venting and further reduction targets for solution gas and well test flaring.

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 2002:
The team achieved conditional support for a management framework developed as part of Alberta's strategy to meet Canada-wide Standards (CWS) for PM and ozone, including provisions to keep clean areas clean.

Three major projects were initiated or completed in 2002. The team completed a provincial and regional emissions forecast for 1995-2020 as well as a comprehensive update of two 1999 reports on PM and ozone in Alberta originally prepared by Alberta Environment.

In cooperation with Environment Canada, the team supported research on the influence of trans-boundary air movement into Alberta, and its effects on levels of ozone in the province. This involved analysis of $PM_{2.5}$ (particulate matter 2.5 microns or smaller) and ozone monitoring data to determine the background influences during days of ozone exceedances, as well as modeling to simulate three photochemical exceedances. This work is expected to be completed in 2003.

Work was initiated on a guidance document for fine particulate matter and ozone, and is scheduled for completion in 2003. This document will further assist in determining if Alberta meets the CWS, and will also outline how Alberta will manage its air quality to ensure the province complies with all provisions of the CWS.

An outline of how the PM and ozone management framework fits within other CASA team frameworks and additional outside initiatives was developed. A communications plan was drafted to help ensure that team members, stakeholders and the public are kept up to date with issues related to Alberta's strategy to achieve and maintain the CWS.

In October 2002, a mock scenarios workshop was held to assist the team in understanding how the management framework would be applied to typical air quality situations. This process allowed the team to identify key gaps and concerns with the framework, and further assisted the team in establishing trigger levels for action. The team will continue to address trigger levels and application of the management framework and seeks to submit a final report to the board in 2003.

Pollution prevention/continuous improvement

Goals:

- A working environment in which pollution prevention/continuous improvement (P2/CI) is used to protect air quality.
- The public contributes to pollution prevention by making clean air friendly choices.

Objectives:

- Develop and promote emission reduction strategies for major sources.

- Recommend P2/CI tools that are user friendly and can be implemented to achieve source reductions.
- Provide support and direction to CASA project teams.
- Identify and recommend cost-effective reduction opportunities.
- Encourage innovative reduction opportunities for all sectors and/or airsheds.
- Establish a system of incentives for P2/CI.
- Expand the range of cost-effective options for environmental decision-making.
- Promote and encourage the use of alternative fuels/renewable energy.
- Encourage the use and application of by-product synergies and industrial ecology.

Report for 2002:
The pollution prevention/continuous improvement (P2/CI) project team completed its information gathering and analysis of approaches in other jurisdictions. Team members shared P2/CI success stories that demonstrate good environmental practices and also make good business sense. An inventory of P2/CI tools available in Alberta was compiled in January 2002 and is available on the CASA Web site at ***www.casahome.org.*** The team observed that many parties are pursuing pollution prevention and continuous improvement although they may not refer to their programs by this name.

In the spring of 2002, the team hosted an outreach workshop to identify experts, mechanisms and messages for public and practitioner education on the need to implement pollution prevention and continuous improvement strategies.

The team reached consensus on a P2/CI management framework that included 19 recommendations. These recommendations were directed to several industrial sectors, other CASA project teams and Alberta Environment. Recommendations were also provided for education and outreach. The team also played a valuable role in developing Alberta Environment's approach to pollution prevention initiatives through this process.

P2/CI presented its final report to the CASA board in June 2002. The team was disbanded following approval of the report.

Implementation teams

Acidifying emissions management

Purpose:

- Coordinate the implementation of the recommendations from the report of the former SO_2 management project team.
- Evaluate and report on the implementation of the recommendations and the effectiveness of the enhanced management system.
- Develop recommendations for managing acidifying emissions in Alberta.
- Develop plans for voluntary initiatives for enhanced performance and management of the differences between actual environmental conditions and environmental limits.
- Review current emissions abatement strategies for NO_X and SO_X sources and make recommendations on the need for improvements.

Report for 2002:
The acidifying emissions management implementation team (AEMIT) completed its work in 2002 and submitted a final report to the CASA board in June 2002. The report contains a review of the extent to which the 20 recommendations from the SO_2 management project team were successfully implemented. Six recommendations dealing with the management of acidifying emissions in Alberta and the ongoing evaluation of the effectiveness of the management system were submitted. Below is a condensed version of the recommendations. The full report is available through the CASA Web site at ***www.casahome.org.***

1. When the Alberta Energy and Utilities Board and Alberta Environment identify a new acidifying emissions objective as a priority, they should also decide if it is appropriate to integrate the processes of setting the objective and developing a management framework. If the processes are integrated, the task should be referred to CASA. If integrated processes are not referred to CASA, an explanation will be provided.
2. Five information systems should be established in support of acidifying emissions management.
3. An evaluation of the acidifying emissions management system should be conducted every two to three years using the process established by AEMIT.
4. Following the evaluation of the system, recommendations for improvement should be brought forward to the CASA board of directors.
5. The application of the management system framework developed by the SO_2 management project team should be considered for the integrated management of air quality in Alberta.
6. Profile should be increased for the three air quality management goals, and other CASA teams should consider how these goals relate to their respective teamwork. These goals are:
   a. Protect the environment.
   b. Optimize economic performance and efficiency.
   c. Seek continuous improvement.

AEMIT was disbanded following the approval of its recommendations by the CASA board of directors.

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 ***www.casadata.org***.
- Approving the annual work plan.
- Establishing policies and procedures.
- Revising the strategic plan as required.
- Reviewing and evaluating the system.

The operations steering committee (OSC) provides overall direction, tracks progress and makes budgetary decisions regarding the implementation of the provincial ambient air quality monitoring network. Alberta Environment chairs the OSC with representation from Alberta Health and Wellness, Environment Canada, the oil and gas industry, the utilities sector, the forest products sector, the chemical industry, non-government environmental groups, airshed zone associations and the CASA secretariat.

