



CASA
Clean Air Strategic Alliance



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Clean Air Strategic Alliance Acronyms

AAC	Alberta Airsheds Council
AAQO	Ambient Air Quality Objective
AQHI	Air Quality Health Index
AEP	Alberta Environment and Parks
CAAQS	Canadian Ambient Air Quality Standard
CASA	Clean Air Strategic Alliance
EFR	Electricity Framework Review
GoA	Government of Alberta
GRC	Governance Review Committee
ROVER	Roadside Optical Vehicle Emissions Reporter

Chemical Formulas and Names

NO _x	Nitrogen Oxides
PM _{2.5}	Fine Particulate Matter
O ₃	Ozone
NO ₂	Nitrogen Dioxide
SO ₂	Sulphur Dioxide
H ₂ S	Hydrogen Sulfide
TRS	Total Reduced Sulphur
VOCs	Volatile Organic Compounds

About the Clean Air Strategic Alliance

The Clean Air Strategic Alliance (CASA) was established as a not-for-profit society in 1994 as a new way to manage air quality in Alberta.

CASA supports three air quality management goals:

1. Protect the environment by preventing short and long-term adverse effects on people, animals, and the ecosystem.
2. Optimize economic efficiency.
3. Promote pollution prevention and continuous improvement.

Vision

The air will have no adverse odour, taste, or visual impact and have no measurable short- or long-term adverse effects on people, animals, or the environment.

Mission

CASA is a multi-stakeholder alliance composed of representatives selected by industry, government, and non-government organizations to provide strategies to assess and improve air quality for Albertans, using a collaborative consensus process.

Mandate

1. Implement the Comprehensive Air Quality Management System for Alberta,
2. Conduct strategic air quality planning for Alberta through shared responsibility and use of a consensus-building, collaborative approach, and
3. Prioritize concerns with respect to air quality in Alberta and develop specific actions or action plans and activities to resolve those concerns.

Responsibility for specific air quality planning is shared among stakeholders. Regulatory implementation, licensing, compliance, control, and enforcement remain with existing government agencies.

Alberta Environment and Parks provides core funding to CASA through a grant. Audited financial statements for fiscal year 2020 are available on the [CASA website](#).

2020 CASA Highlights

Conducting business during a pandemic

CASA found itself, like many organizations, facing unique challenges as staff and members had to quickly adapt to conducting business remotely. Project activity remained steady as work progressed in several areas: reviewing the electricity framework, developing advice on setting Alberta Ambient Air Quality Objectives (AAQOs), examining the vehicle fleet emissions profile through the Roadside Optical Vehicle Reporter (ROVER) III project, and achieving the Canadian Ambient Air Quality Standards (CAAQS) project. CASA's members and staff rose to the challenge of participating in, and supporting, our collaborative process under these difficult circumstances.

Piloting a new team scoping process

Board members proposed new work that would focus on the impacts of reduced consumer transportation—because of the pandemic—on air quality in Alberta. There was interest in exploring this further, so the board formed an ad hoc group. It proved an opportune time to pilot a new process.

Project Teams at-a-glance

1. The Electricity Framework Review

This team focused on reviewing the emissions trading system and a health and environmental assessment literature review. Because of the pandemic and associated delays, this work will be completed in 2021.

2. Ambient Air Quality Objectives

This team completed its final tasks by providing advice on the two remaining substances—NO₂ and SO₂—in 2020 and guidance on methods to prioritize substances for the next AAQO review project.

3. Roadside Optical Vehicle Emissions Reporter III

In 2020, the team planned for a data collection season in the municipalities of Calgary, Edmonton, Red Deer, Grande Prairie, and Fort McMurray. Unfortunately, data collection was rescheduled for 2021 because of the pandemic.

4. Achieving Canadian Ambient Air Quality Standards (CAAQS)

This initiative was launched in late 2020 and will promote stakeholder awareness of, and gather sector views on, NO₂ CAAQS air quality issues in Alberta. A background document providing an overview of NO₂ CAAQS, as well as O₃ and PM_{2.5} CAAQS implementation in Alberta is being developed. This work is expected to be completed by the end of 2021.



