



2021

ANNUAL REPORT

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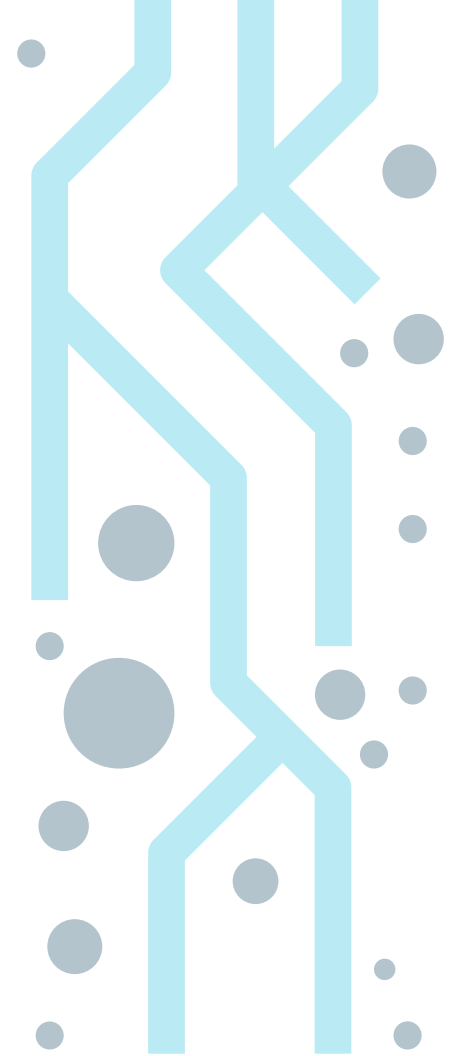
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Clean Air Strategic Alliance Acronyms

AAC	Alberta Airsheds Council
AAQOs	Ambient Air Quality Objectives
AQHI	Air Quality Health Index
AEP	Alberta Environment and Parks
CAAQS	Canadian Ambient Air Quality Standards
CASA	Clean Air Strategic Alliance
EFR	Electricity Framework Review
GoA	Government of Alberta
GRC	Governance Review Committee
IRTAQ	Impacts of Reduced Transportation on Air Quality
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, and
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

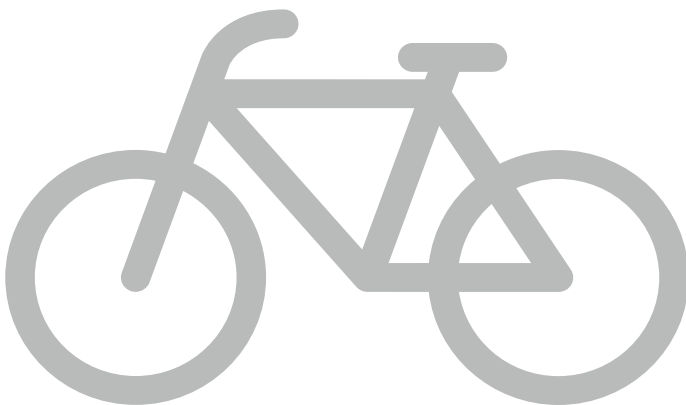
CASA is a multi-stakeholder alliance composed of representatives selected by industry, government, and non-government organizations (NGOs) to provide strategies to assess and improve air quality for Albertans, using a collaborative consensus process.

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 2021 are available on the CASA website (www.casahome.org).



2021 CASA Highlights

Continuing to operate remotely

Similar to 2020, CASA continued to operate remotely using online tools and platforms. Project activity remained busy as work progressed in many areas: publicly releasing the Electricity Framework Review (EFR) Report and advice on setting Alberta Ambient Air Quality Objectives (AAQOs); examining the vehicle fleet emissions profile through the Roadside Optical Vehicle Emissions Reporter (ROVER) III project; undertaking work to advance achievement of the NO₂ Canadian Ambient Air Quality Standards (CAAQS); looking at the impacts of reduced transportation on air quality in Alberta due to public health measures associated with COVID-19 (IRTAQ); and approved new work on dust management. Despite our remote operations, members, partners, and staff remained engaged in our projects, contributing their valuable perspectives to progress CASA's initiatives.

Project Teams at-a-glance

1. Electricity Framework Review

This team focused on reviewing the Emissions Trading System and a health and environmental assessment literature review. The final report was publicly released in October 2021.