Report for 2002:
A major accomplishment of the OSC in 2002 was the improvement of the CASA data warehouse Web site. It is the central repository for ambient air quality data collected in Alberta. This Web site received a "face lift," and now contains more useful information including long-term trends, comparisons with other Canadian locations and descriptions of monitoring technologies. The OSC continues work to revamp the interface between the database and the Web site.

A number of associations that monitor air quality in Alberta have recently put their air quality data on-line in real time in 2002. Air quality data is now available in real time from Alberta Environment at ***www3.gov.ab.ca/env***, the West Central Airshed Society at ***www.wcas.ca***, the Fort Air Partnership at ***www.fortair.org***, and the Wood Buffalo Environmental Association at ***www.wbea.org***. Links to these Web sites is also available from the CASA data warehouse Web site at ***www.casadata.org*** or the main CASA Web site at ***www.casahome.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 2002:
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:

1. The first-ever Breathe Easy vehicle scrappage program, launched in Calgary in March 2002, achieved overwhelming success. The program encouraged owners of 1987 or older, high smog and greenhouse gas-emitting vehicles, to turn in their vehicles to Calgary Pick Your Part for scrapping and recycling. The program was designed to achieve three key objectives:
   a. Reduce smog causing emissions and greenhouse gas emissions caused by vehicles.
   b. Test the viability of a scrappage program in Alberta.
   c. Increase the awareness of Calgary drivers about vehicle emissions and what they can do to minimize these emissions.
2. The VET has continued work with Alberta Transportation and Alberta Environment to incorporate provisions for anti-tampering and vehicle conversion standards with upcoming government regulations.
3. The team is looking at reducing emissions for heavy-duty vehicles (HDV), including a diesel particulate filter demonstration project. Working with Edmonton Transit and engine manufacturers, VET plans to test for the first time ever the practical application of these filters in cold climate conditions. Test filters will be installed on two Edmonton Transit buses and periodic in use emission testing will be conducted by Environment Canada through 2003 and early 2004. Shell Canada Limited is providing low sulphur diesel fuel that is not currently available to consumers.
4. The transportation demand management (TDM) subgroup has developed its terms of reference for a study to examine the potential for employer-based transportation demand management in Alberta. The study will identify factors influencing successful application for employer-based TDM in Calgary and Edmonton. Work will begin in 2003 pending financial support.
5. The TDM and HDV subgroups continue to work toward an assessment of viable initiatives for Alberta.

The VET is pleased that it could continue to make progress on the implementation of CASA approved emission reduction measures while at the same time beginning to explore emission reduction opportunities in the areas of HDV and TDM.

The VET continues to track the progress being made through the efforts of the federal government including more stringent vehicle emission standards and fuel quality. Recent modeling and forecast efforts indicate most emissions (except greenhouse gas emissions) are expected to drop dramatically over the next two decades. VET efforts will continue to focus on what Alberta can do to enhance these emission reductions.

CASA board committees

Communications Committee

Goal:
To build stakeholder awareness, understanding, support for and commitment to CASA objectives through communication programs that are strategic, structured and evaluated.

Objectives:
- To participate in the identification of needs and develop suitable communication plans.
- To recommend communication priorities to the CASA board of directors.
- To develop and recommend a communications planning framework to the CASA board of directors.
- To make recommendations for the level of funding needed to implement activities outlined in the framework.
- To develop a communication planning model for project teams.
- To guide the implementation of the communications planning framework.
- To ensure ongoing evaluation processes are established.
- To assess the effectiveness of CASA communications.

Report for 2002:
The communications committee focused its work for 2002 on developing indicators to measure the degree of recognition of emitters and the general public of CASA as a vehicle for delivering improved air quality management for Alberta. The CASA board of directors approved four indicators. The first indicator looks at the number of unique visitors that have visited the CASA Web site more than once in a one-year period. Data for this indicator from January 1, 2002 to December 31, 2002 was available and the result is included in the *Measuring CASA performance* section of this annual report.

The remaining three indicators analyse how many times CASA and/or air quality are mentioned in Alberta news broadcasts (television and radio) and Alberta newspaper articles (daily and weekly) for a one-year period. Data will be accumulated during 2003 for each of the media indicators and then reported in the 2003 CASA Annual Report. The three media indicators approved by the board of directors are:

1. Total number of CASA mentions in a year.
2. Ratio of CASA mentions versus air quality mentions in a year.
3. Ratio of items that mention both CASA and air quality versus air quality mentions in a year.

Data issues group

Purpose:
- To compile and review recommendations on data issues from CASA teams, CASA forums and the CASA workshop on data issues held in 2000.
- To assess the status of the recommendations.
- To prioritize the recommendations.
- To develop an implementation plan that will lead to progress with respect to resolving outstanding data issues.

Report for 2002:
Since its establishment in 1994, CASA has recognized the need for reliable and timely data sets on source emissions, ambient air quality, ecosystem, and human health. Such data are critical for CASA to deliver on its mandate and to realize its vision of clean air for Alberta.

The data issues group (DIG) was formed in 2000 to compile and prioritize outstanding data recommendations and develop an implementation strategy. Following discussions with Alberta Environment regarding political commitment for more comprehensive monitoring, the group reviewed 200 recommendations on data issues from CASA teams, forums and the data issues workshop.

The group assessed the status of implementation of each recommendation and recommendations judged to be "complete" were removed from the list of recommendations to be prioritized. Remaining recommendations were grouped into eight categories – emissions, ambient, exposure, effects, records management, research, modeling and broad. Within each category, recommendations were rephrased into action steps that could be prioritized and implemented. In this way, the original 200 recommendations were reduced to 46 actions to be prioritized and implemented. As well, a matrix was developed for each category so that each action could be tracked back to its original recommendation(s).

