DELIVERING ON OUR COMMITMENTS

Responsible Care® Report

2023

CHEMISTRY INDUSTRY ASSOCIATION OF CANADA

Responsible Care®
Our commitment to sustainability.

CONTENTS

INTRODUCTION

About Responsible Care® and CIAC's sustainability and safety focus

The chemistry and plastics sector including all CIAC members are dedicated to consistently improving their collective environmental, health, and safety performance year-after-year.

The pillar to these practices is the made-in-Canada program known as Responsible Care. The program was founded in Canada in 1985 and is now practiced in 73 countries and by 96 of the 100 largest chemical producers in the world. Responsible Care companies strive to the ethic to ***"do the right thing and be seen to do the right thing."*** Our dedicated members are constantly innovating and working toward safer and greener products and processes, and work to continuously improve their environmental, health, and safety performance.

Responsible Care covers all aspects of a company's business, employees, nearby communities, and the environment over the entire life cycle of its products.

CIAC members mainly ship their crucial products by rail with members going above and beyond what is required by regulation for safely transporting chemicals. This is seen in their commitment and leadership of the Transportation Community Awareness and Emergency Response (TRANSCAER®) initiative and the Transportation Emergency Assistance Program (TEAP III).

Members engage with communities along transportation corridors, emergency responders, governments, and other stakeholders, embracing transparent and educational practices to ensure they better understand the realities of dangerous goods travelling through their community and are prepared should there be an incident.

Plastics are an integral part of a modern, sustainable society, and a thriving economy. The benefits of plastics can't be denied, but the plastics industry recognizes that plastics belong in the economy and not in our natural environment. CIAC Plastics Division members are dedicated to eliminating plastic pollution caused by plastic resin loss during production or transportation.

Through Operation Clean Sweep™ (OCS) our industry is playing a critical role in being part of the solution to this global issue. OCS is an international environmental stewardship program designed to help plastic resin handling operators implement modern resin containment practices. The CIAC Plastics Division leads the adoption of the OCS program in Canada.

The 2023 Responsible Care Sustainability Report highlights the successes and important steps taken by our members to reach their collective responsibilities.

RESPONSIBLE CARE® AT CIAC

Federal Recognition of Responsible Care® and Operation Clean Sweep™

On February 3, CIAC's Responsible Care and Operation Clean Sweep (OCS) programs were federally recognized through the Government's proposed Code of Practice for the Environmentally Sound Management of Chemical Substances in the Chemicals, Plastics and Rubber Sectors. This code, which is meant to identify and promote best practices in the management and handling of chemical substances and to be a supporting risk management instrument under Canada's Chemicals Management Plan, allows reporting on implementation of certain best practices through Responsible Care or OCS verification.

Explore the code's evaluation checklist here.

Responsible Care recognized by Ontario as an Accredited Occupational Health and Safety Management System

On May 31, Ontario's Chief Prevention Officer, Dr. Joel Moody, announced that the Ontario Ministry of Labour, Immigration, Training and Skills Development Chief Prevention Office accredited as an Occupation Health and Safety Management System within its Supporting Ontario's Safe Employers program. Dr. Moody made the announcement while addressing delegates at CIAC's Responsible Care Workshops in Toronto.

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CIAC hosts Responsible Care workshops, Board and Committee meetings in Toronto

May 30 to June 1, CIAC members and select invited guests descended on the Marriott Eaton Centre in downtown Toronto for a series of meetings and Responsible Care workshops. While the workshops were aimed at informing members on a range of important topics, the committee meetings plotted the future course for CIAC and outlined priorities.

L-R: Jeff Stevens (CIAC), Bob Masterson (CIAC), Ran Xu (DuPont), Gustavo Parra (Methanex), Apala Mukherjee (BASF), Brad Apking (Methanex), Catherine Clark, Anthony Pasteris (Minerva), Peter Noble.

CIAC announces 2022 Responsible Care® Award recipients

In 2023, CIAC launched seven new Responsible Care awards to recognize companies and individuals that exemplify leadership and outstanding performance based on the implementation and execution of Responsible Care over the past year.

"I am delighted to be able to formally recognize these outstanding companies and individuals for their exceptional work in living the Responsible Care ethic this year. Each one of these recipients went above and beyond to 'do the right thing and be seen to do the right thing,'" said Bob Masterson, President, and CEO of CIAC.

Operations Award:
BASF We create chemistry

Stewardship Award:
methanex the power of agility

Accountability Award:
methanex the power of agility

Company of the Year Award:
methanex the power of agility

Jean Bélanger Award:
Peter Noble

Women in Chemistry Award:
Ran Xu

Excellence in Partnership Award:
MINERVA Safety Management Education

VERIFICATIONS AND CERTIFICATIONS

Recognizing our members' commitment to Responsible Care® verifications completed in 2023:

CABOT	AUDIT
EVONIK Leading Beyond Chemistry	AUDIT
methanex the power of agility	VERIFICATION
CYTEC	VERIFICATION
INEOS STYROLUTION	AUDIT
KRONOS®	Received the ISO 50001 Energy management certification in November 2023.

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Advancing equity, diversity and inclusion

It is increasingly a societal expectation that companies in Canada be responsive to concerns related to equity, diversity, and inclusion, ensuring greater access to opportunities for individuals of all backgrounds and orientations. In line with UN SDG 8 (Decent Work and Economic Growth) and UN SDG 10 (Reduced Inequalities), CIAC and its members are committed to addressing expectations of the Truth and reconciliation Commission Call for Action for Canada's Business Sector. These commitments are now embedded formally in our Responsible Care requirements.

8.5 – By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

10.2 – By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

10.3 – Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies, and action in this regard.

10.4 – Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

Dow celebrates National Indigenous Peoples Day

On June 21, Dow recognized National Indigenous History Month and National Indigenous Peoples Day by celebrating local partnerships. Dow continues to partner with multiple organizations to support Indigenous peoples. Dow Canada announced the launch of its Indigenous Inclusion Policy and enacted a range of other initiatives in 2023 including:

- Dow's Indigenous Network volunteers worked with the Creating Hope Society of Alberta and Families First Society to support the National Indigenous Peoples Day events at Cardiff Park in Alberta.
- Creating the Dow Indigenous Economy Fund program with the Canadian Council for Aboriginal Business to empower Indigenous-owned businesses with grants.
- Funding scholarships for the Banff Centre for Arts and Creativity's Indigenous Leadership program for the Intermediate Business and Economic Development course as well as through Indspire.

CREATING HOPE SOCIETY

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Sarnia Women's Interest Network supports young women in STEM

The Imperial Sarnia Women's Interest Network (WIN) prioritized STEM (science, technology, engineering, math) youth outreach throughout 2023 and facilitated numerous interactive learning sessions for schools and organizations.

Imperial provided P.E McGibbon, the public feeder school nearest to the company's Sarnia operations, with a financial grant to purchase much needed STEM equipment. In addition to funding, Imperial employees participate in monthly visits to the school where they share various aspects of their jobs through interactive demonstrations. Imperial also provided funding to the Boys and Girls Club of Sarnia (BGCS) for the club's after-school STEM program.

In addition, Imperial also facilitated a waste sorting and worm farm activity at the Aamjiwnaang First Nation Earth Day event, the summer Actua camp at Aamjiwnaang, Girl Guides, and the Professional Engineers of Ontario Discovery Day event.

Supporting diversity and inclusivity in industrial trades

Since 2019, Inter Pipeline (IPL) has committed over $1 million to Women Building Futures (WBF). WBF is a non-profit organization with the mission of empowering women through programs that introduce students to different industrial trades and assists with job placement and mentoring.

IPL is proud to support several WBF initiatives including the Power Engineer Career Accelerator Program and has partnered with WBF to offer hands-on experience to students at the Heartland Petrochemical Complex.

Taking steps towards reconciliation in Canada

At Methanex, priorities in 2023 focused on advancing their Equity, Diversity and Inclusion (EDI) action plan, including rolling out a Guide to Equitable Succession Planning to mitigate bias, enhance objectivity and increase the visibility of more diverse talent, launching a foundational EDI learning module to all team members and developing a global Employee Resource Group (ERG) Toolkit to support team members in forming new ERGs.

In 2023, Members of the Medicine Hat team joined Indigenous leaders, including a former member of their Community Advisory Panel, for a unique experience to learn about colonialism's history and the ongoing impacts on Indigenous peoples in Canada. Methanex also sponsored the Medicine Hat Public School Division's (MHPSD) inaugural event, KisKihkeyimowin, which means ***"sharing good teachings"*** in Plains Cree. MHPSD held the event in partnership with the Medicine Hat College and the Miyasin Friendship Centre, where grade four and 10 students from MHPSD had the opportunity to connect with Blackfoot, Cree and Métis cultures, teachings and traditions.

Engaging communities to minimize adverse health and environmental impacts

Through Responsible Care®, CIAC members commit to fostering ongoing community awareness and dialogue, receiving and responding to public feedback, and providing information about the risks and benefits of their operations with Canadians — particularly those living in communities where members do business. Through these Responsible Care commitments, CIAC and its members are making progress on UN SDG 12 (Responsible Consumption and Production) and the following targets:

12.4 – By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment.

12.6 – Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

12.8 – By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development lifestyles in harmony with nature.

Alexander First Nation and Dow Canada sign Memorandum of Understanding to advance relationship

In August, Dow Canada and the Alexander First Nation (AFN) in Alberta signed a Memorandum of Understanding (MOU) to formalize a mutually beneficial process to engage and share information about Dow's operations and proposed Path2Zero expansion project in Fort Saskatchewan, Alberta.

The shared vision of Dow and AFN is to engage in discussions regarding community, education, culture, and business to build mutual understanding and positive relationships.

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Open House and Kids' Lab

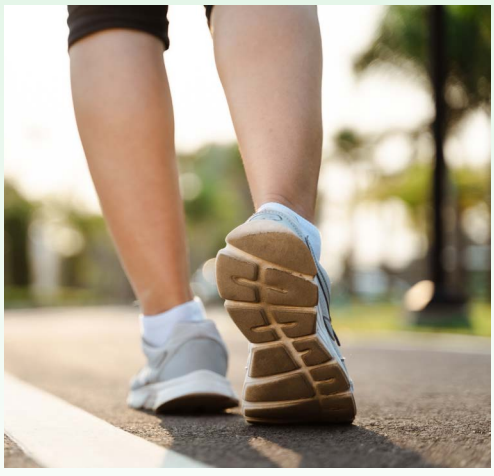
On June 3, the BASF Cornwall, Ontario site opened its doors to the public. This was an opportunity for community members to visit and tour the facilities, meet the team, and learn more about BASF's products, and practices around safety and sustainability.

Guided tours, live music and a complementary BBQ were enjoyed by over 150 visitors. BASF also offered a complimentary Kids' Lab where young visitors had the opportunity to learn about the properties of polymers. Participants also received a BASF Kids' Lab bag, safety goggles and activity booklet.

NOVA staff participate in Steps for Life

In 2023, NOVA teams across Canada joined local Steps for Life walks, raising funds and awareness for Threads of Life in their impactful work supporting families impacted by workplace tragedy. Almost 60 individuals joined their teams to walk and/or donate more than $4,000 to the cause, further demonstrating our collective commitment to workplace safety.

NOVA Chemicals is proud to be a national sponsor of Threads of Life, committing $50,000 annually to an organization that shares their belief that workplace injuries, occupational diseases and deaths are preventable.



Reducing emissions of harmful chemicals

As part of our commitment to Response Care®, CIAC and its members provide awareness and public communication of all emissions to the environment and implement programs to reduce emissions that pose health and environmental risks. This commitment has led to progress towards the following targets under UN SDG 3 (Good Health and Well-Being), UN SDG 6 (Clean Water and Sanitation), UN SDG 12 (Responsible Consumption and Production), and UN SDG 13 (Climate Action):

3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination. .

6.3 – By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

12.4 – By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

13.2 – Integrate climate change measures into national policies, strategies, and planning.

Through Responsible Care and their commitment to sustainability and continuous improvement, CIAC members continue to invest in pollution prevention, energy efficiency, and resource conservation. CIAC tracks our members' reductions of key pollutants through the National Emissions Reduction Masterplan (NERM).

Since 1992, CIAC has and continues to collect data through its NERM survey on chemical emissions by members including air, water, land, underground injection, and the offsite transfers of those substances in waste or recoverable materials. As shown in **Figure 1**, in 2022, 134 substances were reported out of 374 substances on the modernized NERM substance list, and only 22 substances had emissions over 100 tonnes.