2. Ambient Air Quality Objectives

This team completed its final tasks by providing advice on the two remaining substances—NO₂ and SO₂—and guidance on methods to prioritize substances for the next AAQO review. The final report was publicly released in April 2021.

3. Roadside Optical Vehicle Emissions Reporter III

The team arranged for light-duty vehicle emissions data to be collected in the municipalities of Calgary, Edmonton, Red Deer, Grande Prairie, and Fort McMurray. Some data was collected in August 2021 but much of the work had to be postponed because of the pandemic.

4. Canadian Ambient Air Quality Standards

This initiative promotes stakeholder awareness of, and gathers sectors' views on, the NO₂ CAAQS and NO₂ 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 was completed and eight informative webinars were held in 2021. This work will continue into 2022.

5. Impacts of Reduced Transportation on Air Quality in Alberta Associated with COVID-19

This project kicked off in 2021 and developed messaging that links changes in air quality with measures undertaken to reduce the spread of COVID-19. The messaging seeks to generate awareness of the impacts that reduced motor vehicle transportation can have on air quality, and how governments, businesses, and other Albertans can act to improve air quality. This work is anticipated to wrap up in 2022.

President's Message



2021 was another busy year for the Clean Air Strategic Alliance (CASA). Momentum, innovation, and dedication continued to drive our efforts on the air quality management front.

With the prolonged pandemic, board members, partners, and staff remained engaged on several files using remote platforms and tools.

It was rewarding to see valuable advice on two essential pieces of work publicly released in 2021—Electricity Framework Review (EFR) and Ambient Air Quality Objectives (AAQO)s. The recommendations from the EFR focused on the emissions trading system and a health and environmental assessment literature review while the AAQOs work provided advice on NO₂ and

SO₂ as well as guidance on methods to prioritize substances for the next review. These significant achievements reflect the commitment by sectors around CASA's table to inform the GoA's efforts on these important files.

Work continued on existing projects of Canadian Ambient Air Quality Standards and Roadside Optical Vehicle Reporter III in 2021. The Impacts of Reduced Transportation on Air Quality in Alberta associated with COVID-19 initiative aims to develop messaging to link changes in air quality with measures used to reduce the spread of the pandemic. I look forward to the outcomes of these exciting initiatives in the months to come.

Finally, I am delighted to continue as President for CASA. This organization has demonstrated considerable depth of knowledge and expertise on air quality management matters, as well as a remarkable, sustained commitment to finding pragmatic and creative solutions. I value these attributes and look forward to working with CASA to achieve our shared goals.



Bev Yee

Executive Director's Message



2021 marked another year of accomplishment and progress for CASA.

Through it all, one constant has been the remarkable willingness of our volunteer board and teams, and staff to adapt to a remote way of doing business because of the pandemic. Despite it all, the board, executive, and team members continued to provide solid guidance, oversight, and hands-on engagement to our files.

The public release of the EFR and AAQO reports helped raise the profile of important air issues by highlighting innovative approaches to be considered when tackling these challenges. Project activity in 2021 continued with the ROVER III and CAAQS teams making progress towards meeting their objectives. Additionally, CASA considered several potential projects and decided to start work that would examine the impacts of reduced transportation on air quality in Alberta associated with COVID-19. This work will bring in new participants to CASA's multi-stakeholder table and expand exposure to our consensus-based decision-making process. I look forward to seeing how this work unfolds, specifically noting any areas we can improve on and successes to celebrate.

It has given me enormous satisfaction to see our staff successfully juggle multiple, challenging projects using remote approaches and applying their skills to achieve results, due in no small part to CASA's talented and knowledgeable volunteers. Staff have continued to support CASA as we adapt to a new way of doing business and create common practices for remote work. I look forward to discussing future work models and increasing efficiencies using the lessons we have learned throughout the pandemic.

CASA, its partners, and staff are most appreciative of the countless hours of volunteer support and expertise that contribute to our achievements, and we look forward to building new relationships in the coming years. I look forward to seeing Albertans continue to benefit from CASA's leadership and advice in the months ahead.

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A handwritten signature in black ink, which appears to read "Andre Asselin". The signature is fluid and cursive.