Criteria were developed and applied to the actions in order to ensure that the prioritization process was objective. The criteria selected were: actionable; consensus-based; risk management; regulatory relevance; surrogate or existing information; and synergistic benefits. These criteria are generic and could be applied in other prioritization processes as well. With respect to the actions on data issues, the six criteria were applied to divide the actions into three groups of priorities – high, medium and low.

For each prioritized action, lead agencies have been identified. The lead agencies are actually already working on most of the actions identified by the group. Some work is and has been underway on most of the "outstanding recommendations on data issues."

A stewardship plan was developed to ensure that:

- The progress and status of recommendations is not lost over time.
- The progress of actions to complete recommendations are part of a public record.
- Work carried out by a lead agency takes advantage of systems already in place.

The group recommended that CASA teams clearly define recommendations, and list specific actions, goals and timelines for implementation. Further recommendations include that the human health project team consider development of a protocol for incorporating experiential data into a formally recognized knowledge system, and that the animal health team consider development of a reporting protocol for agricultural producers to keep good herd and air quality event records.

The final report of the data issues group will be presented to the board in 2003.

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 2002 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 2002:
In 2002, the subcommittee defined indicators for the first performance measure, improved air quality indicators, and the second performance measure, capability to measure air quality effects. The results were presented and approved by the CASA board.

Results related to the recommendations implemented performance measure were calculated for 1998 and approved by the CASA board.

The communications committee also developed three indicators based on CASA media coverage for the last performance measure, degree of recognition of CASA by the public. More information on these indicators is available in the communications committee 2002 report contained within this annual report.

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

Science symposium

Objectives:

- To provide information on air quality science as it may assist current and future CASA project team activities.
- To provide an opportunity for the scientific community and stakeholders to interact and discuss the science of air quality issues.

Report for 2002:
The science symposium organizing committee organized the 2002 CASA Science Symposium held June 3 and 4 in Red Deer, Alberta. The theme of the symposium was "air quality and health: state of the science."

The 250 attendees, primarily CASA project team members and stakeholders, participated in sessions led by 19 presenters. The presenters included nationally and internationally recognized experts in various aspects of air quality and health. The proceedings are available on the CASA Web site at ***www.casahome.org*** as a complete package of the presentations, a summary of the questions and answers, and the technical posters that were displayed during the symposium.

Based on evaluation forms received from attendees, presenters and sponsors, the organizing committee presented several recommendations for future planning. The committee recommended another symposium be held in two to three years and that it focus on issues such as air quality and environmental impacts, airshed zones, climate change, and air quality management and policy. The organizing committee's final report was presented and approved by the CASA board of directors in November 2002.

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 although it operates independently 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 2002 there were five airshed zones operating in Alberta. Interest in forming new zones has been expressed in the Cold Lake area, the Wabamun-Edmonton area, the Bow Valley corridor, Medicine Hat, and the Lethbridge region.

The Peace Airshed Zone Association (PASZA) started operations in the Grande Prairie region in 2002 and is seeking official endorsement by the CASA board of directors. For more information about the PASZA airshed zone, visit ***www.pasza.ca.***

Reports from CASA airshed zones

Fort airshed

The Fort Air Partnership is a voluntary partnership – a group of stakeholders that sees the benefit of sitting down at the same table and working through air quality issues together. The intent of the group is to establish and run an ambient air monitoring system for the Fort Saskatchewan area, with the ability to expand as needed. The Fort Air Partnership has created and implemented a dynamic process that provides relevant, credible information to those who will use this information to manage and improve regional air quality, protect environmental health and influence policy.

The Fort Air Partnership is now a registered society, with a business plan and communications strategy that guide ongoing efforts.

As one of Alberta's five airsheds, the Fort Air Partnership serves a specific area approximately 4,500 square kilometres in size. The group's vision is that people living and working in the Fort Saskatchewan area have air quality that compares favourably to other Alberta communities. Below is a summary of activities the Fort Air Partnership has completed, some even before it was incorporated in 2002.

- Finalized the design of an integrated air monitoring network for the region.
- Selected AGAT Laboratories to operate the network.
- Completed the first phase of the network implementation in which eight air quality stations were linked to a central computer.
- Worked with partners to conduct the Fort Saskatchewan and Area Community Exposure and Health Effects Assessment program in 2001. This baseline study is the first step in answering the questions we have about the effects of air quality on public health. A report on the results will be available in early 2003.
- Hired a part-time executive director in February 2002. Mark Psutka is a Fort Saskatchewan resident with more than 20 years of environmental experience related to the oil and gas and petrochemical industry in Alberta.
- Became incorporated as the Fort Saskatchewan Regional Air Monitoring Society under the *Societies Act* on March 22, 2002.
- Approved a communications strategy.
- Developed a logo.
- Developed, printed and distributed brochures.
- Produced two community reports, which were distributed as advertisements in local papers.
- Had a booth at the Fort Saskatchewan Trade Fair and Sale April 12 to 14 at which questionnaires were distributed to visitors.
- Launched a Web site in May 2002 to inform the community and to make air quality monitoring results publicly available on a real-time basis. Results from four of the air monitoring stations are now available on the Web site, and results from the remaining four should be available on-line by mid-2003.
- Hosted an open house on November 6, 2002 attended by 57 area residents and other stakeholders.
- Developed a public opinion poll to be conducted in 2003 to assess community awareness of the Fort Air Partnership and attitudes towards air quality in the region.

Parkland airshed

2002 marked the fourth year of operation of the Parkland Airshed Management Zone Association's (PAMZ) regional air quality monitoring (AQM) program. In March a continuous ozone monitoring station, located in the vicinity of Nordegg, was added to the monitoring network. Data from this station is required to understand the nature of the high ozone concentrations that have been observed in the foothills by the passive monitoring program.