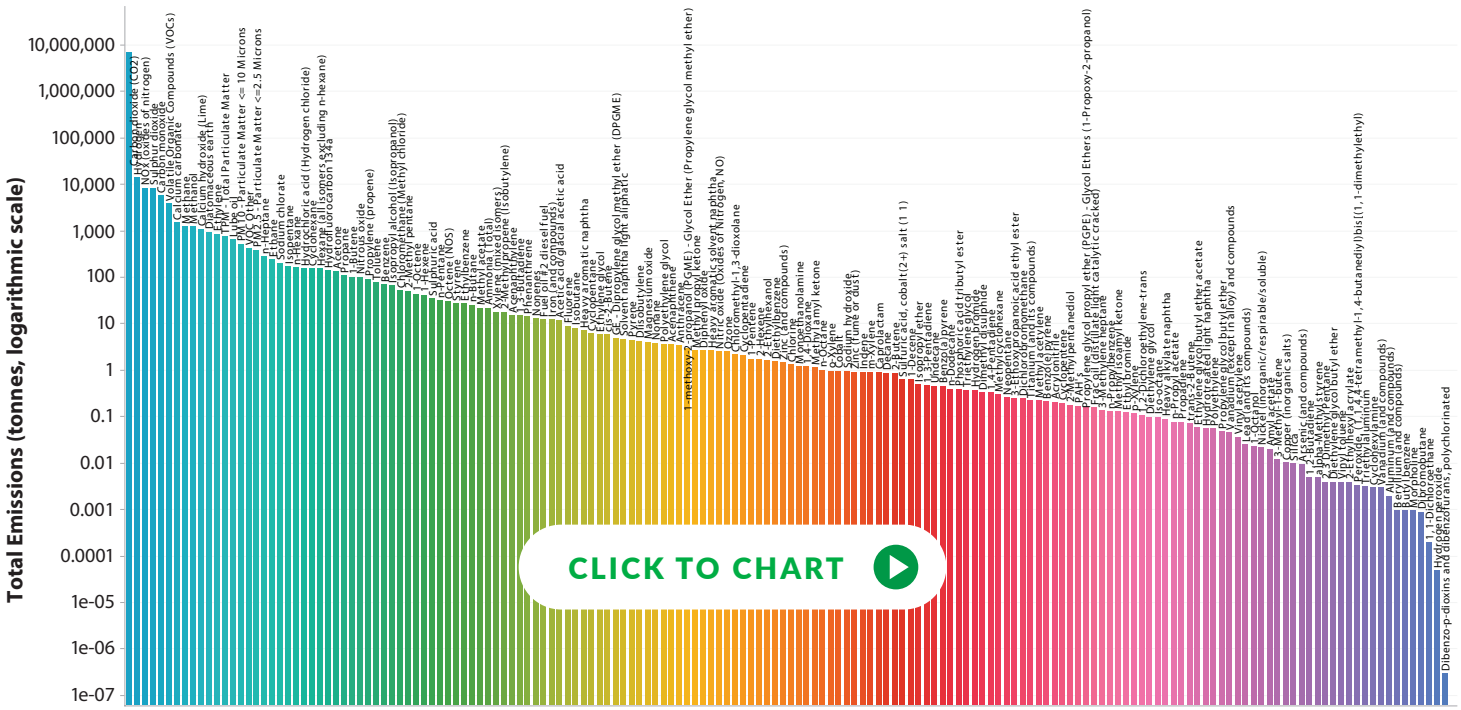


Figure 1. Total NERM emissions in 2022 by chemical (*note: logarithmic scale, in tonnes*).

Figure 2 shows that the top 10 chemicals emitted by CIAC member companies in 2022 were: carbon dioxide (CO_2), hydrogen, sulphur dioxide, oxides of nitrogen, carbon monoxide, volatile organic compounds (VOCs), methanol, methane, ethylene, and total particulate matter.

Since NERM's inception, CO_2 has been consistently ranked the highest emitted substance. It is important to note that despite the abundance of greenhouse gases and criteria air contaminants on this list, there are emissions that present an opportunity for innovation and climate change solutions, such as hydrogen.

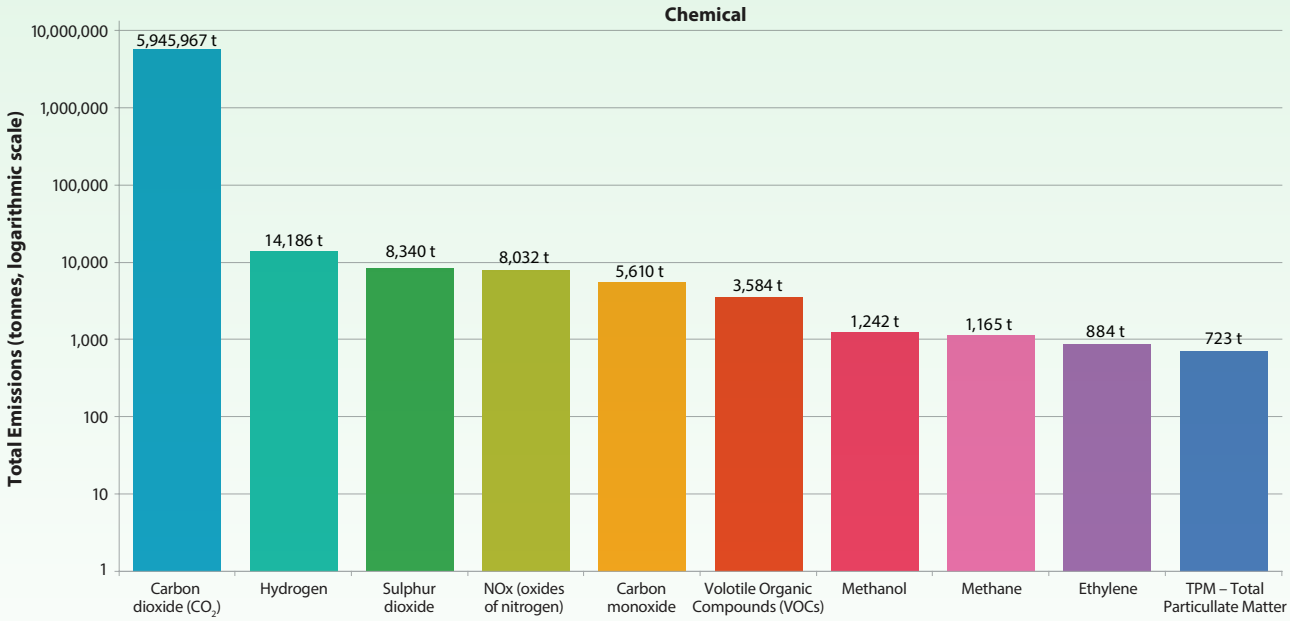


Figure 2. Top 10 NERM emissions in 2022 (*note: logarithmic scale, in tonnes*).

Supporting chemicals management

The safe manufacturing of chemistry is at the centre of all the products that ensure our modern way of life. Canadians need to be confident that their health, safety, and environment are protected at all times. CIAC and our members are proud to support Canada as a global leader in the risk-based approach to chemicals management.

Since 2005, CIAC members have reduced their emissions of Canadian Environment Protection Act (CEPA) Schedule 1 substances (excluding greenhouse gases and criteria air contaminants, which are analyzed separately) by 58 per cent on an absolute basis and 99 per cent based on emission intensity, as shown in **Figure 3**.

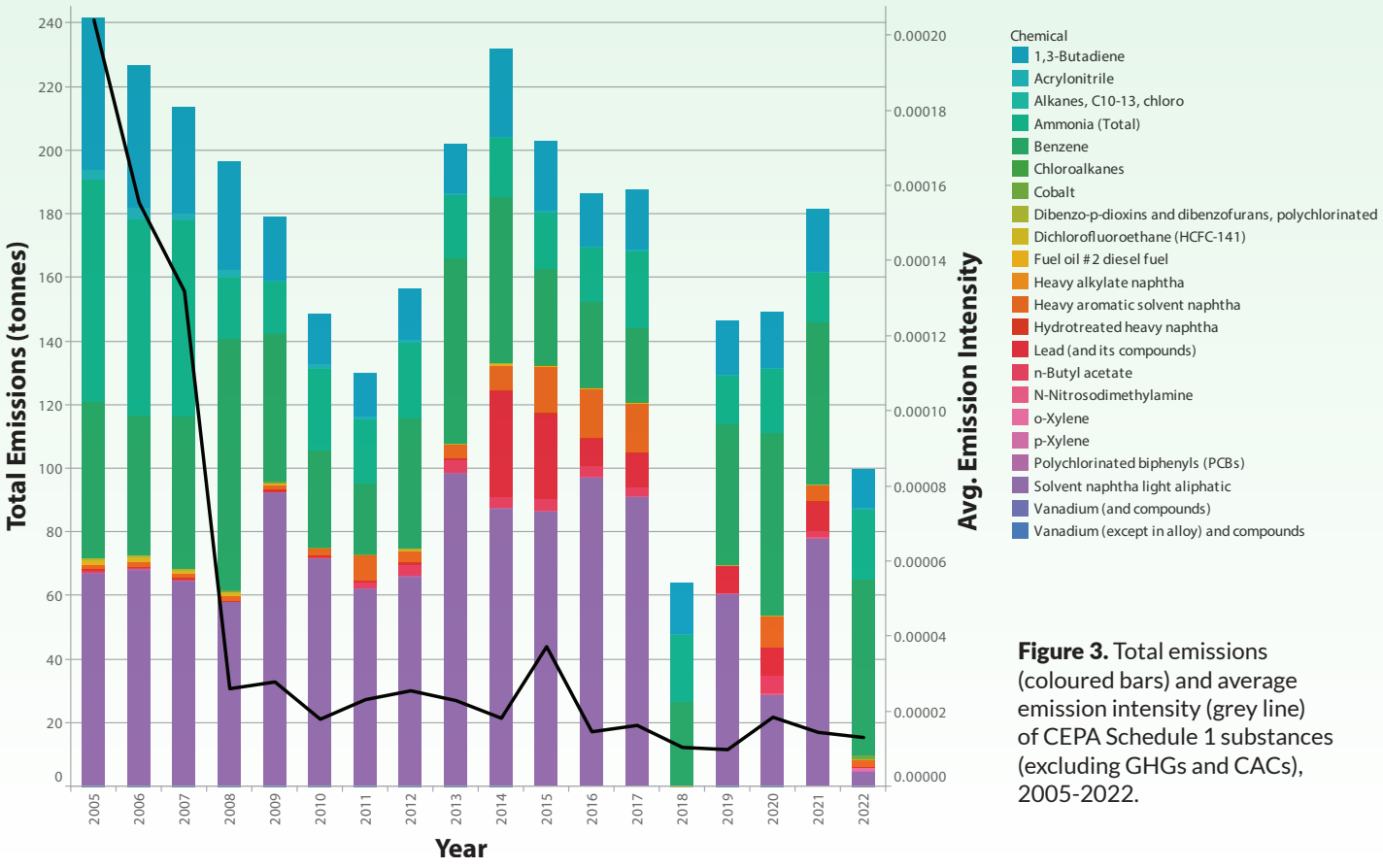


Figure 3. Total emissions (coloured bars) and average emission intensity (grey line) of CEPA Schedule 1 substances (excluding GHGs and CACs), 2005-2022.

The following figures explore trends for key groups of chemicals requiring risk management:

Benzene, toluene, ethylbenzene, and xylenes (BTEX)

Often, a group of VOCs, collectively known as BTEX, comprising benzene, toluene, ethylbenzene, and xylenes (mixed isomers — ortho, meta, para) are measured and analyzed as they are straightforward to monitor together and provide a well-rounded picture of aromatic VOCs that are present in most urban areas. In 2002, we saw an increase in BTEX emissions to air as a higher than usual amount of toluene was disposed of via incineration. This value is expected to come down in 2023.

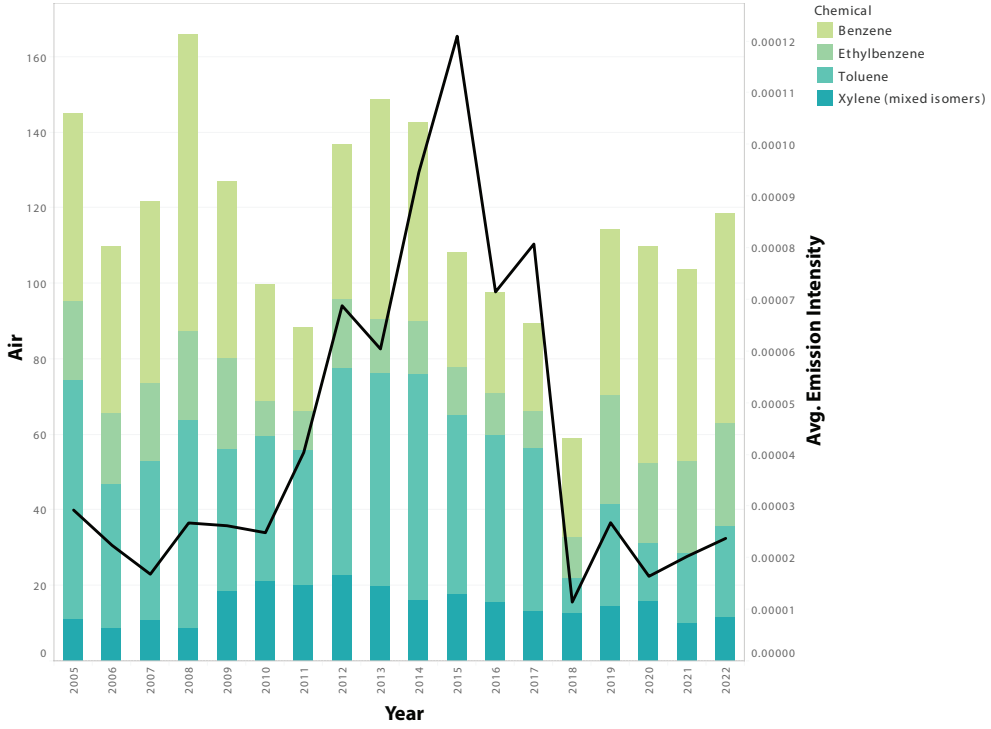


Figure 4. Total air emissions (coloured bars) and average emission intensity (grey line) of BTEX substances, 2005-2022.

Carcinogens listed on CEPA Schedule 1

The International Agency for Research on Cancer (IARC) classifies substances as group 1 (carcinogenic to humans), group 2A (probably carcinogenic to humans), group 2B (possibly carcinogenic to humans), and group 3 (not classifiable as to its carcinogenicity to humans). Since 2005, CIAC members have reduced their emissions of IARC group 1, 2A, and 2B substances by 31 per cent on an absolute basis.