Andre Asselin



Our Staff as of December 31, 2021

Executive Director

Andre Asselin

CASA acknowledges the contributions of project manager Lauren Hall who left the organization in 2021. She had been with CASA since April 2019.

Operations Manager

Anuja Hoddinott

Project Managers

Katie Duffett

Alec Carrigy

Jacqueline Noga

Accountant

Sunny Yeung



Board of Directors

The following individuals served as members of CASA's Board of Directors as of December 31, 2021. CASA is very grateful for the ongoing commitment and support of these individuals and the organizations they represent.

Industry

Sector	Director	Alternate
Petroleum Products	Alison Miller	Rob Hoffman
Mining	Rob Beleutz	Dan Thillman
Oil and Gas – Large Producers	Don McCrimmon	Andria Panidisz
Forestry	Dan Moore	Craig Werner
Alternate Energy	David Lawlor	Mark McGillivray
Chemical Manufacturers	Shane Lamden	Greg Moffatt
Agriculture	Rich Smith	Humphrey Banack
Utilities	Jim Hackett (Vice President)	Ahmed Idriss
Oil and Gas – Small Producers	Vacant	

Non-Government Organization (NGO)

Sector	Director	Alternate
NGO Health	Leigh Allard (Vice President)	
NGO Rural	Ann Baran	Randy Angle
NGO Industrial	Ruth Yanor	
NGO Urban	Bill Calder	David Spink
Consumer Transportation	Vacant	

Government

Sector	Director	Alternate
Federal Government		Martin Van Olst
Provincial Government – Environment	Bev Yee (President)	Tom Davis
Local Government – Rural	Amber Link	
Local Government – Urban	Vacant	

Group	Director	Alternate
Samson Cree Nation	Holly Johnson-Rattlesnake	
Métis Settlements	Mary Onukem	

CASA thanks the following directors and alternates, who stepped down in 2021, for their contributions:

Keith Murray – Industry, Forestry

James Baldwin – Industry, Chemical Manufacturers

Project Teams

AAQO Project Team

At the December 2016 board meeting, members approved a statement of opportunity from AEP to establish an AAQO Project Team. The project team's final report was approved by CASA in 2020. This work recommended revised AAQOs for PM_{2.5} and O₃ and provided advice for NO₂ and SO₂ AAQOs and for a TRS/H₂S guideline. It also included methods that can be employed to prioritize substances for the next AAQO review.

This important work was publicly released in April 2021. The final report and supporting documents can be found on [CASA's website](#).

EFR Project Team

CASA approved the EFR project charter in June 2018, and a project team started work on this in July the same year. As this was the third five-year review, the team's goal was to ensure that the Emissions Management Framework for Alberta's Electricity Sector reflects current circumstances. Despite the team not reaching consensus on a NO_x emission standard for natural gas-fired turbines, they developed a report that outlined the perspectives of the stakeholders involved. The report also included eight consensus recommendations in areas such as NO_x standards for gas-fired reciprocating engines and biogas-fired engines, the Emissions Trading System, and the next iteration of the five-year review, among others.

The team's final report was approved by CASA and publicly released in August 2021. These documents can be found on [CASA's website](#).

ROVER III Project Team

The board launched a third iteration of the ROVER project in 2017 to assess in-use vehicle emissions using remote sensing technology. Since then, the project team identified and finalized study sites and gathered municipal and provincial permits for field work.

Field work was delayed because of the pandemic; however, the contractors were able to enter Canada and collect data on light-duty vehicles in the fall of 2021. They collected data in Fort McMurray, Grande Prairie, Edmonton, Red Deer, and Calgary. The remaining data collection will focus on heavy-duty vehicles and will take place at vehicle inspection stations throughout the province in 2022. Because of the delays, the project timeline has been extended and is expected to be completed in 2023.



CAAQS Achievement Project Team

In September 2020, CASA approved a project charter for work aimed at promoting stakeholder awareness of, and gathering cross-sector perspectives on, NO₂ CAAQS air quality issues and to identify and collaboratively develop potential approaches and solutions that have the support of implementers.

A background document was prepared which summarized existing knowledge related to Alberta's CAAQS achievement, NO_x emissions, current policies in place, and learnings from other jurisdictions.