Throughout the year, the association was kept busy organizing and staging a number of public meetings and workshops with a common theme of exploring air-quality-related issues and seeking input into strategies and plans to address them.

The first workshop held in April in Lacombe focused on air quality issues associated with intensive livestock operations. An action plan to address some of these issues was developed at the workshop, approved by the association's board of directors in June and is currently being implemented by PAMZ and the workshop attendees.

Workshops on air quality and human health were held on three consecutive nights in May in Olds, Red Deer and Rocky Mountain House.

Recommendations from these workshops supported the strategic direction undertaken by the PAMZ human health committee, namely to work with Alberta Health and Wellness and others to establish a community exposure and health effects assessment program. This program will be based on the model developed by the CASA human health project team.

In June a public meeting was held in Three Hills to identify possible locations for the PAMZ portable air quality monitoring station for 2003. The four locations chosen based on input received at this meeting were Eagle Hill/Valley, Sunchild, Three Hills and a location associated with air emissions from intensive livestock operations to be finalized at a later date.

Over the summer months, an independent air quality consulting company, Jacques Whitford Environment Ltd., conducted a detailed summary and assessment of the data collected during the first two years of the PAMZ AQM program. This report also made recommendations for the future of the program to ensure that it would continue to meet its original terms of reference as well as new and emerging issues. PAMZ is the first airshed in Alberta to have their AQM program reviewed and assessed by an external consultant.

This report was used as the starting point for a day-long planning workshop to chart the future course of the AQM program that was held in Red Deer in October. A number of the recommendations contained in the report and others developed at the workshop were incorporated in the association's 2003 budget plan.

In 2003, PAMZ continued its series of public presentations to raise public awareness and knowledge of air quality issues. One of these presentations, a panel discussion of the Kyoto Protocol held in Red Deer in November featured panellists from industry, government and environmental non-government organizations. It was particularly well attended and received praise from many of those who attended. Other presentations dealt with a study on sour gas flaring and livestock health, ethylene effects on crop research, and the Natural Resources Conservation Board's operations.

West central airshed

Since 2000 the West Central Airshed Society (WCAS) has been planning to expand and enhance its monitoring program. In 2002 WCAS extended its boundaries to the north and east, increasing the area by 10,000 square kilometres to 46,000 sq. km. The expanded area includes the Wabamun and Genesee regions. The additional area includes emission point sources from the coal-fired electricity industry. WCAS recognizes the value of including ambient air data from this area in its current rural-based monitoring program.

WCAS formed a multi-stakeholder committee to review boundary expansion. Numerous presentations, discussions and consultations were conducted to inform the public and receive input. Subsequently, several new members joined the WCAS.

Dr. Warren Kindzierski was contracted to review and evaluate existing air quality data, meteorological data and modeling data. His study supported the boundary selected by the WCAS board. Our expansion proposal was submitted to Alberta Environment; their endorsement for the boundary expansion was received in October of 2002.

WCAS, in conjunction with TransAlta Corporation and EPCOR, developed a monitoring plan for the expanded zone. Dr. Warren Kindzierski was contracted to help develop a monitoring plan. This was reviewed and approved by WCAS. TransAlta Corporation and EPCOR submitted it to Alberta Environment as part of their approval requirements. Subject to Alberta Environment approval, four new "state of the art" air-monitoring stations will be constructed and strategically located in the expanded zone. Speedy approval is anticipated as Alberta Environment was represented as a stakeholder in the WCAS development process. Construction and implementation is anticipated in the fall of 2003.

Since 1996 WCAS has been engaged in an agriculture bio-monitoring program to determine if a relationship exists between air quality and Alfalfa/Saskatoon plant health. This has been an extensive study costing approximately one million dollars. Good news arrived in 2002; the study has collected enough data points to run the model. The final report is much anticipated in 2003.

Wood Buffalo airshed

Keeping up with the tremendous industrial growth and development within the region has been and will continue to be an ongoing commitment for the WBEA. One of the end results of the strategic planning of goals and objectives held by the association in 2002 was a renewed commitment to providing a state-of-the-art air monitoring system. The membership of the association took the time to re-evaluate who we are and what we do and to set clear direction for the future.

The possibility of expanding our mandate to include other environmental monitoring programs is being explored. The need to be pro-active in meeting the needs of the membership, as well as meeting the demands for expanded environmental monitoring being asked of us is a big driver for the association.

Management of change in a positive manner and continuing to be inclusive in our approach to environmental monitoring programs will be our focus. Industrial expansion will see new industry players at the table. As we expand in membership and mandate, we will continue to operate with respect and will continue to provide a valuable service to the people within the region. The ongoing commitment and dedication of our staff will allow us to reach our common goals.

Ambient air technical committee (AATC)

The purpose of the ambient air technical committee is to ensure that the collection and reporting of ambient air quality data within the Wood Buffalo region is credible, accurate and timely in a program that is state-of-the-art.

365-days-a-year, the WBEA ambient air-monitoring network collects scientifically credible data related to human and ecosystem health and reports it to the public at large.

A network of thirteen air quality monitoring stations, spanning the Regional Municipality of Wood Buffalo, continuously monitor air emissions and parameters including: sulphur dioxide, oxides of nitrogen, hydrocarbons, total reduced sulphur compounds, ozone, carbon monoxide, particulates and meteorology. These stations are located in the communities of Fort McKay and Fort Chipewyan, in the City of Fort McMurray and on or near the plant sites of Syncrude Canada Ltd., Suncor Energy Inc. and Albian Sands Energy Inc. At the Fort McKay and Fort McMurray (Athabasca Valley) stations passive monitors are also in place to collect average concentrations of sulphur dioxide, nitrogen dioxide and ozone, providing data for comparison to the continuous data that is collected at those stations. In 2002, the network added four operating approval-based passive stations at the Petro-Canada McKay River project site to measure average concentrations of sulphur dioxide, nitrogen dioxide, ozone and hydrogen sulphide.