President's Message

The quality of the air we breathe significantly influences our personal health, our environment, and supports our economy. For decades, we have maintained air quality standards for Albertans through hard work and creative approaches. Despite this, increasing population, transportation, and wildfires continue to challenge us.

Air quality management remains an important priority for the Government of Alberta and its partners such as CASA. A key strength of the Alliance continues to be its collaborative approach to finding innovative solutions to complex issues. Partnerships have been a cornerstone of CASA's continued success, with notable contributions from airsheds as well as industry, government, and other partners.

Over the years, CASA has championed accomplishments in several distinct areas. A valuable outcome was the advice given to the GoA on Ambient Air Quality Objectives (AAQOs), specifically Nitrogen Dioxide (NO₂) and Sulphur Dioxide (SO₂). These diverse perspectives will be used by the GoA to inform future initiatives in this area. Continued work on reviewing our electricity framework and measuring diesel truck emissions to improve management responses, will better position Alberta to meet its targets under the AAQO and the Canadian Ambient Air Quality Standards (CAAQS). I was pleased to see new work get started under the CAAQS. By promoting awareness, gathering sector perspectives, and developing solutions, we will further prevent exceedances occurring in the province.

As we face the environmental, social, and economic challenges of another year, we will require a robust team approach to accomplish our goals and maintain CASA's effectiveness and expertise. I look forward to harnessing the passion, experience, and insight of CASA we tackle priority air quality management issues in Alberta.

Bev Yee



Executive Director's Message



As the Clean Air Strategic Alliance began another year, resilience, inventiveness, and agility continued to characterize our approach and operations. I was gratified to see staff and members rise to the challenge of conducting our business remotely by adopting new technology and investigating virtual avenues.

Despite the unique circumstances of 2020, participation in our projects remained steady, keeping staff busy throughout the year. The emergence of priority issues from board discussions allowed us to test a new approach for developing project ideas. Through ad hoc groups, sectors convened to develop a statement of opportunity for the board's consideration. This process tested the responsiveness of CASA to addressing priority concerns and identified areas of success and areas for improvement.

Project teams continue to be the central focus of CASA's activities. Under the AAQO banner, we transmitted important perspectives on NO₂ and SO₂ to the GoA to inform future management actions. Work progressed under the ROVER III, EFR, and AAQOs projects despite some inevitable delays as a result of the pandemic. We also launched new work focused on CAAQS achievement and the impacts of reduced consumer transportation on air quality.

To keep members up to date on current and emerging air quality management issues, we provided several information updates throughout the year. The board advanced administrative aspects by updating a new multi-year communications strategy for the next three years and an operational plan for 2021.

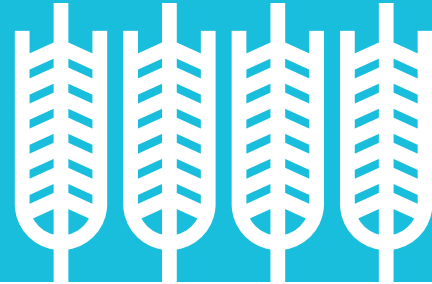
Our province is fortunate to have an organization such as CASA to provide sound advice on diverse air quality management issues. CASA's many volunteer directors, alternates, and team members continue to bring their energy and expertise to our organization, and we are incredibly grateful for their effort. It has been my pleasure to work with these devoted individuals. I look forward to seeing Albertans benefit from CASA's leadership and advice and to raising the profile of air quality management further in 2021.

A handwritten signature in black ink, appearing to read 'Andre Asselin'.

Andre Asselin



Our Staff as of December 31, 2020



Executive director

Andre Asselin

Operations manager

Anuja Hoddinott

Project managers

Katie Duffett

Lauren Hall

Alec Carrigy

Accounting

Sunny Yeung

The AWC acknowledges the good work of Communications Adviser Cara McInnis, who left the AWC in March to return to Nova Scotia. She had been with CASA since 2015.