Building on the background document, a series of eight virtual webinars were held in late 2021. Over 30 subject-matter experts from a range of areas (e.g., multiple levels of government, NGOs, industry, and academics) and geographies (North America and Europe) shared their knowledge on potential priority areas for policy and research to manage NO_x emissions. An electronic survey was also distributed to webinar participants to gather similar information. The webinars were open to those with interest and expertise in air quality and were attended by nearly 200 people.

Workshop(s) are planned to use the options identified in the background document and webinars and identify specific options to help address the NO₂ CAAQS issue. These sessions would be held in 2022.

The project is expected to be completed by September 2022.

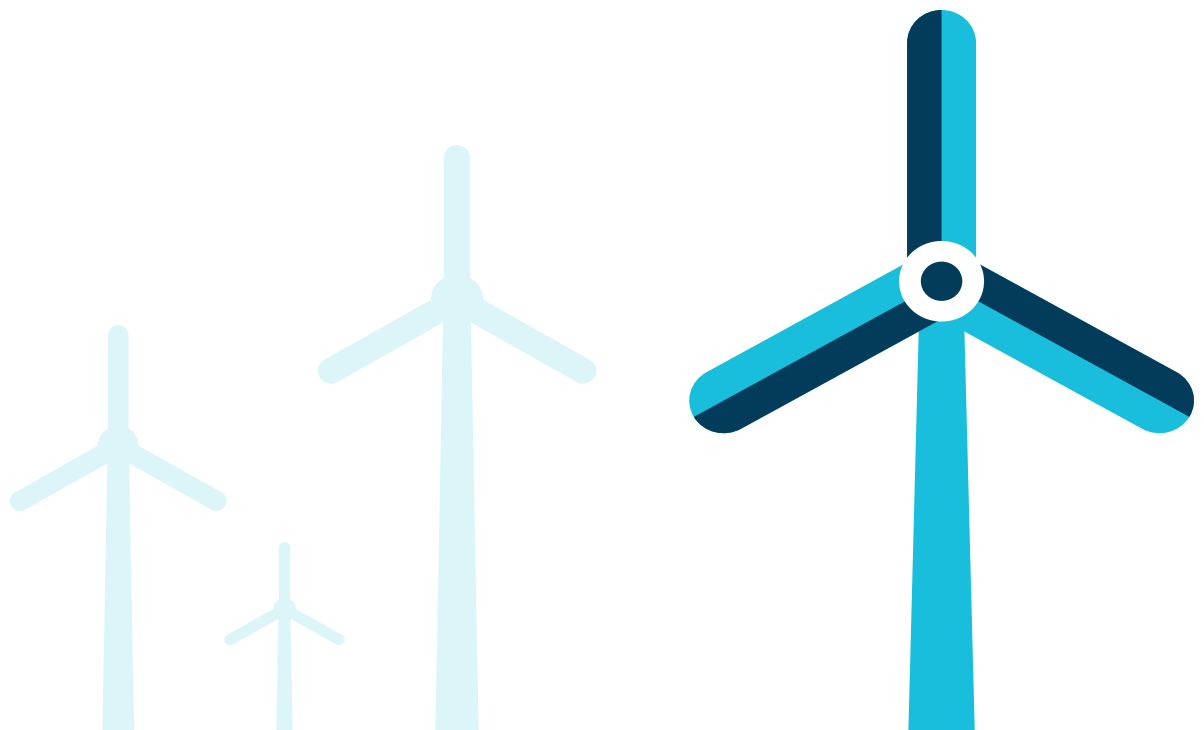
IRTAQ Project Team

The board approved terms of reference for this work in July 2021 and a project team was launched to start executing its tasks. This project team aims to develop messaging to link potential changes in air quality with public health measures undertaken to reduce the spread of COVID-19. The messaging intends to generate awareness of the impacts reduced motor vehicle transportation can have on air quality, and how governments, businesses, and other Albertans can act to improve air quality.

This work is anticipated to wrap up in 2022.

Dust Management Statement of Opportunity

During the December 2021 project selection process, a statement of opportunity for a project to develop dust management best practices for Alberta was approved by the board. The working group to develop a project charter will be initiated in 2022.