At remote forest locations throughout the region, the WBEA also operates a network of ten passive monitoring stations to measure concentrations of sulphur dioxide, nitrogen dioxide and ozone. These stations provide average concentrations of these pollutants over specific time intervals. This data will be used in the WBEA's terrestrial environmental effects monitoring (TEEM) program to measure dry acid deposition as well as for use in other TEEM projects.

To ensure the highest quality data are collected by the ambient air monitoring program, the WBEA has rigorous quality control and assurance programs in place. These programs include daily calibration and monitoring of instrument performance with monthly multi-point calibrations and regular annual external data audits and biannual government instrumentation audits. Data are reviewed for long-term systematic errors and all raw and quality controlled data are archived for future reference. The data that the WBEA collects contributes to the Clean Air Strategic Alliance (CASA), province-wide integrated data management system. CASA houses and makes publicly available ambient air data from across the province.

Terrestrial environmental effects monitoring (TEEM) committee

The purpose of the terrestrial environmental effects monitoring (TEEM) committee is to ensure that the collection and reporting of terrestrial environmental effects data within the Wood Buffalo region is credible, accurate and timely in a program that is state-of-the-art.

TEEM and the science sub-committee (SSC) succeeded in achieving several milestones and goals for 2002. Veronica Chisholm was contracted to be the program Manager for the SSC. She is responsible for coordinating new monitoring programs as well as assisting with completion of outstanding reports.

The TEEM program focused on working closely with the science sub-committee to finalize monitoring documents, expand the existing programs, develop new guidelines and procedures, and improve communication. TEEM approved a report on an additional Jack Pine monitoring site that will included as part of the Jack Pine acidification monitoring program.

In the summer of 2002, TEEM expanded the monitoring to include a soil microbiology and lichen program. These two programs were designed to determine the aerial extent of air emissions and the potential effects of those emissions within the oil sands region. A TEEM

database project was initiated, which is constructed to house and organize all TEEM data. TEEM also recognized the need to develop guidelines and procedures for the inclusion of traditional knowledge into future monitoring programs. In an effort to increase awareness and communication of TEEM programs, a field day was organized to allow stakeholders to assist in the collection of field data, collected to determine the effects of acidification on Jack Pine stands. TEEM also organized volunteers to assist with the field component of the Lichen monitoring program, which provided volunteers with the opportunity to observe and assist internationally recognized scientific experts in the field of lichenology.

TEEM is looking forward to 2003, and will focus on continuing to improve, expand and communicate TEEM programs to our stakeholders.

Human exposure monitoring committee (HEMC)

The purpose of the human exposure monitoring committee is to ensure on-going monitoring of human exposure to air emissions in the Regional Municipality of Wood Buffalo.

From the time of its beginnings in the mid 1980's the stakeholder association that is now formally the WBEA, identified human health as a top priority of environmental concerns in the region. In March of 2002 the WBEA members in their strategic planning identified that human health continues to be a top concern.

To address this concern WBEA members formed a working group of health experts, community representatives and industry to investigate the opportunity for the WBEA to develop a human exposure-monitoring program. Many factors were considered before the group went before the WBEA board with a recommendation, including the benefits and costs, and the feasibility, associated with the association taking a lead role in ongoing human exposure monitoring in the region. From its investigation the human exposure working group recommended that the WBEA go forward with the development of a long-term human exposure monitoring program.

As a result, the working group became the human exposure monitoring committee with a mandate to develop a strategy and program for ongoing human exposure monitoring in the region. The WBEA is working very closely with, and receiving support in-kind from, Alberta Health and Wellness as well as Northern Lights Regional Health Authority.

The committee has targeted the 2003 year as one of planning and building upon and complimenting the provincial human exposure monitoring programs that have taken place in Fort McMurray, Lethbridge, Grand Prairie, and Fort Saskatchewan.

Communications Committee (CC)

The purpose of the communications committee is to communicate data and information on air quality and air-related environmental impacts in a manner that can be understood and used by WBEA stakeholders and the public at large to make informed decisions about their health, safety and quality of life and traditional land use.

WBEA's communications program continued to expand its role in 2002, always working to deliver its message to the public face-to-face. This was evident in the many presentations the association gave last year to organizations such as the Fort McMurray Cubs, Municipality of Wood Buffalo Disaster Services, the Athabasca Tribal Council and the Chipewyan Elder's Council in Fort Chipewyan. In addition, the WBEA visited a number of local schools, along with classes at Keyano College. The association also actively participated in a multitude of community events, including the Fort Chipewyan Winter Festival, the Fort McKay Science Fair, the Fort McMurray Science Fair, environment week's household hazardous waste round-up, and the Visitor's Bureau spring and fall trade shows.

Of course, the WBEA played an active role throughout the year informing the public through a variety of media, including CJOK/KYX-98 radio, the Fort McMurray Today newspaper, the WBEA's redesigned Web site ***(www.wbea.org)*** and the WBEA quarterly newsletter – which is distributed to all homes in Fort McMurray and the surrounding communities. The newsletter continues to provide readers with non-technical explanations of air pollutants, updates on environmental practices of our members, information on local environmental initiatives and programs, as well as interesting feature articles relating to environmental effects.

The communications committee also worked to develop the WBEA Crystal Clean Environment Award, which is an opportunity to further engage students in our communities in projects that promote environmental awareness. The award will be introduced to schools in 2003, and is open to students in grades 6-8. Members of the communications committee also participated in the WBEA's strategic framework sessions in 2002. Stemming from those sessions are a communications strategy and terms of reference, on which work started in 2002 and will wrap up in 2003.

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.