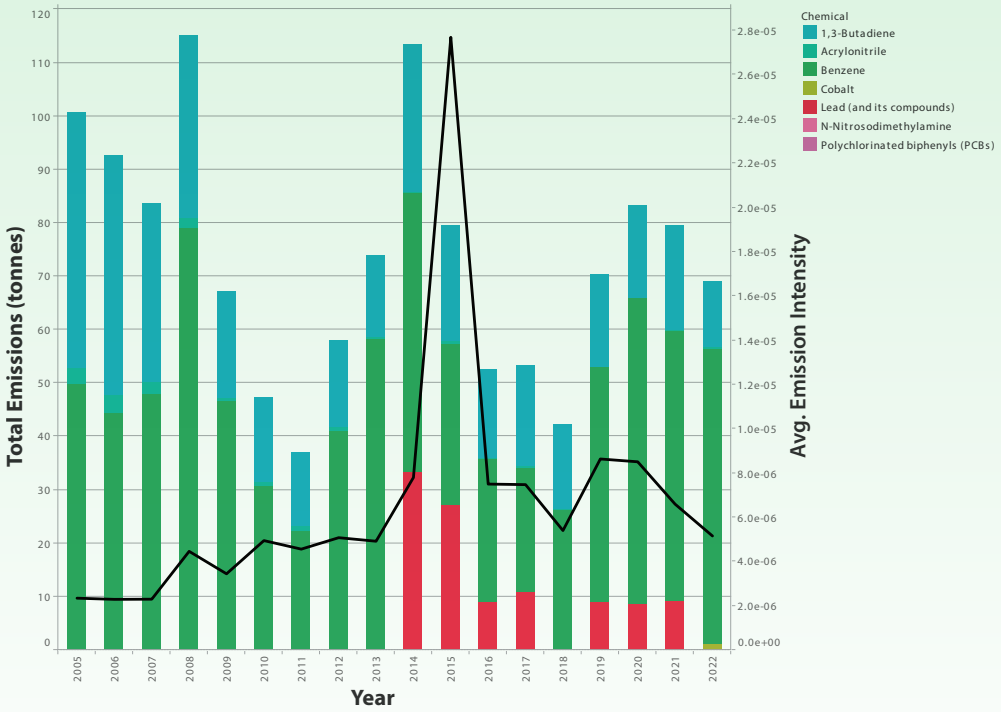


Figure 5. Total emissions (coloured bars) and average emission intensity (grey line) of IARC group 1 and 2 substances, 2005-2022.

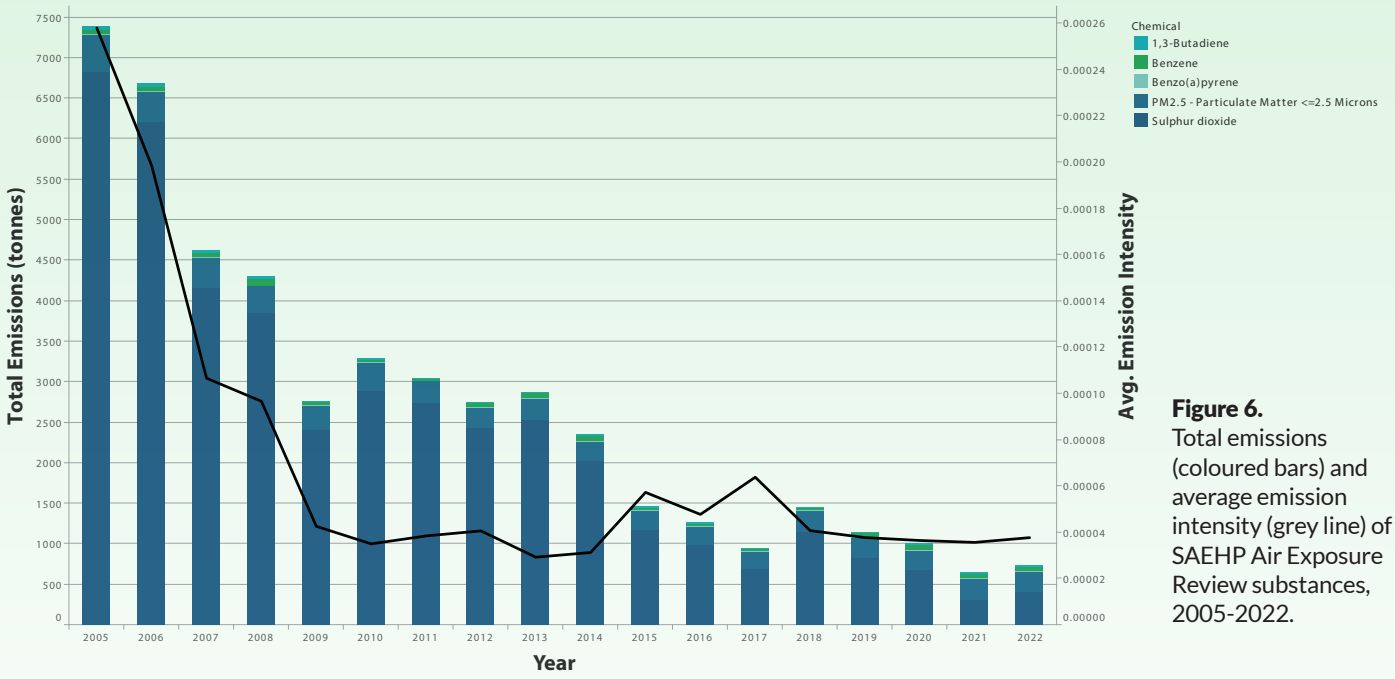


Figure 6.
Total emissions (coloured bars) and average emission intensity (grey line) of SAEHP Air Exposure Review substances, 2005-2022.

Air stressors included in the Sarnia Area Environmental Health Project

The Sarnia Area Environmental Health Project (SAEHP) aims to address concerns of Sarnia area communities about air pollution and other environmental stressors from local industries in the area. The Air Exposure Review is a scientific assessment that describes community exposures and associated risks to human health from chemicals in the outdoor air in the Sarnia area. Since 2005, CIAC members have reduced their emissions of SAEHP substances by 90 per cent on an absolute basis and 85 per cent based on emission intensity.

Criteria air contaminants

The Air Quality Management System (AQMS) is a comprehensive and collaborative approach by federal, provincial, and territorial governments to reduce the emissions and ambient concentrations of various pollutants of concern (i.e., criteria air contaminants or CACs), providing a framework for collaborative action across Canada to further protect human health and the environment from harmful air pollutants through continuous improvement of air quality.

This program was built on a foundation of collaboration, accountability, and transparency. Industry, non-governmental and Indigenous organizations, and CIAC, worked with governments to develop the AQMS. CIAC, along with other stakeholders, continues to monitor implementation of the AQMS and participate in its ongoing development and improvement. As seen in the figure below, since 2005, CIAC members have seen a 39 per cent decrease in total CAC emissions and 35 per cent decrease in CAC emission intensity.

Canadian Ambient Air Quality Standards (CAAQS) are developed as a key element of the AQMS to drive improvement of air quality across Canada. CAAQS have been developed for nitrogen dioxide (NO_2), sulphur dioxide (SO_2), fine particulate matter (PM2.5) and ozone (O_3). The figure below illustrates member emissions of SO_2, PM2.5, and NO_x geographically according to federal airshed (no O_3 emissions reported in 2022).

Based on this figure, it seems that most releases are of NO_x in Prairie and East Central airsheds and SO_2 in the East Central. However, it should be noted though that major maintenance and re-investment activities in the Prairie region, including the installation of low-NO_x burners, will lead to reductions in NO_x emissions in the future.

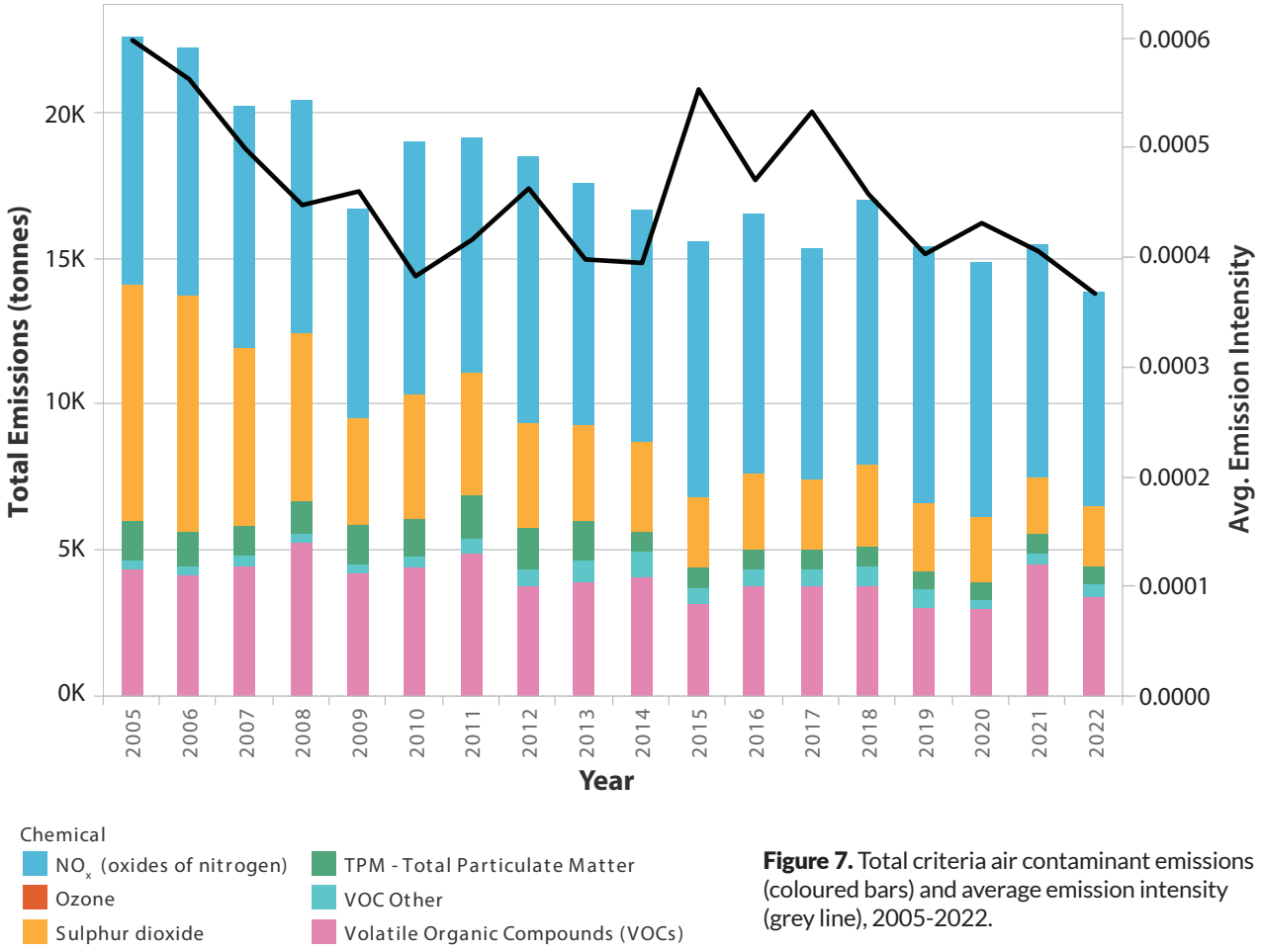


Figure 7. Total criteria air contaminant emissions (coloured bars) and average emission intensity (grey line), 2005-2022.

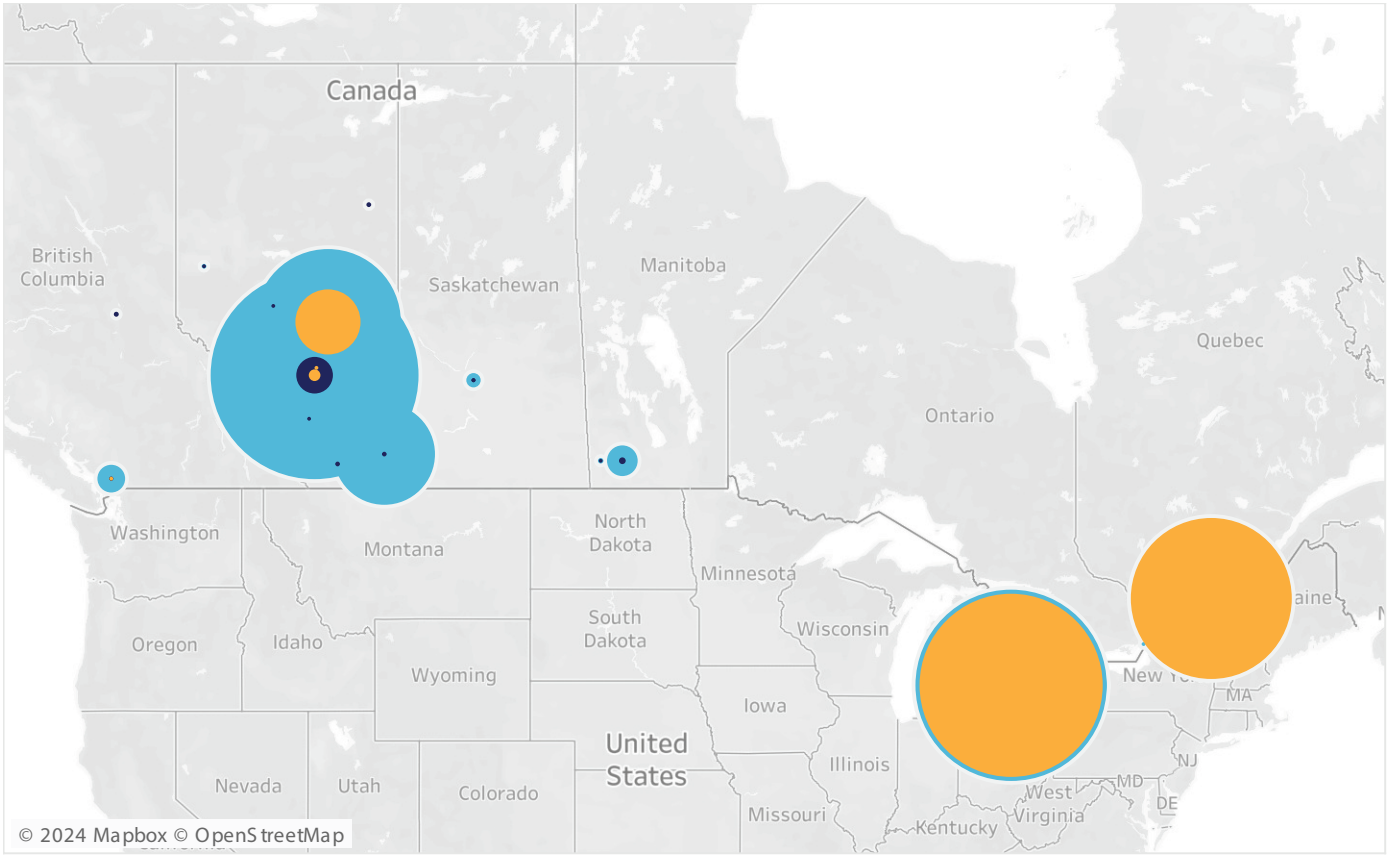


Figure 8. Geographic representation of PM2.5, SO_2, and NO_x air emissions in 2022 by airshed.