In Memoriam



Sadly, two very important team members were taken from us unexpectedly this year:

Kim Sanderson

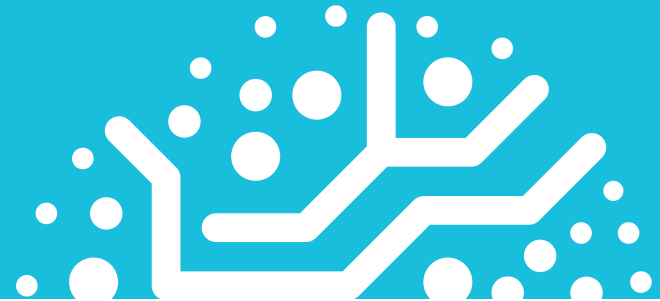
Kim supported the early days of the AWC and went on to assist with our communications, technical writing, governance, and policy work; she also recorded minutes for the executive committee, board, and various projects teams for more than 15 years. Kim died in October. She was a close adviser to both the executive director and our staff.

Christa Edwards

Board and Office Administrator Christa Edwards died in May. Christa was a valued member of our team, always bringing a positive disposition and a smile to our world. She kept us organized, and her graphic design skills supported all aspects of our communications work.

Both Christa and Kim are sorely missed.

Board of Directors



The following individuals served as members of CASA's Board of Directors as of December 31, 2020. CASA is very grateful for the ongoing commitment and support of these individuals and the organizations they represent.

Industry

Petroleum Products	Director Alison Miller	Alternate Rob Hoffman
Mining	Rob Beleutz	Dan Thillman
Oil and Gas - Large Producers		Don McCrimmon
Forestry	Keith Murray	Dan Moore
Alternate Energy	David Lawlor	Mark McGillivray
Chemical Manufacturers	James Baldwin	Greg Moffatt
Agriculture	Rich Smith	Humphrey Banack
Utilities	Jim Hackett (Vice President)	Ahmed Idriss
Oil and Gas - Small Producers		

NGO

NGO Health	Leigh Allard (Vice President)	
NGO Rural	Ann Baran	Randy Angle
NGO Industrial	Ruth Yanor	Benjamin Israel
NGO Urban	Bill Calder	David Spink
Consumer Transportation		

Government

Federal		Martin Van Olst
Provincial Government	Bev Yee (President)	Tom Davis
Local Government – Rural	Amber Link	
Local Government – Urban		
Samson Cree Nation	Holly Johnson-Rattlesnake	
Métis		

CASA thanks the following directors and alternates, who stepped down in 2020, for their contributions:

Benjamin Israel – NGO Industrial

Kathy Rooyakkers – Local Government, Rural

Project Teams



Ambient Air Quality Objectives (AAQO) Project Team

At their December 2016 board meeting, members approved a statement of opportunity from AEP to establish an AAQO Project Team. The priorities are in response to the development of CAAQS for PM_{2.5}, O₃, NO₂, SO₂, TRS, and H₂S.

AAQOs are created to protect the environment and human health. They can be applied in several ways for the purposes of assessing compliance near major industrial air emission sources, including establishing approval conditions for regulated industrial facilities and evaluating proposals for constructing facilities.

The project team had recommended revised AAQOs for PM_{2.5} and O₃, and provided advice for NO₂ and SO₂ AAQOs and for a TRS/H₂S guideline. The project team's final report included methods that can be employed to prioritize substances for the next AAQO review. This work was approved by the board in late 2020.

Electricity Framework Review Project Team

The board approved the EFR project charter in June 2018, and the project team began its work in July 2018.

Given that this is the third five-year review, the project team's goal is to ensure the Emissions Management Framework for Alberta's Electricity Sector reflects current circumstances. The project is being completed in two phases, with the initial phase completed in December 2018. Phase 2 was initiated in February 2019.

The project team's initial task was to recommend a NO_x emission standard for natural gas-fired turbines. They were not able to reach consensus on this task, but they developed a report that summarized the work completed by the team and the perspectives of the stakeholders involved.