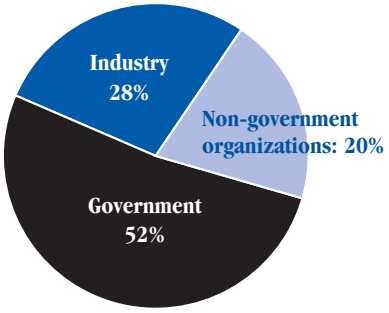
CASA has tried to put an actual dollar figure on the support and assistance provided by each sector. The figures are compiled by examining time and travel costs, as well as cash and in-kind contributions and almost certainly under-record and under-estimate the actual value of stakeholder contributions.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

Cash and in-kind contributions to CASA teams and airsheds

CASA teams

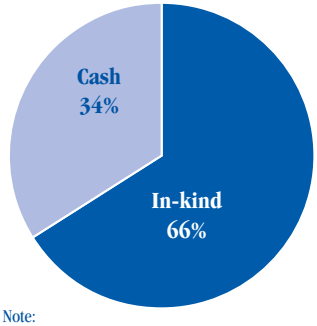
Cash and in-kind contributions by sector:

• Industry:	$447,675
• Government:	$841,225
• Non-government organizations:	$331,175
Combined:	*$1,620,075*



Total cash and in-kind contributions:

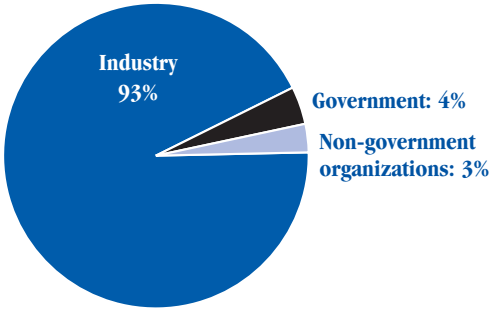
• In-kind:	$1,076,625
• Cash:	$543,450
Combined:	*$1,620,075*



Airsheds

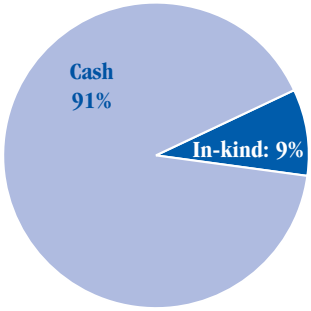
Cash and in-kind contributions by sector:

• Industry:	$3,936,081
• Government:	$165,883
• Non-government organizations:	$110,860
Combined:	*$4,212,824*



Total cash and in-kind contributions:

• In-kind:	$392,170
• Cash:	$3,820,654
Combined:	*$4,212,824*



Note:

1. The airshed figures are provided by the following organizations: Fort Air Partnership Association; Parkland Airshed Management 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 to which they are affiliated.

Randy Angle
Mark Antoniuk
Cheryl Arkison
Dana Atwell
Margaret Bailey
David Baker
Sandra Barnett
Dave K. Barrett
Randall Barrett
Keri Barringer
Laurie Bates
Larry Begoray
Peter Blackall
Bill Bocock
Barry Breau
Harry Brook
Mark Brostrom
Michael Brown
Brian Browning
Alan Brownlee
Carol Burelle
Dave Byler
Mark Campbell
Marilyn Carpenter
Mary Carson
Doug Castellino
Claude Chamberland
Denise Chang-Yen
Ken Charters
Lawrence Cheng
Shane Chetner
Cindy Chiasson
Jane Clerk
Ron Collins
Robert Coppock
Jeff Cormier
Gilles Courtemanche
Randal Cripps
Xinjie Cui
Charleen Currie
Jane Currie
Terry Lee Degenhardt
Gur Dhaliwal
Peter Dickey
Jim Dixon
Randy Dobko
John Donner
Susan Dowse
Linda Duncan
Louise Durocher
Kim Eastlick
Jason Edworthy
Labib El-Ali
Janie Elliott
Randy Ellis
Gerry Ertel
Rob Falconer
Graeme Feltham
Eric Flanagan
Shannon Flint
Rod Frith
Long Fu
Stephan Gabos
Dave Geake
Frank George
Ed Gibbons
Tim Gondek
Tim Goos
David Graham
Geoff Granville
Eileen Gresl
Mary Griffiths
Bart Guyon
Mark Harries
Catherine Hart
Lynda Harvey
Howaida Hassan
Bob Hawkesworth
Chris Hay
Stewart Henderson
Dennis Herod
Ron Hicks
Chris Holly
Martin Holysh
Gord Howell
Theresa Howland
Bill Hume
Dianne Humphries
Paul Hunt
Judy Huntley
Rick Hurdle
Rick Hyndman
Doug Innes
Hanna Janzen
Barb Johnson
Ila Johnston
Les Johnston
Wayne Johnston
Gray Jones
Tamara Jonson-Shepherd
Chris Kaiser
Markus Kellerhals
Mike Kelly
Bryan Kemper
Joe Kendall
Wayne Kenefick
Murray Kerik
Myles Kitagawa
Simon Knight
Brent Korobanik
Joe Kostler
Martha Kostuch
Cornelia Kreplin
Bevan Laing
Tim Lambert
Gord Lambert
Dermot Lane
Bryan Lane
Leah Lawrence
Mike Leaist
Frank Letchford
Bill Levy
Harry Lillo
Chow-Seng Liu
Satwant Lota
Allan Lowe
Wendy Lyka
David MacDonald
Don Macdonald
William Macdonald
Grace MacGregor
Alexander MacKenzie
Jerry MacPherson
Morgan MacRae
Tom Marr-Laing
Earl Martin
David May
Stan McBride
Paije McGrath
Art McIntyre
Kevin McLeod
Rob McManus
Barrie McPhalen
Leslie Mergaert
Domenic Mignacca
Sonja Mihelcic
Brian Mitchell
Krista Moroz
Larry Morrison
George Murphy
Bob Myrick
Abbas Naini
Ken Newel
Carmelita Olivotto
Ken Omotani
Ted Ostrowski
Bob Page
Roger Palmer
Andrew Pape-Salmon
David Parker
Brent Pasula
Bob Patrick
Dennis Paul
Rick Paul
Ron Pauls
Ian Peace
Jeff Pearson
Bill Peel
Melissa Peters
Larry Phillips
Henry Pirker
David Pollock
David Pryce
Mark Psutka
Ansar Qureshi
Robert Raimondo
Rosalyn Reid
Dave Reynolds
Andy Ridge
Mayne Root
Judy Roschlaub
Kim Royal
Warren Sarchuk
Gary Sargent
Doug Sasaki
Mike Sawyer
Ron Schafer
Lisa Schaldemose
Marie Schingh
Lawrence Schmidt
Ron Schmitz
Al Schulz
Herman Schwenk
Bob Scotten
Chris Severson-Baker
Nashina Shariff
Neil Shelly
Mike Sheppard
Dean Sheppard
Mitch Shier
Rob Shymanski
Elizabeth Siarkowski
Rod Sikora
Colin Smigelski
Ralph Smith
Jim Spangelo
David Spink
John Squarek
Dennis Stefani
Lidia Stefaniw
Dennis Stokes
Bob Stone
Ted Stoner
Kent Stuehmer
Terence Taylor
Rob Taylor
Tim Taylor
Andy Teal
Jack Thompson
Justin Thompson
Gloria Trimbie
Ken Tsang
Doug Tupper
Reed Turner
Harry Tyrrell
Karen Ulch
Kerry Van Camp
Casey Van Teeling
Wil VandenBorn
Joyce VanDeurzen
Dan VanKeeken
Srikanth Venugopal
Jim Vollmershausen
Brian Waddell
Sarah Waddington
Darcy Walberg
Evelyn Walker
Larry Wall
Andrea Walter
Kevin Warren
Eugene Wauters
Gary Webster
Rick Weidel
Don Wharton
Cliff Whitelock
Brian Wiens
Scott Wilson
Gary Woloshyniuk
Mary-Frances Wright
Ruth Yanor
Bev Yee
Brian Young
Doug Younie