Leveraging production assets and partnerships to transition to low-carbon economy

Methanex is taking concrete steps to achieve a 10 per cent GHG intensity reduction target by 2030, exploring multiple pathways to reduce the carbon intensity of its existing methanol plants.

The company expects to continue to focus on plant efficiency, plant reliability, and identifying ways to upgrade its existing facilities to improve energy efficiency and lower GHG emissions. These efforts have already resulted in a five per cent decrease in emissions intensity since 2019.

Methanex anticipates the process or equipment upgrades from projects completed in 2022 and 2023 will help them avoid approximately 60,000 tonnes of CO_2 equivalent per year. In 2023, Methanex invested more than $15 million of capital into energy efficiency and reliability projects with GHG reduction benefits at existing sites.

Investing in innovative climate change solutions

Our members' investments in low-carbon technology are essential for achieving governmental and societal goals for a stronger economy, net zero emissions by 2050 and a circular economy. Through these solutions, CIAC is supporting progress towards the following targets under UN SDG 7 (Affordable and Clean Energy), UN SDG 8 (Decent Work and Economic Growth), UN SDG 9 (Industry Innovation and Infrastructure) and UN SDG 13 (Climate Action):

7.2 – By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 – By 2030, double the global rate of improvement in energy efficiency.

8.2 – Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high-value added and labour-intensive sectors.

8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10–Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.

9.4 – By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

9.5 – Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

13.2 – Integrate climate change measures into national policies, strategies, and planning.

CIAC: Bob Masterson appointed to Ontario Advanced Manufacturing Council

On April 24, 2023, Bob Masterson, CIAC president and CEO was appointed by Vic Fedeli, Minister of Economic Development, Job Creation and Trade, as a member of the Advanced Manufacturing Council.

"I wish to thank Minister Fedeli for considering my participation, on behalf of Ontario's important chemistry and plastics industry in his Advanced Manufacturing Council. The Council's recommendations will ensure our industry can continue to make important economic contributions to the province while transforming for a low- carbon and circular economy," said Mr. Masterson.

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The chemistry sector has reduced its carbon dioxide equivalent emission intensity by 17 per cent since 2005 because of significant investment and will continue to invest in all these areas in years to come.

EVONIK
Leading Beyond Chemistry

Wireless steam trap monitoring targets lower costs

Evonik's Maitland site has installed a wireless steam trap monitoring program that aims to help reduce the site's consumption of steam.

At Evonik's Maitland, Ont. site, a wireless steam trap monitoring program has been installed, with the intent to make a positive difference: reducing cost and steam usage. "We are a small site," says Alison Armstrong, a plant engineer at Maitland. "We believe that initiatives like this help us become more efficient and build systematic savings into the next generation of our manufacturing."

A steam trap is a crucial component in any steam-based heating process. It is an automatic valve that removes the condensate, which is formed after steam has given up its latent heat. If the condensate is not removed, it can accumulate in the steam-containing enclosure, leading to a decrease in heating efficiency. This is why steam traps are necessary to keep the system as efficient as possible. However, steam traps fail, which can result in lost energy, capital, and an increase in carbon emissions associated with steam generation. To combat this issue, Pulse Industrial worked with Evonik's Maitland site to install a wireless trap monitoring system that can quickly detect any failing steam traps.

At the Maitland facility, the wireless steam trap monitoring system has been attached to all steam traps, and any failed traps are flagged as either "failed open" or "failed closed." A mechanic monitors the system and can quickly repair any faulty traps. This quick detection and repair of steam traps can help to reduce the site's consumption of steam, which is produced by burning natural gas. The targeted increased efficiency of the process can have a positive impact on heat usage, which could lead to a reduction in energy costs associated with the purchase of natural gas.

Engineering co-op student Caleb Moore and mechanic Brooks Hoare with a steam trap at Evonik's Maitland, Ont. site.

"The trap monitoring system is a great example of a Next Generation Technology," says Stuart Hayes, vice president of regional development. "It not only targets a reduction of Maitland's consumption of steam, but also the plant's use of fossil fuels in generating that steam."

"We are monitoring the effectiveness of this new technology by gathering data to validate the expected impact," says Greg Canning-LeBlanc, site manager. "With this data, we will be able to confirm that the wireless steam trap monitoring system is having a positive impact on our site emissions and sustainability goals."

Next Generation or NEXTGEN Technologies are part of Evonik's global initiative to drive and adopt efficient, low-impact technological developments at sites and in the manufacturing processes. Maitland's wireless steam trap monitoring system is a small site innovation that helps advance Evonik's commitment to product stewardship, sustainable practices, and maximizing local potential to make a big impact.

Supporting innovation to address climate change

While today Methanex produces methanol primarily from natural gas, methanol can also be made from renewable sources, such as renewable natural gas, biomass, and green hydrogen combined with recycled carbon dioxide.

Methanex is committed to pursuing opportunities to make incremental, staged investments that could facilitate the transition of its existing assets to produce low-carbon methanol, including carbon capture, utilization and storage in Medicine Hat, Alberta and Geismar, Louisiana, producing biomethanol from renewable natural gas and studying how renewable electricity can be used to produce green hydrogen and combine it with CO_2 to produce e-methanol at an existing plant.

To demonstrate its commitment, Methanex invested $2 million on feasibility work for future technologies in 2023 and have set a target to advance at least one low-carbon project into Pre-FEED (Preliminary Front-End Engineering and Design) in 2024.

Dow's Board of Directors approves final investment decision for Path2Zero Project

In November, Dow's board of directors declared its Final Investment Decision on the Company's Fort Saskatchewan Path2Zero investment to build the world's first net-zero Scope 1 and 2 emissions integrated ethylene cracker and derivatives facility in Alberta.

The $11.6 billion project, excluding governmental incentives, includes building a new ethylene cracker and increasing polyethylene capacity by 2 million metric tonnes per annum as well as retrofitting the site's existing cracker to net-zero Scope 1 and 2 emissions. This new capacity will enable Dow to capture growing customer demand in high-value markets, such as packaging, infrastructure, and hygiene, among others, with potential additional value captured from commercializing low and zero-emissions products.

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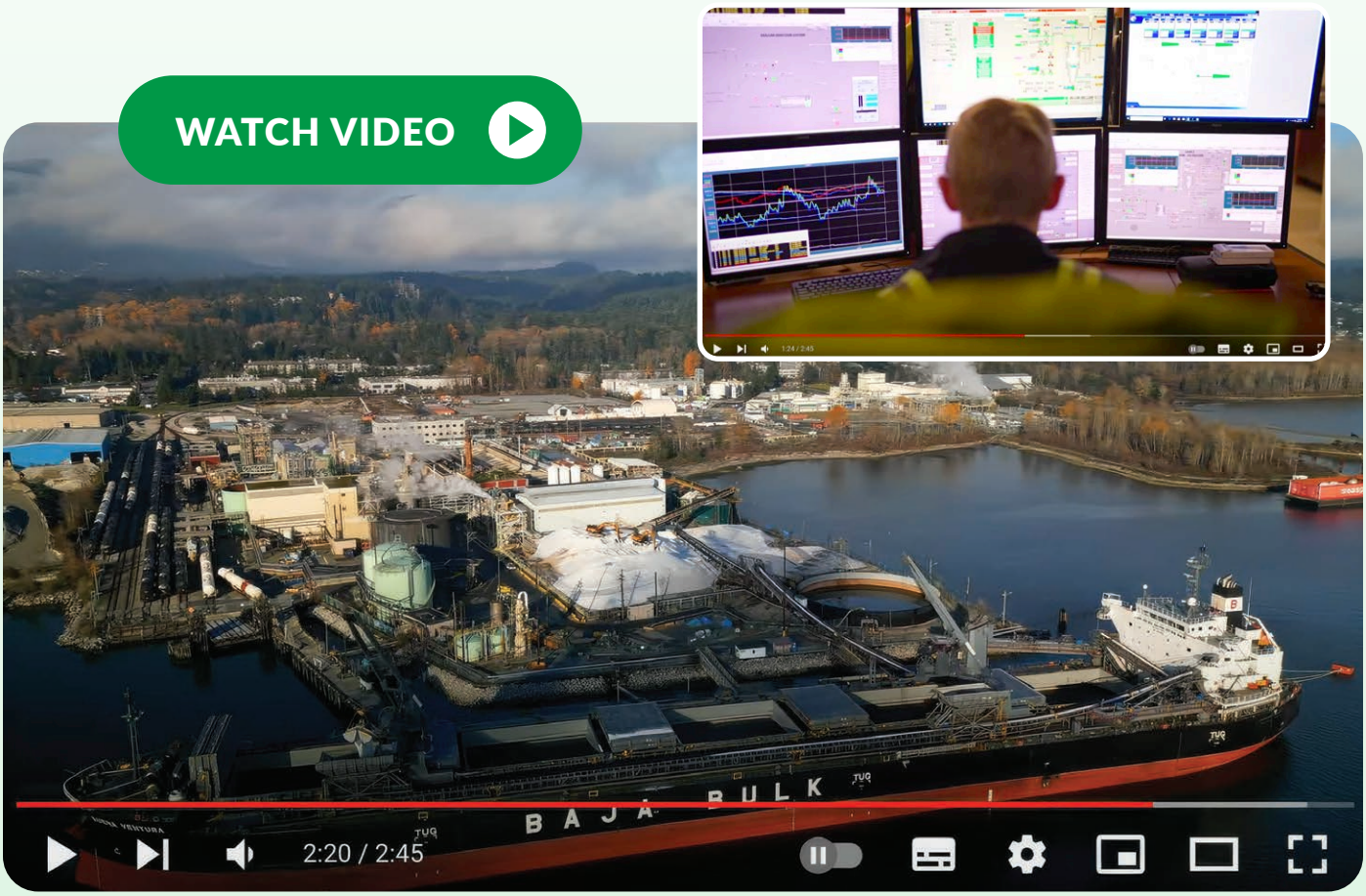
ChemTrade's North Vancouver chlor-alkali plant is one of the greenest facilities in North America

The Chemtrade-owned North Vancouver chlor-alkali facility produces chlorine, sodium hydroxide (often referred to as caustic soda), hydrochloric acid and hydrogen. It is powered almost exclusively by renewable, green energy thanks to access to plentiful and reliable hydropower electricity and the ability to capture and use the green hydrogen produced as a coproduct at the facility.

"In our manufacturing process, we need three basic elements — water, electricity, and salt. We use green hydroelectric energy to power the site and are able to capture and reuse the hydrogen we produce to create steam for use in production. For water, we are able to use water from the port, which we treat prior to use and then again prior to returning it to the inlet to ensure it is well above regulatory standards. The salt used in our production is natural ocean salt and is sustainably harvested in the Baja region of Mexico using only the sun to evaporate and dry the pure ocean salt. The large white pile visible at our facility is this salt, which we bring in directly through the port and store," says Dave Gosse, Director, North Vancouver Operations.



Advancing product stewardship and sustainable practices

Product stewardship is a pillar of Responsible Care®. All CIAC member companies commit to taking responsibility for a product throughout its entire life cycle by reducing any environmental, health, or safety risks associated with it. Through this commitment, CIAC members are making progress on the following targets under UN SDG 12 (Responsible Consumption and Production):

12.4 – By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

12.5 – By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6 – Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

NOVA Chemicals introduces SYNDIGO™ recycled polyethylene

NOVA Chemicals introduced SYNDIGO™ recycled polyethylene (rPE) in 2023. This product line features the first commercialized FDA-compliant high-density rPE for the company and was a major component of its commitment to circular solutions and reducing plastic waste. Food contact SYNDIGO rPE is a lower-emission option compared to virgin polyethylene and enables converters and brand owners to incorporate rPE into food packaging products. By establishing this portfolio, NOVA Chemicals is demonstrating its dedication to advancing sustainability and promoting the increased incorporation of recycled content in the packaging industry. Two additional resins are commercially available under the SYNDIGO portfolio, which are also lower-emission alternatives to virgin PE. They can be used in a variety of non-food contact applications from e-commerce mailers to shrink wrap to industrial films. At this time, all SYNDIGO resins are mechanically recycled.