Because of the unforeseen circumstances of the pandemic, the progress of the second phase was delayed. This phase includes discussions on emissions standards for biogas, biomass, and reciprocating engine electricity generation; AEP's emissions trading system; and a literature review on the environmental and health effects of substances produced through electricity generation. This work will continue into early 2021 when the project team will provide recommendations to the CASA board on the remaining project tasks.



ROVER III Project Team

Based on the 2014 Air Pollutant Emissions Inventory, the on-road transportation sector is a significant large emission source of NO_x and a source of volatile organic compounds and primary $\text{PM}_{2.5}$. These findings demonstrated the need for CASA to launch a third iteration of the ROVER project to assess in-use vehicle emissions using remote sensing technology.

In 2018, the project team identified study sites in Edmonton, Calgary, Red Deer, Grande Prairie, and Fort McMurray where they predict to observe a high proportion of heavy-duty diesel vehicles. The study sites were finalized in 2019. The team has obtained the municipal and provincial permits necessary to conduct the field work.

The field season originally planned for 2019 was unexpectedly delayed as contractors from the United States were unable to cross the US–Canada border due to the pandemic. Data collection is contingent on when the border will reopen and is tentatively scheduled for the summer or fall of 2021. This project is expected to be completed by December 2021.

Canadian Ambient Air Quality Standards (CAAQS) Achievement Project Team

At the September 2020 meeting, the CASA board approved a project charter for new work related to managing NO_x emissions to prevent CAAQS exceedances in Alberta. This project will promote stakeholder awareness, gather sector perspectives, and identify and develop potential solutions for the issue.

The Canadian Ministers of the Environment (CCME), including the Government of Alberta, committed to implementing the federal Air Quality Management System (AQMS) in 2012 for managing air emissions across Canada. CAAQS are the component of the AQMS used to drive air quality improvement. CAAQS were developed through a collaborative process led by the CCME and cover four air quality parameters: SO_2 , $\text{PM}_{2.5}$, O_3 , and, recently, NO_2 .

Elevated levels of NO_2 lead to adverse environmental impacts (e.g., smog, acidification, eutrophication, and phytotoxicity) and health issues (e.g., respiratory problems). Forecasts indicate that most Alberta air zones will reach levels of CAAQS for annual NO_2 in 2021, which would require active air management. For this reason, it is important that we manage this pollutant.

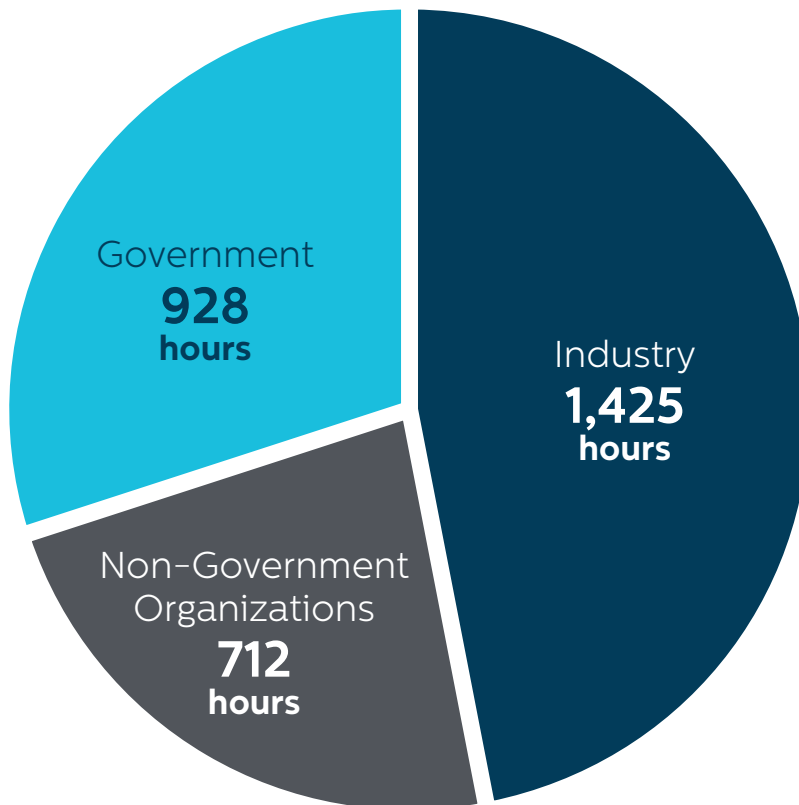
CASA began work in 2020 to compile and summarize the existing knowledge related to CAAQS emissions and exceedances in Alberta as well as learnings from other jurisdictions. This project is expected to be completed by December 2021.