Volunteers

Thank you to the following people who volunteered their time to assist with the administrative needs of CASA. Their expert contributions are truly appreciated.

Diane Dunne
Laura Ferguson, CMA
Linda Kuffner

The organizations

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

Advanced NPD Incorporated

Agrium

Albain Sands Limited

Alberta Agriculture, Food and Rural Development

Alberta Association of Municipal Districts and Counties

Alberta Cattle Commission

Alberta Energy

Alberta Energy and Utilities Board

Alberta Environment

Alberta Environmental Network

Alberta Farm Machinery Research Centre

Alberta Forest Products Association

Alberta Health and Wellness

Alberta Lung Association

Alberta Motor Association

Alberta Motor Transportation Association

Alberta Municipal Affairs

Alberta Research Council

Alberta Road Builders' Heavy Construction Association

Alberta Transportation

Alberta's Industrial Heartland

AMAROK Consulting

ATCO EnergySense

ATCO Gas

ATCO Power

Bert Riggall Environmental Foundation

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 Energy Research Institute

Canadian Forest Service

Canadian Petroleum Products Institute

Canadian Public Health Association

Citizens Oil & Gas Council

City of Calgary

City of Edmonton

Climate Change Central

Continental Lime (Graymont Group)

Dow Chemical Canada Incorporated

Earthkeeping

Edmonton Friends of the North

Edmonton Transit

Energy Efficiency Association of Alberta

ENMAX Energy Corporation

Environment Canada

Environmental Law Centre

Environmental Resource Centre

EPCOR

Exxon Mobil Canada

Federation of Rural Energy Association

First Nations Energy Task Force

Fleetguard Emission Solutions

Fording Coal Limited

Fort Air Partnership

Fort McMurray Environmental Association

Graymont Western US Incorporated

Health Canada

Howell Mayhew Engineering Inc.

Husky Oil

Imperial Oil Resources

Inland Cement Limited

KeySpan Energy

Kidney Foundation

Lake Wabamun Enhancement and Protection Association

Mewassin Community Action Council

Mount Royal College

National Farmers Union

Natural Resources Canada

Nexen

North East Capital Industrial Association

Northland Forest Products Limited

NOVA Chemicals Corporation

NOVA Gas Transmission

Parkland Airshed Management Zone

Parkland County

Peace Airshed Zone Association

Pembina Agriculture Protection Association

Pembina Institute

Petro-Canada

Phoenix Engineering Incorporated

Powersource Energy Systems Incorporated

Prairie Acid Rain Coalition

Residents for Accountability in Power Industry Development

Shell Canada Limited

Sierra Club

South Peace Environmental Association

Strathcona County

Suncor Energy Incorporated

Syncrude Canada Limited

Toxics Watch Society of Alberta

TransAlta Corporation

TransCanada Pipelines

Vision Quest Windelectric Incorporated

West Central Air Society

Western Canada Wilderness Committee

Wild Rose Agricultural Producers

Wood Buffalo Environmental Association

Financial Statements of

The Clean Air Strategic Alliance Association

Auditors' 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, 2002 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, 2002 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