Polykar earns highest brand reputation through Compliance Global Standard audit score

In 2023, Polykar announced that it had successfully retained its prestigious brand reputation through Compliance Global Standard (BRCGS) accreditation for packaging materials Issue 6.

Polykar received the highest AA rating with no non-conformances raised during the on-site audit. This coveted certification puts Polykar in an elite group of manufacturing facilities across Canada to have achieved this level of excellence. BRCGS is globally recognized by Global Food Safety Initiative, and assures the food safety, quality, legality, and authenticity of the products manufactured in assigned sites.

LEARN MORE

Winpak maintains remarkable CDP score, demonstrates commitment to environmental leadership

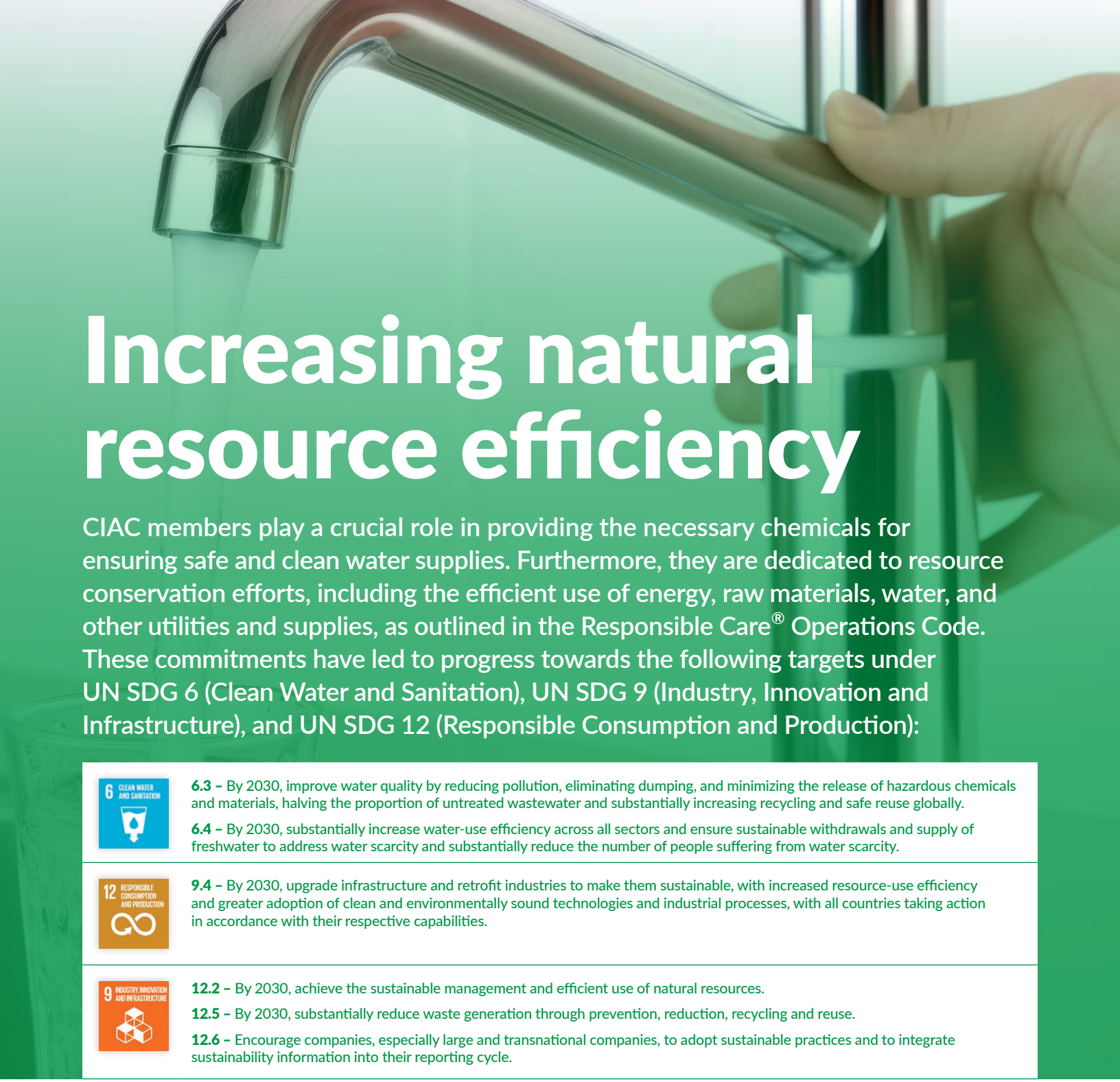
For 2023, Winpak Ltd. was awarded an outstanding score of A- in its Carbon Disclosure Project (CDP) assessment. Winpak's vision is to provide the best packaging solutions for people and planet by addressing climate-related challenges and fostering a greener future.

CDP is a globally recognized initiative that evaluates and scores companies based on their efforts to mitigate climate change, manage environmental risks, and operate sustainably. Winpak has consistently demonstrated its commitment to environmental transparency, and this achievement solidifies its position as a frontrunner in sustainability and environmental stewardship.

Dr. Rupert Spence receives LeSueur Memorial Award

Dr. Rupert Spence was named the 2023 winner of the LeSueur Memorial Award from the Canadian branch of the Society of Chemical Industry (SCI). The LeSueur Memorial award is presented to ***"an individual for the development of technical excellence, in either a university/research institute or an industrial setting in Canada,"*** and is grounded in chemical creativity and innovation. Rupert has shown great leadership in Sustainability, applying Green Chemistry Principles and Safer by Design methodologies into product development for the company. He is a mentor to many, focused on developing the next generation of scientists and technologists for DuPont. Rupert is now widely recognized and sought out as an expert in Chemical Process Development and serves as a Senior Scientific Laureate for DuPont.

LEARN MORE



Increasing natural resource efficiency

CIAC members play a crucial role in providing the necessary chemicals for ensuring safe and clean water supplies. Furthermore, they are dedicated to resource conservation efforts, including the efficient use of energy, raw materials, water, and other utilities and supplies, as outlined in the Responsible Care® Operations Code. These commitments have led to progress towards the following targets under UN SDG 6 (Clean Water and Sanitation), UN SDG 9 (Industry, Innovation and Infrastructure), and UN SDG 12 (Responsible Consumption and Production):

6.3 – By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

6.4 – By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

9.4 – By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

12.2 – By 2030, achieve the sustainable management and efficient use of natural resources.

12.5 – By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6 – Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Through Responsible Care and their commitment to sustainability and continuous improvement, CIAC members continue to invest in pollution prevention, energy efficiency, and resource conservation. CIAC tracks our members' reductions of key pollutants through the National Emissions Reduction Masterplan (NERM). Since 1992, CIAC has and continues to collect data through its NERM survey on chemical emissions by members including air, water, land, underground injection, and the offsite transfers of those substances in waste or recoverable materials.

Improving water quality

Through the NERM survey, CIAC tracks members' releases of NERM substances to water. As seen in **Figure 9**, since 2005, CIAC members have reduced total emissions to water by 69 per cent. In 2022 specifically, water emissions represented only 0.0014 per cent of the total 2022 emissions to all media (i.e., air, land, and water).

Additionally, through the Resource Conservation Metrics (RCM) survey, which was launched in 2012, CIAC tracks members' water intake from ground, municipal, and surface water sources. A breakdown of water intake by province and source (i.e., ground water, municipal water, and surface water) can be seen in **Figure 10**, with surface water being the most common source of water over the years.

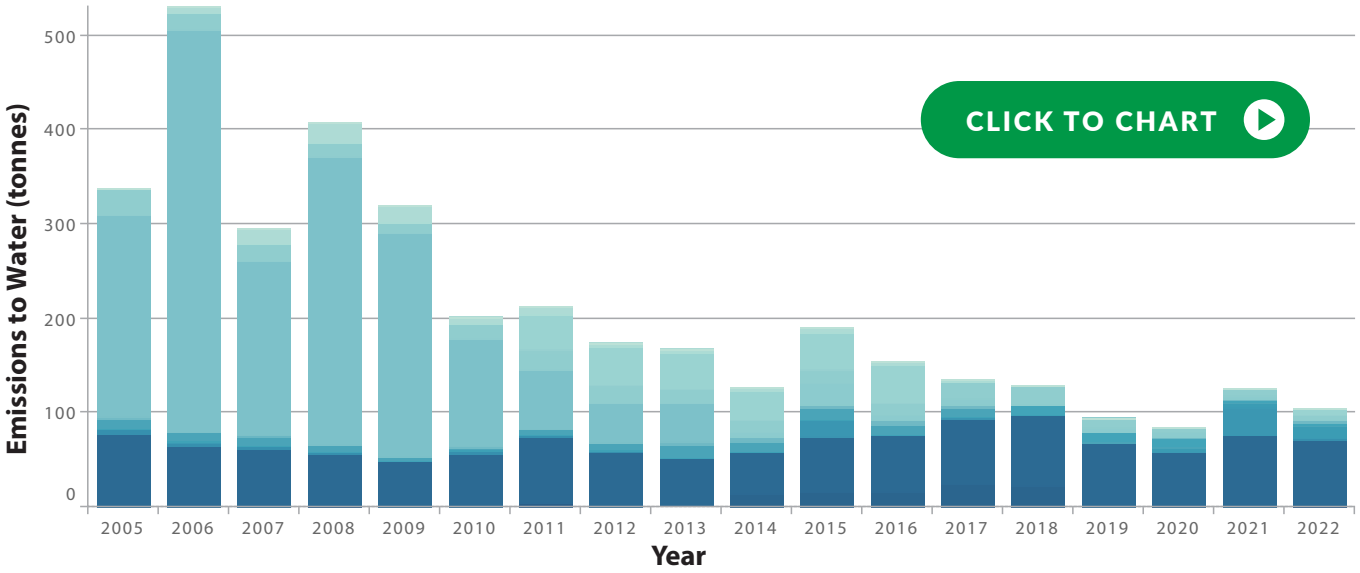


Figure 9. Total emissions to water, 2005-2022. Note: each shade represents a different substance.

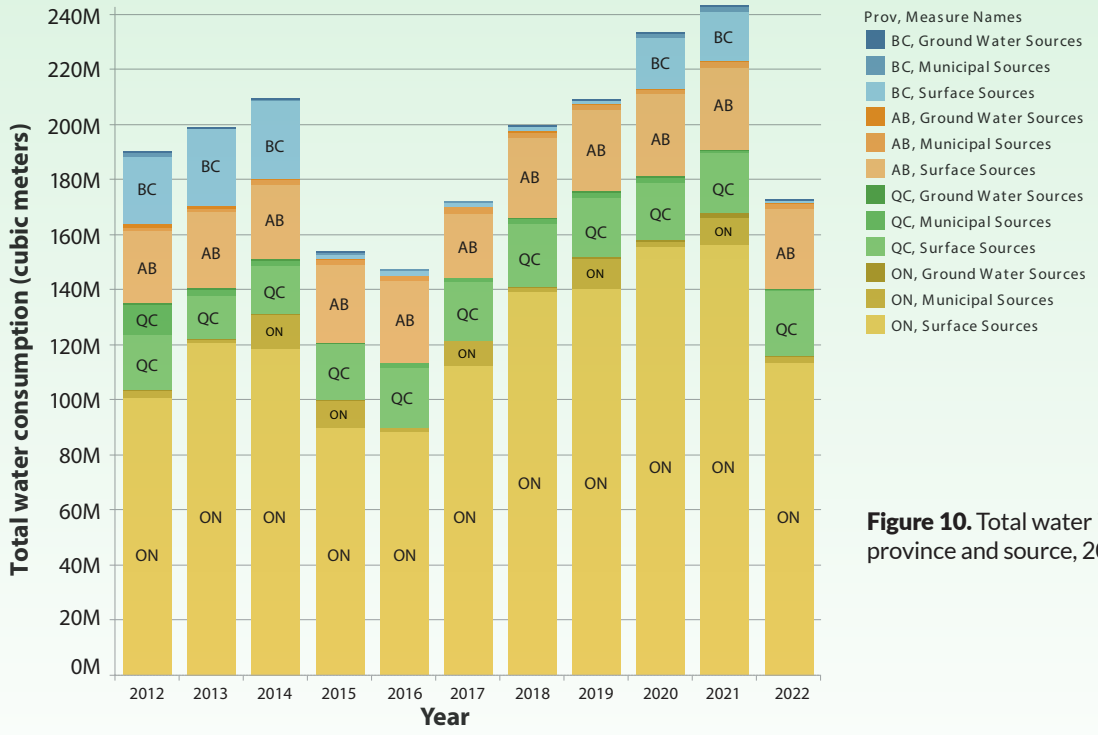


Figure 10. Total water intake by province and source, 2005-2022.

The map in **Figure 11** shows where surface water is being taken by our members in 2022. Evidently, the majority of water intake is from surface water sources in the Great Lakes region, St. Lawrence River, and in Alberta, aligned with members' facility locations.

Based on analysis by Environment and Climate Change Canada, the greatest threats to water availability in Canada are in portions of southern Ontario, southern Alberta, southern Saskatchewan, southwestern Manitoba, and the Okanagan Valley in British Columbia.

Considering this information, it is critical to ensure that CIAC members in areas like the Great Lakes keep resource conservation top of mind. CIAC members are doing just that — through various methods of wastewater treatment, many CIAC members are returning water cleaner than when they found it. Both **Figure 12a** and **12b** show the treatment methods used for wastewater, while **Figure 12b** also illustrates volume of effluent released by members in 2022, providing a picture of the water that is returned to its source following extraction and use.