Cash and In-Kind Contributions



Cash and in-kind support are crucial to CASA's effectiveness and ability to undertake its work. Core funding is provided by AEP and is not included in the contributions shown below. Government, industry, and non-government organizations all provided in-kind support. CASA has tried to assign a dollar value to this support by examining time and travel costs and other contributions but remains confident that the true value of these contributions is both under-recorded and underestimated. In total, members contributed approximately \$266,655 in-kind dollars toward CASA's work in 2020. The GoA also generously provided office space as an in-kind contribution in 2020.

2020 In-Kind Contributions



CASA acknowledges AEP for providing a generous grant that covers core operating expenses. CASA also acknowledges a grant from AEP in support of the CAAQS Achievement Project Team's work.

CASA Participating Organizations



CASA could not operate without the help of the many organizations that support participants on the board and project teams. CASA is very grateful to these organizations for providing financial and in-kind contributions of time and expertise.

- Alberta Agriculture and Forestry
- Alberta Airsheds Council
- Alberta Beef Producers
- Alberta Capital Airshed
- Alberta Energy Regulator
- Alberta Environment and Parks
- Alberta Environmental Network
- Alberta Forest Products Association
- Alberta Health
- Alberta Health Services
- Alberta Motor Transport Association
- Alberta Newsprint Company
- Alberta Transportation
- Alberta Pacific Forest Industries Inc.
- ATCO Power Canada Ltd.
- Calgary Region Airshed Zone
- Canadian Association of Petroleum Producers
- Canadian Fuels Association
- Capital Power Corporation
- Chemistry Industry Association of Canada
- City of Calgary
- City of Edmonton
- Dow Chemicals
- ENMAX Corporation
- Environment and Climate Change Canada
- Fort Air Partnership
- Graymont
- Health Canada
- Heartland Generation
- Imperial Oil Ltd.
- Inter Pipeline Ltd.
- International Council on Clean Transportation
- Maxim Power Corporation
- MEG Energy
- Mewassin Community Council
- NextERA Energy Resources
- North West Redwater Partnership
- North West Refining Inc.
- Notinto Sipi Conservation Authority
- NOVA Chemicals Corporation
- Palliser Airshed Zone
- Parkland Airshed Management Zone
- Peace River Area Monitoring Program
- Pembina Institute
- Prairie Acid Rain Coalition
- Repsol Oil & Gas Canada
- Rural Municipalities of Alberta
- Samson Cree Nation
- Southern Alberta Group for the Environment
- Suncor Energy
- The Lung Association Alberta and NWT
- TransAlta Corporation
- TC Energy Corporation
- West Central Airshed Society
- West Fraser Timber
- Wood Buffalo Environmental Association

Alberta Airsheds Council and Alberta Airsheds



CASA would like to recognize our mutually beneficial working relationship with the Alberta Airsheds Council (AAC) and its members, Alberta's 10 Airsheds. The primary role of the Airsheds is the monitoring, assessing, and reporting of ambient air quality, and together they manage most of the monitoring in Alberta. Airsheds are also actively involved in education and community outreach, helping to raise awareness, and understanding of the benefits of good air quality; they often support initiatives that address local air quality issues. While the AAC and CASA are not formally affiliated, Airshed representatives often contribute valuable knowledge and expertise to CASA's project teams, and their partnership and in-kind support is greatly appreciated.

Notably, the AAC released its first Alberta Airsheds 2019 Air Quality report to provide a summary of the air quality data monitored and collected in the province by Alberta's Airsheds. It is a wonderful resource and available here: <https://www.albertairshedsCouncil.ca/air-quality-report>

For more information about the AAC, visit www.albertairshedsCouncil.ca





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