Chartered Accountants
Edmonton, Alberta
January 29, 2003

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, 2002

	2002				2001
	Core	External Projects	National Climate Change	Total	Total
Assets					
CURRENT					
Cash	$ 19,453	$ 132,392	$ -	**$ 151,845**	$ 256,059
Investments	600,000	240,000	-	**840,000**	820,243
Accrued interest	399	307	-	**706**	1,492
Accounts receivable	13,768	32,500	-	**46,268**	5,264
Interfund receivable (payable)	(3,934)	3,934	-	**-**	-
Prepaid expenses	2,848	-	-	**2,848**	2,651
	632,534	409,133	-	**1,041,667**	1,085,709
CAPITAL ASSETS (Note 3)	10,261	-	-	**10,261**	10,148
	$ 642,795	$ 409,133	$ -	**$ 1,051,928**	$ 1,095,857
Liabilities					
CURRENT					
Accounts payable	$ 7,611	$ 9,380	$ -	**$ 16,991**	$ 6,559
Deferred contributions (Note 4)	384,774	399,753	-	**784,527**	857,807
	392,385	409,133	-	**801,518**	864,366
FUND BALANCES					
Board restricted	200,000	-	-	**200,000**	200,000
Unrestricted					
Invested in capital assets	10,261	-	-	**10,261**	10,148
Available for operations	40,149	-	-	**40,149**	21,343
	$ 642,795	$ 409,133	$ -	**$ 1,051,928**	$ 1,095,857

APPROVED BY THE BOARD

Ron Hicks, director

Donna Tingley, director

Statement of revenue, expenditures and fund balances

Year ended December 31, 2002

	2002				2001
	Core	External Projects	National Climate Change	Total	Total
REVENUE					
Grants	$ 797,078	$ 468,501	$ 378,294	**$ 1,643,873**	$ 1,142,097
Interest	18,919	6,926	3,741	**29,586**	47,156
	815,997	475,427	382,035	**1,673,459**	1,189,253
EXPENSES					
Projects	427,574	-	-	**427,574**	271,542
Communications	75,882	-	-	**75,882**	100,021
External projects	-	475,427	382,035	**857,462**	526,041
Board support	80,057	-	-	**80,057**	74,460
General and administrative	207,745	-	-	**207,745**	185,465
Statement of concern	5,820	-	-	**5,820**	4,031
	797,078	475,427	382,035	**1,654,540**	1,161,560
NET REVENUE	18,919	-	-	**18,919**	27,693
FUND BALANCES, BEGINNING OF YEAR	231,491	-	-	**231,491**	203,798
FUND BALANCES, END OF YEAR	$ 250,410	$ -	$ -	**$ 250,410**	$ 231,491

Statement of cash flow

Year ended December 31, 2002

	2002	2001
NET INFLOW (OUTFLOW) OF CASH RELATED TO THE FOLLOWING ACTIVITIES		
OPERATING ACTIVITIES		
Net revenues	**$ 18,919**	$ 27,693
Add item not requiring an outlay of cash		
Depreciation	**4,398**	4,349
	23,317	32,042
Decrease in accrued interest	**786**	1,759
Increase (decrease) in accounts receivable	**(41,004)**	45,095
Increase in prepaid expenses	**(197)**	(278)
Increase (decrease) in accounts payable	**10,432**	(15,318)
Decrease in deferred contributions	**(73,280)**	(322,212)
	(79,946)	(258,912)
INVESTING ACTIVITIES		
Purchase of capital assets	**(4,511)**	(1,650)
DECREASE IN CASH AND SHORT-TERM INVESTMENTS	**(84,457)**	(260,562)
CASH AND SHORT-TERM INVESTMENTS, BEGINNING OF YEAR	**1,076,302**	1,336,864
CASH AND SHORT-TERM INVESTMENTS, END OF YEAR	**$ 991,845**	$ 1,076,302
REPRESENTED BY:		
Cash	**$ 151,845**	$ 256,059
Treasury bills with maturities under 90 days	**840,000**	820,243
	$ 991,845	$ 1,076,302

Notes to the financial statements

Year ended December 31, 2002

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.

External Projects Fund:

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

National Climate Change Fund:

Funds received from provincial and territorial governments together with interest earned are disbursed under the direction of the National Climate Change Secretariat. As this arrangement ended during the year, the fund has been closed.

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.

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.

2 ACCOUNTING POLICIES (continued)

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

	2002				2001
	Depreciation Rates	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
Computer equipment	30%	$ 32,659	$ 22,929	$ 9,730	$ 9,716
Furniture and equipment	30%	4,419	3,888	531	432
		$ 37,078	$ 26,817	$ 10,261	$ 10,148

4. DEFERRED CONTRIBUTIONS

Core Fund:

During the period, the Association received grants totaling $910,000 (2001 - $525,000) 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.

	2002	2001
Deferred core fund contributions, beginning of year	$ 365,786	$ 477,936
Grant monies received	910,000	525,000
Other funds received	6,066	2,369
Grant funds received allocated to external projects	(100,000)	(4,000)
Revenue recorded based on allowable expenditures	(797,078)	(635,519)
Deferred core fund contributions, end of year	$ 384,774	$ 365,786

4. DEFERRED CONTRIBUTIONS (continued)

External Projects Fund:

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

	2002	2001
Deferred external project contributions, beginning of year	**$ 356,853**	$ 275,482
Grant monies received and interest earned	**418,327**	142,197
Grant funds allocated from core projects fund	**100,000**	4,000
Revenue recorded based on allowable expenditures	**(475,427)**	(64,826)
Deferred external project contributions, end of year	**$ 399,753**	$ 356,853

National Climate Change Fund:

Financial contributions and interest earned on funds on deposit in the amount of $246,867 (2001 – $169,782) were received by the Association to be held to provide funding for the National Climate Change Process.

	2002	2001
Deferred National Climate Change Process, beginning of year	**$ 135,168**	$ 426,601
Financial contributions received and interest earned	**246,867**	169,782
Revenue recorded based on allowable expenditures	**(382,035)**	(461,215)
Balance, National Climate Change Process, end of year	**$ -**	$ 135,168

Cover photographs by Shannon Jacobi and Rona Marak

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