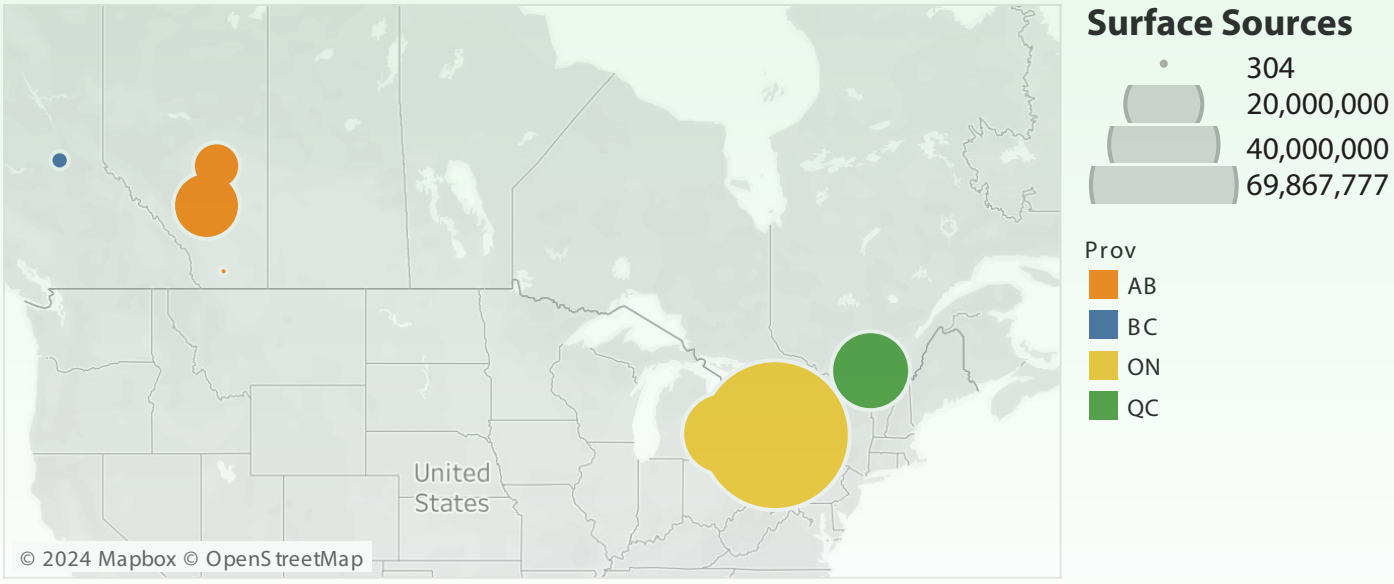


Figure 11. Geographic representation of surface water intensity by Varennes, Port Colborne, Sarnia/Corunna, Fort Saskatchewan, Red Deer, and Prince George in 2022.

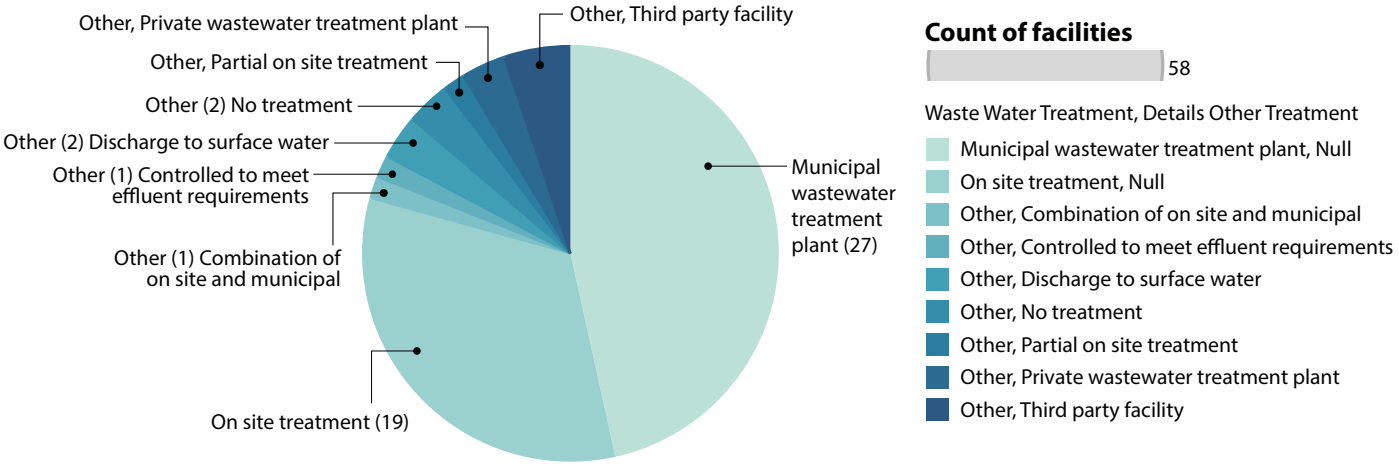


Figure 12. a) Wastewater treatment methods used by CIAC members in 2022.

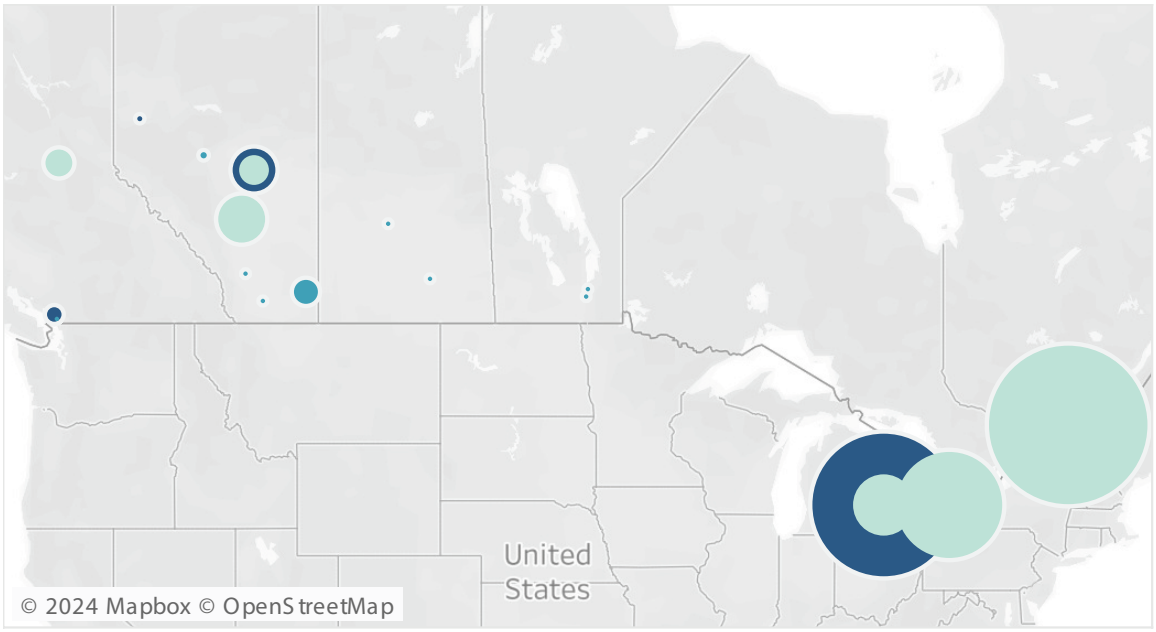


Figure 12. b) Geographic representation of effluent intensity (size of bubble) and treatment methods (colour) by Varennes (Montreal area), Port Colborne, Sarnia/Corunna, Fort Saskatchewan, Red Deer, Medicine Hat, Vancouver, and Prince George in 2022.

Hazardous waste management

When CIAC began reporting waste metrics through the RCM survey in 2012, members produced about 20,000 tonnes of routine hazardous waste and 54,000 tonnes of routine non-hazardous waste for disposal. As seen in **Figure 13**, CIAC members have seen a 27 per cent decrease in routine hazardous waste generated and a 45 per cent reduction in routine non-hazardous waste generated since 2012.

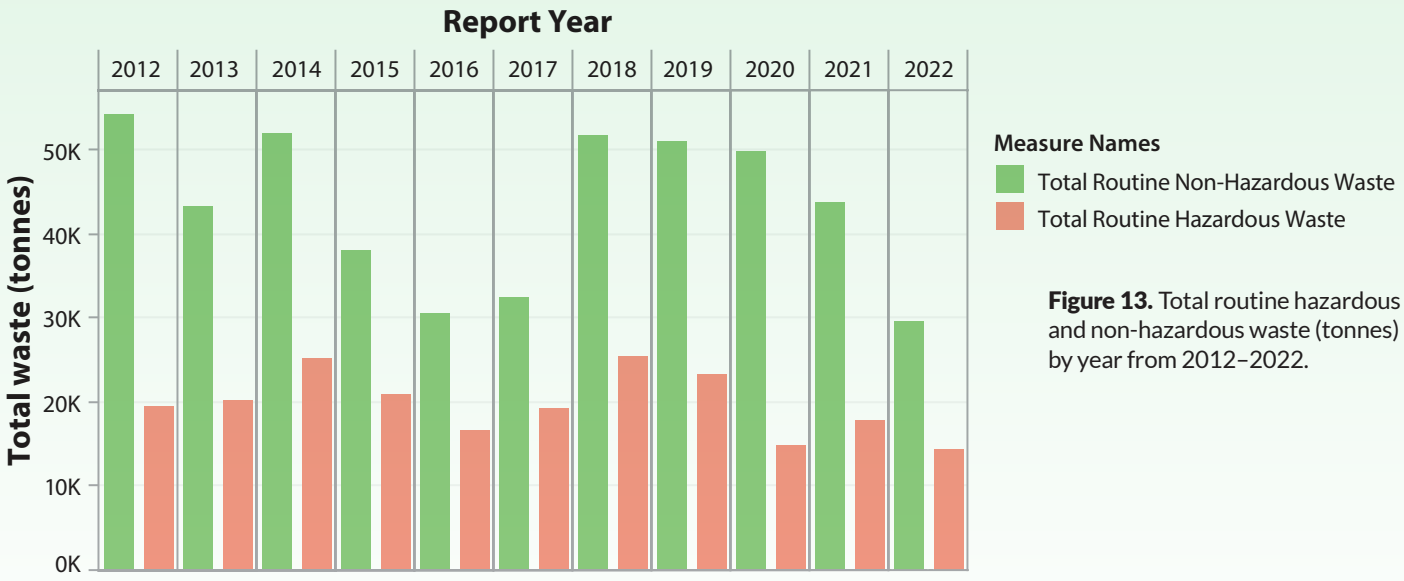


Figure 13. Total routine hazardous and non-hazardous waste (tonnes) by year from 2012–2022.

Our members have also established ambitious programs to limit waste disposal to landfills. **Figure 14** shows the hazardous waste treatment methods used by CIAC members in 2022, while **Figure 15** focuses specifically on recycling rates (total material recycled / total waste generated) by facility. The average proportion of waste recycled within a CIAC member facility increased from 20 per cent to 26 per cent of total waste generated from 2021 to 2022.

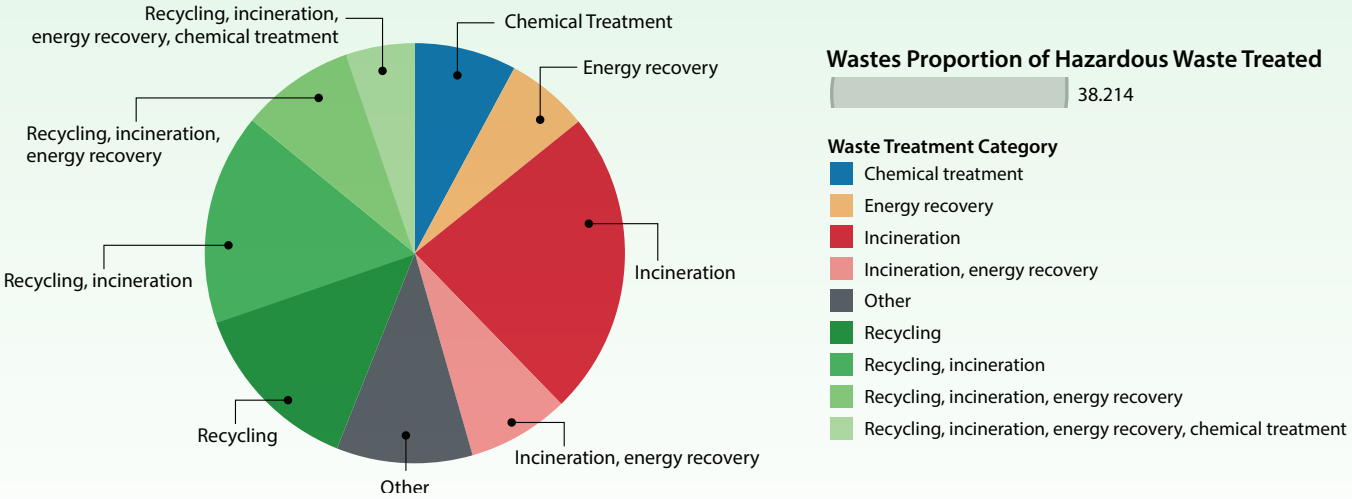


Figure 14. Hazardous waste treatment methods, 2022.