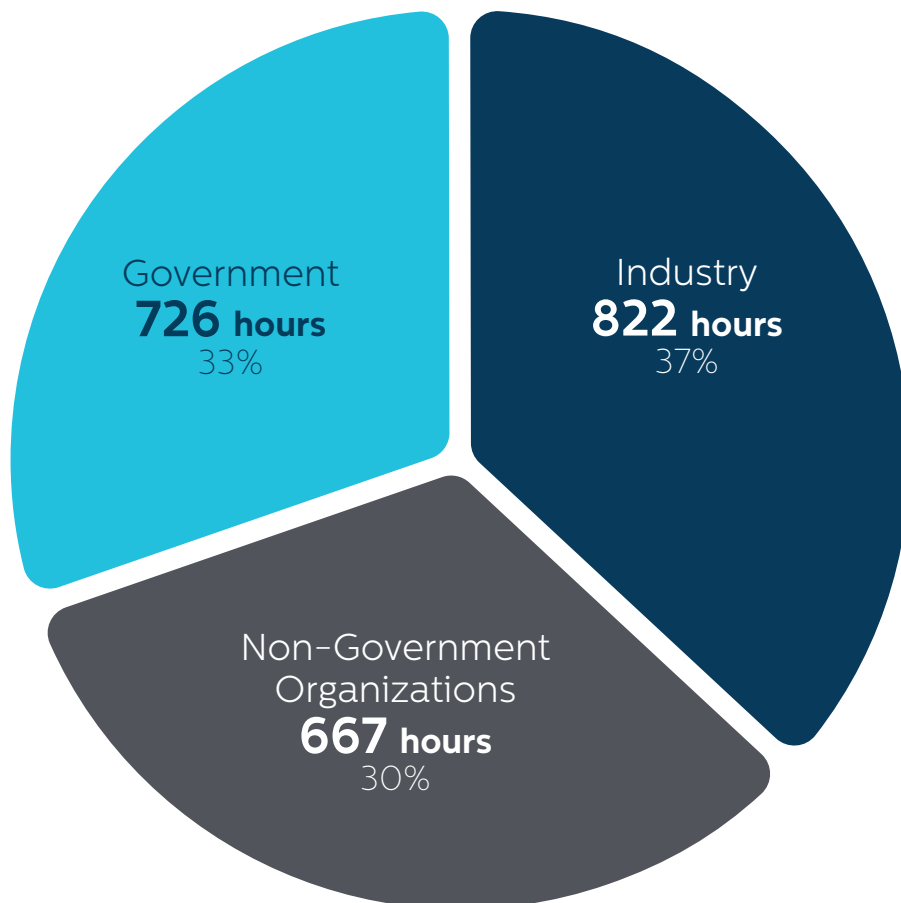


Cash and In-Kind Contributions

In-kind support is a cornerstone of CASA's ability to address complex air management issues and is extremely valuable in completing its work. Industry, governments, and NGO have all provided such support. CASA has tried to assign a dollar value to this support but can confidently say that the true value of these contributions is both under-recorded and underestimated. The total in-kind contributions of time for 2021 amounted to 2215 hours which represents about \$221,550 in donated time. The GoA also generously provided office space as an in-kind contribution in 2021. The chart below shows the in-kind cash equivalent contributions from the three broad sector groups.

Cash contributions are also critical to the success of the organization. CASA gratefully acknowledges AEP for providing a generous grant which covers core operating expenses as well as a grant for supporting the Canadian Ambient Air Quality Standards Achievement Project Team.

2021 In-Kind Contributions



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, Forestry, and Rural Economic Development
- 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.
- Calgary Region Airshed Zone
- Canadian Association of Petroleum Producers
- Canadian Fuels Association
- Capital Power
- Chemistry Industry Association of Canada
- City of Calgary
- City of Edmonton
- Dow Chemicals
- ENMAX Corporation
- Environment and Climate Change Canada
- Fort Air Partnership
- Graymont Ltd.
- Health Canada
- Heartland Generation Ltd.
- 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
- Notinto Sipi Conservation Authority
- NOVA Chemicals Corporation
- Palliser Airshed Society
- 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
- University of Alberta
- 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 releases an annual Air Quality Report to provide a summary of the air quality data monitored and collected in the province by Alberta's airsheds. They are a valuable resource and available at <https://www.albertairshedsCouncil.ca/air-quality-reports>

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





No. 1400, 9915 108 Street NW, Edmonton, AB T5K 2G8
T: 780-427-9793 • E: info@awc-casa.ca
<https://www.casahome.org>
@CleanAirSA