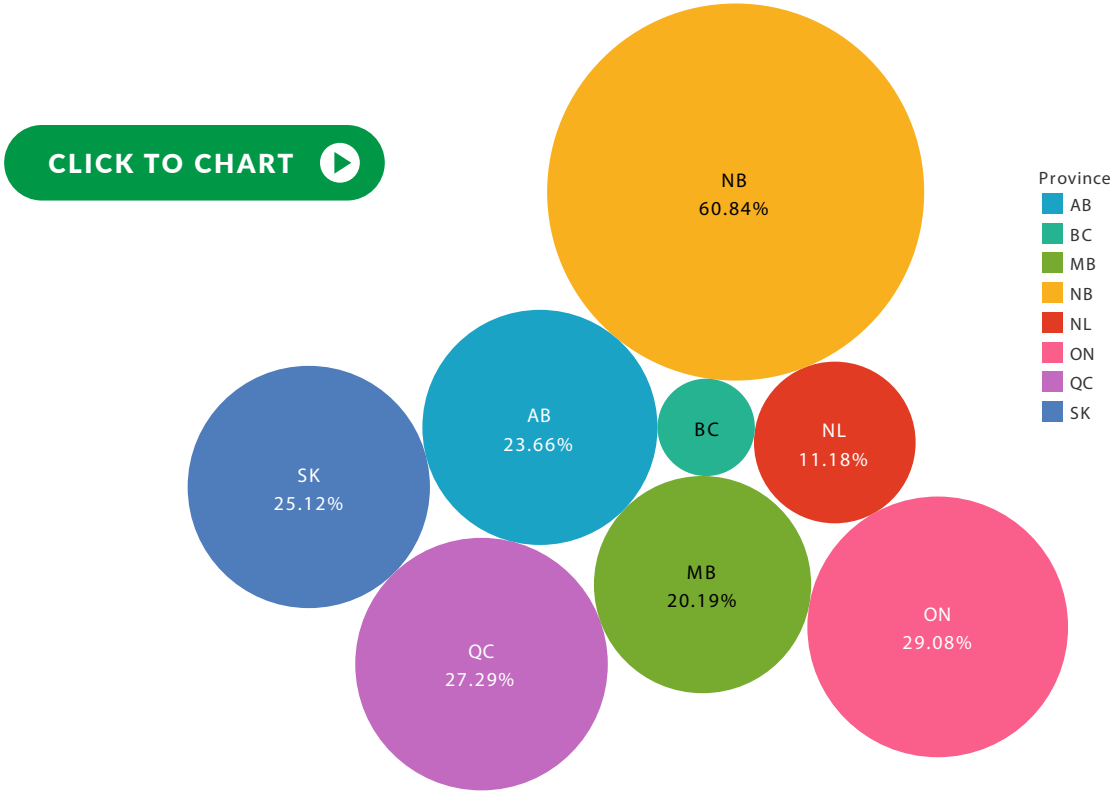


Figure 15. Average recycling rates of member facilities by province, 2022. Each bubble represents a province where CIAC member facilities reside. Bubble size corresponds to the average recycling rate of member facilities in that province (percentage of total material recycled/total waste generated).

CCC awarded for Water Efficiency Excellence

In 2023, the Region of Waterloo recognized Canada Colors & Chemicals Limited (CCC) as a local leader in water efficiency by honouring them with the 2022 Water Efficiency Excellence Award.

The award is in recognition of the company's work with the Region's WET (Water Efficient Technology) Program to complete major water efficiency upgrades in 2021, including the installation of a condensing steam turbine generator to enhance water re-use capabilities. This project reduced water use by 53,000 cubic metres per year, which is enough water to supply 225 homes for a year.

Resource conservation, wastewater treatment

In 2023, Methanex continued to implement methods to minimize the use of and recycle water at all its facilities. Through its water stewardship program, Methanex focuses on understanding its water risk, protecting water quality and minimizing water use. Because fresh water is a shared natural resource with their communities and the environment, Methanex puts the bulk of their water stewardship efforts into conserving and protecting freshwater sources.

To maximize efficiency and return as much water to the environment as possible, their facilities have water conservation procedures to minimize, reuse and recycle water. For example, almost all their production facilities reuse process condensate in different phases of the production process, and over half of their sites reuse the wastewater from distillation columns, reducing the overall volume of water Methanex needs to withdraw.

Promoting safe and secure working environments

Through CIAC's Safety, Health, Analysis, Recognition, and Exchange (SHARE) Network and Process Safety Network, members share information and experience related to environment, health, and safety issues, driving continuous improvement in workplace safety. These networks allow CIAC members to make progress on the following targets under UN SDG 3 (Good Health and Well-Being) and UN SDG 8 (Decent Work and Economic Growth):

3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

8.8 – Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

Protecting worker health and safety

Safety is a top priority at every Responsible Care company. For nearly 40 years, CIAC members have been creating workplaces that are as healthy and safe as possible through initiatives such as the SHARE Network. Through this network, CIAC member company health and safety professionals work together to measure, track, and continuously improve performance, with the goal of achieving zero workplace injuries and illnesses.

Each year, CIAC collects Safety and Health Incident Metrics (SHIM) data. This data measures, tracks, and communicates health and safety trends to help member companies expand their efforts and extend their safety programs, further protecting the safety of everyone involved in the business of chemistry. Trends in the Total Recordable Incident Rate (TRIR) and Day Away from Work Incident Rate (DAWIR) for CIAC member employees and contractors between 2017–2022 are shown in **Figure 16** and **Figure 17** below.

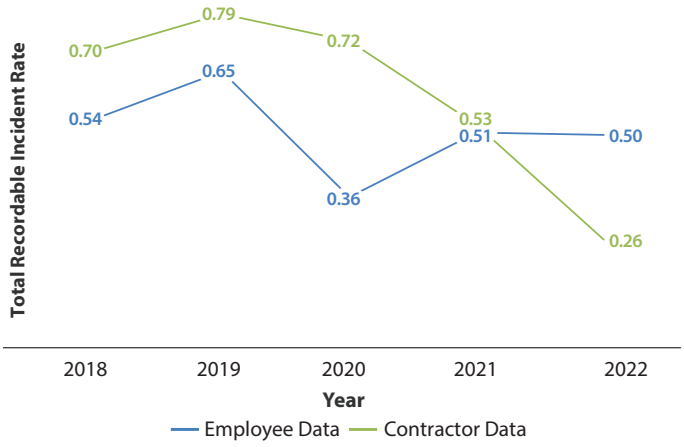


Figure 16.
TRIR Employees vs. Contractors (2018-2022).

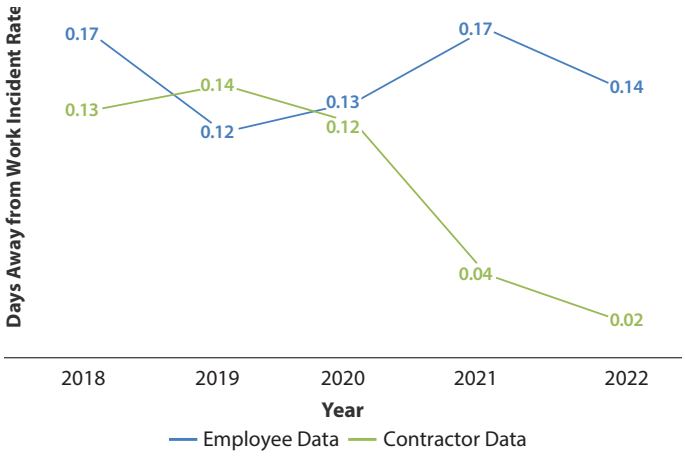


Figure 17.
DAWIR Employees vs. Contractors (2018-2022).

Promoting process safety

To protect their workers, the public, and the environment, all CIAC member companies must have comprehensive process-safety management systems in place and adhere to standards established by the Canadian Society for Chemical Engineering. Any gaps between a company's management system and the standards must be assessed, and action plans developed and implemented to raise the company's process safety to an acceptable level.

A comprehensive examination of a company's process-safety management system is a fundamental component of the Responsible Care verification or audit process. CIAC collects Process-Related Incident Measures (PRIM) data through an annual survey which has adopted the Center for Chemical Process Safety (CCPS) PRIM metrics.

These metrics allow companies to track their own performance against industry process safety incident trends and identify opportunities for improvement. **Figure 18** below shows some key insights from the annual PRIM survey.

While the classification system for process safety events changed in 2016, **Figure 18** does show that the number of Higher Learning Value (HLV– i.e., an event occurred but was of very low consequence or no actual event was recorded) events have increased over the last few years and overtaken both Tier 1 (loss of primary containment with the greatest consequence) and Tier 2 (loss of primary containment with lesser consequence) events.

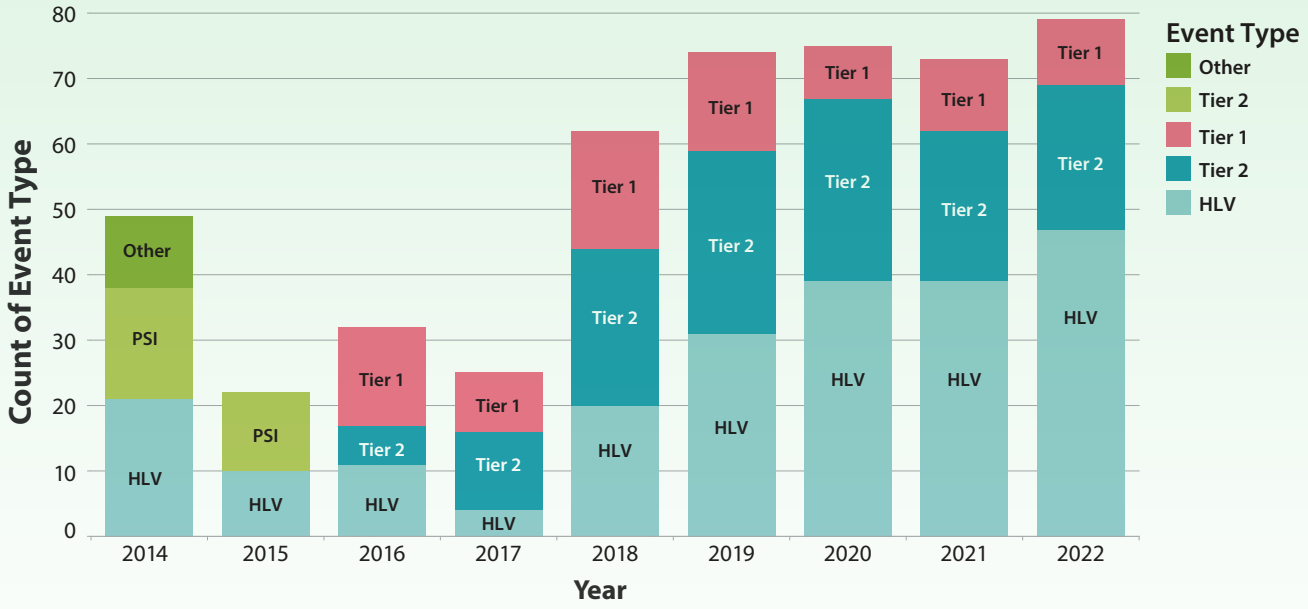


Figure 18. Process safety events, by type (2014-2022).

Chemtrade taking time to STOP and focus on safety for all employees

Chemtrade celebrated a significant milestone in 2023 by achieving the best safety results in the history of the organization, ending the year with a total recordable injury rate (TRIR) of 0.45. This was made possible through the combined effort of several different teams, new safety initiatives and programs, and most importantly, the support and commitment from employees and leadership.

Safety Training Observation Program, or STOP®, was trialed at three of Chemtrade's UltraPure sulphuric acid facilities in 2023 to help gauge the effectiveness of the program. The STOP technique requires employees to stop working when they notice an unsafe condition, behaviour, or hazard that could cause serious injury.

LANXESS first company to be recognized under the Supporting Ontario Safe Employers program

In 2023, Lanxess became the first CIAC member to be recognized by the Supporting Ontario Safe Employers program (SOSE) through Responsible Care. SOSE is a voluntary program run by the Chief Prevention Officer (CPO) that promotes health and safety in the workplace and helps reduce injuries and illness. Organizations that are recognized by the CPO may also be eligible for financial incentives from the Workplace Safety and Insurance Board.

Cabot Canada Ltd. Safety record

In 2023, Cabot Canada Ltd. surpassed five years without a recordable injury its manufacturing site in Sarnia, Ontario. By following the ethic, principles and codes of Responsible Care, Cabot was also recognized by the Ontario Ministry of Labour as a 'Safe Employer' under the Supporting Ontario's Safe Employers program (SOSE).

Psychological Health and Safety Committee launches Site Champion Program

The Psychological Health and Safety Committee (PHSC) at BASF Canada, which started with three people in early 2022, was expanded to include 25 committee members in late 2023. The company added another 15 employees to its team as Psychological Safety Champions. Each site has a champion to advance the implementation of their Psychological Health and Safety Roadmap and to identify and mitigate psychological risk factors.

Supporting safe, resilient transportation infrastructure

Chemicals are transported daily through our communities, by rail, road, or pipeline. To ensure the safe and secure transportation of these chemicals, CIAC and its members prioritize accountability and responsiveness to the public, particularly with the communities they operate in. These efforts align with Responsible Care® and have contributed to progress towards the following UN SDG 3 (Good Health and Well-Being) and UN SDG 9 (Industry, Innovation and Infrastructure) targets:

3.6 – By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.9 – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

9.1 – Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

NOVA achieves 10 years of zero non-accident releases

NOVA Chemicals®

In 2023, NOVA Chemicals' rail tank car loaders and unloaders, NOVAlert and the Logistics teams achieved 10 years of zero Non-Accident Releases (NAR) across all their manufacturing regions. It's the longest zero-NAR run in NOVA's history. This achievement recognizes NOVA's safe handling of rail tank cars and the hard work of NOVA teams and contractors to ensure its systems, processes, and equipment are all held to the highest standard in achieving safe and efficient shipments.

LEARN MORE

The new TRANSCAER® Safety Train

Construction of the new TRANSCAER Safety Train continued through 2023 and into 2024. Upon completion, the new training tank car will embark on a cross-country tour, making stops in communities where dangerous goods travel, raising awareness about rail safety and emergency response for transportation incidents involving dangerous goods. This project has been made possible with funding received under Transport Canada's Rail Safety Improvement Program and the generous donations of CIAC members and partners and industry stakeholders.

2023 TRANSCAER® Outreach Events

In 2023, the TRANSCAER team supported and participated in 30 outreach events conducted by Railway Association of Canada (RAC) and CIAC members. These events had participation from attendees across Canada including 500 first responders. These outreach sessions were delivered in various formats, including presentations on dangerous goods safety and simulations of real-life incidents supported by props.

Railway Equipment utilized at these events/sessions included:

- CN 911 Safety Training Tank Car
- GATX Safety Training Tank Car
- CN, DG Valve Trailer
- Canadian Pacific Kansas City Railway Foam Trailer
- ERAC Foam Trailer
- General Service Tank cars
- Highway Tank Truck
- E.R. Contractor Equipment

CN 911 Safety Training Tank Car

There was an average of 17 participants at each event representing various government agencies, industry, and municipalities. Events included presentations, tabletop exercises and debriefs, as well as field activities utilising railway equipment. One event was presented by the RAC Dangerous Goods Team, CN Rail and CPKC to promote the AskRail app as well as the Safe Transportation of Dangerous Goods. AskRail is a mobile app for first responders launched in 2014 that provides immediate access to information on hazardous materials a railcar is carrying.

Safe transportation of methanol

Handling methanol safely is a critical element of safe transport. Methanol can be toxic if swallowed, inhaled or absorbed by the skin and is flammable. Appropriate safety precautions must be taken when using, handling or working around methanol to keep people and the environment safe.

Methanex achieved 100 per cent product compliance with global and regional regulations in 2023. The company's product stewardship programs promote the safe transport, storage, use and handling of methanol through the entire product value chain, starting with product safety programs for its team members and extending to the sharing of best practices with distributors, terminals, supply chain partners, customers and other key stakeholders.

Through its product safety practices and participation in industry associations across regions, including the Methanol Institute and CIAC, Methanex provides information on managing the risks of methanol and promotes its proper use and safe handling.

TRANSCAER® Awards

TRANSCAER Award recipients are recognized for their demonstrated exceptional dedication to the program in one of three award categories: distinguished service, national achievement, and regional achievement. In 2023, the winners from the previous year were announced:

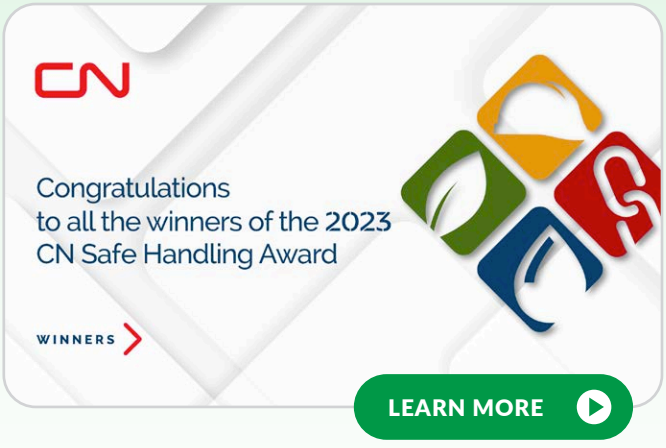
Andy Ash	Retired, Director of Dangerous Goods, Railway Association of Canada (Distinguished Service award)
Tyler Yates	EHS Manager, GATX (Regional Service Award)
Randy Mak	Retired, Dow Chemical (National Service Award)
Curtis Myson	Dangerous Goods Specialist, Railway Association of Canada (Regional Service Award)
Steven Santelli	Senior Dangerous Goods Officer, CN (Regional Service Award)
Jon Gardinder	Hazardous Materials & Emergency Response Officer, CPKC (Regional Service Award)
Tom Bozyk	Hazardous Materials Technician, BNSF (Regional Service Award)
Dan Moore	Retired, Chemical Specialist/HazMat Responder (Regional Service Award)
Doug Kittle	Retired BC Region TRANSCAER Coordinator (Regional Service Award)

For more information, visit the TRANSCAER website.

TRANSCAER® transcaer.ca

CN celebrates 30 years of presenting Safe Handling Awards to rail shippers

In October, CN celebrated 30 years of recognizing safe handling by Canadian rail shippers. Launched in 1992, CN's Safe Handling Award is presented to customers who load freight cars with dangerous goods and meet strict standards for the safe handling and shipment of regulated products. The winners must meet established criteria, according to the total number of shipments of dangerous goods for all facilities.



Operation Clean Sweep™

Operation Clean Sweep (OCS) is an international prevention-focused program for environmental stewardship designed to help every plastic resin manufacturing and handling operation implement good housekeeping and resin containment practices. Driven by the Principles and Benefits of OCS, CIAC Plastics Division members commit to the responsible management of plastic resin throughout all aspects of their company's business. These efforts align with Responsible Care® and have contributed to progress towards the following UN SDG 3 (Good Health and Well-Being), SDG 6 (Clean Water and Sanitation), UN SDG 9 (Industry, Innovation and Infrastructure), SDG12 (Responsible Consumption and Production), SDG 14 (Life Below Water) and SDG 15 (Life on Land) targets:

9.1 – Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

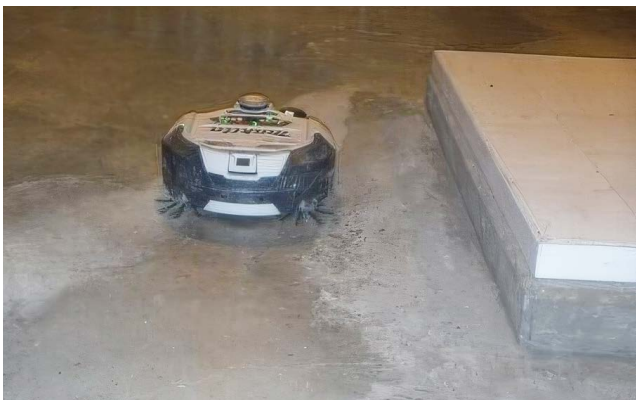
12.4 – By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

14.1 – By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

Operation Clean Sweep®

NOVA — Pellet Robovacuum for Operation Clean Sweep

In 2023, during an Operation Clean Sweep brainstorming session, one of NOVA's team members thought the best way to clean plastics pellets would be to use a team of robotic vacuum. The company is now trialing an industrial sweeper in a non-process area of their rail barn to help operations keep this very difficult area clean.



CIAC Plastics Division members make great progress in 2023

CIAC Plastics Division (PD) members are dedicated to preventing plastic resin from entering the natural environment. In 2023, PD members reported 322 kg of resin spilled, which is 95 per cent less than in 2022 and 97 per cent less than 2021. Out of the 322 kg spilled, 18 kg could not be cleaned up, which is approximately 5.6 per cent. This is an improvement from 6.1 per cent in 2022 and 9.8 per cent in 2021 that could not be cleaned up. Among PD members, a total mass of spilled resin reported in 2023 was 322 kg, down 95 per cent from 2022, and down 97 per cent from 2021.

In 2023, only 18 of 322 kg of resin was reported as unrecovered, or 5.6 per cent. Last year, the largest single spill reported was 269 kg, down 94 per cent from 4,210 kg in 2022 and 96 per cent from 7,214 kg in 2021.

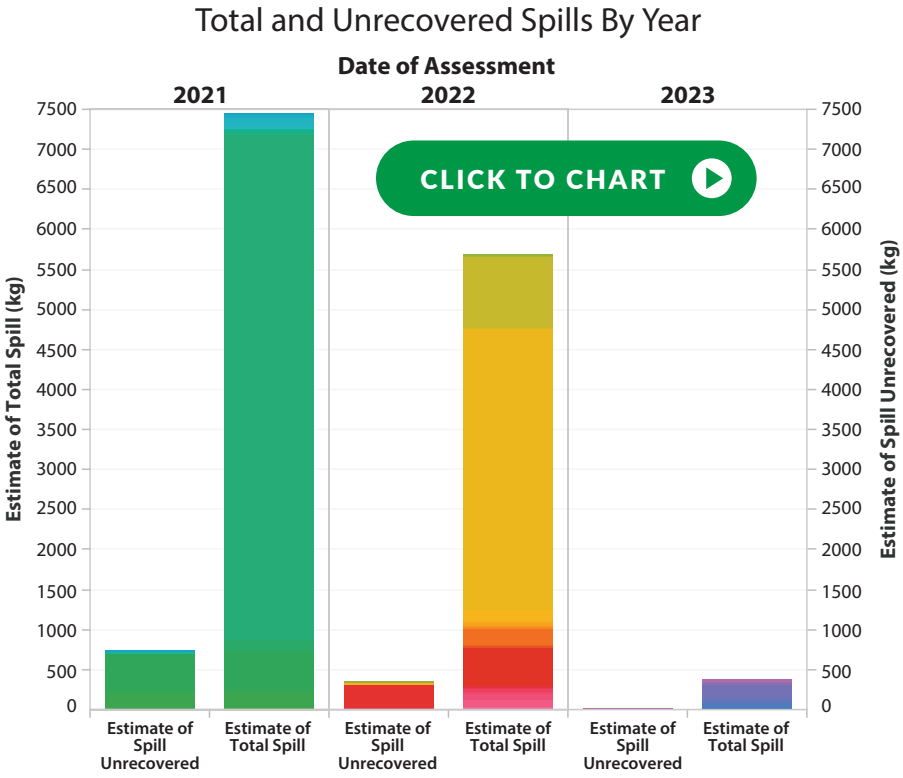


Figure 19. Estimated unrecovered and total spilled resin (in kilograms) from 2021-2023. (note: colors represent individual spill incidents.)

CIAC develops Transportation Partner Program for OCS

In the spirit of keeping pre-production pellets in the economy and out of the environment, in 2023 CIAC began developing a Transportation Partner program under OCS. Transportation plays a key role in getting member products to market, or even just to the next stage of manufacturing, but it can also be a source of pellets entering the environment.

Since the start of the Transportation partner program, the Plastics Division has welcomed Ray-Mont Logistics, CN Rail, Canadian Pacific Kansas City Railway, Transcare Logistics Corp., and WTC Group to Operation Clean Sweep.

OUR MEMBERS

As at December 31, 2023

Air Liquide

Arkema Canada Inc.

ARLANXEO Canada Inc.

BASF Canada Inc.

Cabot Canada Ltd.

CCC Sulphur Products

Chemtrade

Diamond Petrochemicals Canada Corporation

Dow Chemical Canada ULC

DuPont Canada

ERCO Worldwide LP

Evonik Canada Inc.

Imperial

INEOS Canada Partnership

INEOS Styrolution Canada Ltd.

Innovation DIC Chimitroniques Inc.

Inter Pipeline Ltd.

Jungbunzlauer Canada Inc.

KRONOS Canada, Inc.

LANXESS Canada Co./Cie

Linde Services Canada Inc.

MEGlobal Canada ULC

Methanex Corporation

National Silicates

NorFalco Sales, GLENCORE Canada Corporation

NOVA Chemicals Corporation

Origin Materials Canada Pioneer Limited

Shell Chemicals Canada

Stepan Canada Sales Inc.

Syensqo

The Chemours Company

United Initiators Canada Ltd.

Wanhua Chemical (America) Co., Ltd

WR Grace Canada Corp.

Responsible Care® Partners

Canadian National

Canadian Pacific Kansas City (CPKC)

GATX Rail Canada

Northwest Tank Lines Inc.

PROCOR Limited

Trigon Pacific Terminals Ltd

Trimac Transportation Ltd.

Associate Members

ERM Consultants Canada Ltd. (ERM)

Northern Alberta Institute of Technology (NAIT)

Spartan Controls

Wood Group

Plastics Division Members

Absolute Haitian Corp.

Aduro Clean Technologies

Ampacet Canada

Alberta Recycling Management Authority

Applied Plastics Technology Inc.

Balcan Plastics

BASF Canada

Bekum America Corp.

Berry Global

Canadien National

CCC Plastics

CKF Inc.

AgriRÉCUP

Colortech Inc.

Dow Chemical Canada Ltd.

DuPont Canada

Dyne-A-Pak

Eligant Poly Product

Emballage St-Jean

Enviropod

Farnell Packaging Ltd.

Genpak LP

GreenMantra Recycling Technologies Ltd.

Hood Packaging

Husky Technologies

L'Impériale

INEOS Styrolution America LLC

Inter Pipeline Ltd.

IPEX

Keurig Dr Pepper Canada

Kongskilde Industries Inc.

Groupe Layfield Ltd.

Loop Industries

Macro Engineering & Technology Inc.

Malpack Ltd.

Mauser Packaging Solutions

Merlin Plastics

Midori-Bio

Modix Plastique Inc.

Nexeo Plastics Canada Corp.

Norwich Plastics

NOVA Chemicals Corp.

Oasis Alignment Services Inc.

Owens-Corning Canada LP

Pack All Manufacturing Inc.

Peel Plastics Products Ltd.

Plasti-Fab

Polystyvert

Polytainers Inc.

Poly Expert Inc.

PolyKar Industries Inc.

Emballages Polystar Inc.

Produits Polytarp

Ray-Mont Logistics

Revital Polymers

Shell Polymers

TC Transcontinental Inc.

Transcare Logistics Corp.

Wentworth Technologies

Winpak Ltd.

WTC Group Logistics

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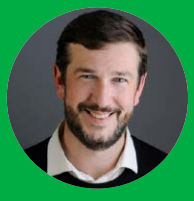
Jeff Stevens
Director Responsible Care

Vanessa Foran
Responsible Care Program Officer



Devon Babin
Communications Manager