



2021 SUSTAINABILITY REPORT

Together, we  
create a different  
kind of energy





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**STRUCTURE OF THIS REPORT**  
To help guide readers to the content of interest to them, we divided this report into five sections:



**ANTI-FREEZE**  
Methanol is used as an antifreeze in windshield washer fluid (pictured in the cover) as it has chemical properties that lower the freezing point of a liquid.

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# Letter From Our CEO

**JOHN FLOREN**  
President and CEO

## To our stakeholders,

As I reflect back on 2021, I am pleased with the progress we have made on our sustainability initiatives. I am proud to share our new ESG commitments in this report (see [page 14](#)) which will measure our ongoing progress and provide increased accountability on our performance.

As a global leader in the methanol industry, we recognize that we have an opportunity and are well-positioned to actively participate in the transition to a low carbon economy. In this year's report you will read how we have deepened our understanding of the risks and the opportunities for methanol and our business as part of the energy transition. We are ready to support our customers and stakeholders as they pursue their sustainability goals.

## Achieving best safety performance to date

We continue to put Responsible Care at the core of our operations, which drives continual improvement in the areas of health, safety and environmental protection. The safety and well-being of our team members and communities where we do business continues to be our top priority and our goal will always be zero harm. In 2021, we had our best safety performance to date with a 60 per cent reduction in recordable injuries from 2020. We had zero recordable injuries at our Geismar 3 project site during 2021.

## Developing an even more inclusive culture

This year we enhanced our focus on diversity and inclusion. In 2021, our Director of Diversity & Inclusion ("D&I") together with our Global Diversity & Inclusion Council oversaw the development of our D&I vision and strategic priorities. The team has developed a three-year roadmap with key initiatives to promote an inclusive culture where diversity is valued and everyone can contribute, develop and advance. We believe that having a diverse team and an inclusive workforce creates a better culture, better decisions and a better company. I take personal responsibility and accountability to be an inclusive leader at Methanex because it's the right thing to do.

## Supporting methanol's role in the energy transition

Looking forward, I am excited about the role methanol will play in the energy transition. Methanol, as both a chemical building block and a fuel, is essential for everyday life, and I believe it will play an important role in supporting the transition to a low-carbon economy. Conventional methanol fuel, produced from natural gas, has been proven to reduce air emissions and GHG emissions compared to traditional fuels such as diesel and heavy fuel oil. Blending conventional methanol with current fuels or with lower or zero carbon methanol made from alternative and renewable sources can leverage existing infrastructure and provide flexibility to meet society's decarbonization goals. Our Geismar location is already certified to produce biomethanol, using renewable natural gas. As the market for renewable and low-carbon methanol grows, we will be ready to respond to the opportunity to deliver solutions to our customers that fit their evolving needs.







In 2021, we established two leadership teams to address two of our material ESG risks: greenhouse gas emissions from operations and our role in the transition to a low-carbon economy. These teams are exploring lower and low-carbon pathways to make methanol using our existing asset portfolio. We are taking a measured approach and utilizing our decades of experience and global experts to identify economic solutions.

We are committed to reducing our Scope 1 and Scope 2 GHG emission intensity from manufacturing by 10 per cent by 2030, compared to 2019 levels. The Geismar 3 project, which is expected to be in production at the end of 2023 or early 2024, will help us meet this goal by adding lower carbon intensity methanol volume to our production portfolio. We will continue our work at identifying projects for our existing sites to reduce GHG emission intensity and our focus on reliability supports this environmental commitment. We are also looking at the feasibility of carbon capture, utilization and storage in North America, where it has the potential to significantly reduce GHG emissions at our Medicine Hat and Geismar sites.

Finally, we have committed capital and resources to look at technology for new build design that could achieve a fifty-percent reduction in CO<sub>2</sub> emissions compared to our current methanol plant design.

In 2021, our Waterfront Shipping subsidiary demonstrated the first-ever barge-to-ship methanol bunkering operation at the Port of Rotterdam. This demonstration proved that methanol is safe to ship, store, handle and bunker using procedures like those used for conventional marine fuels. Several announcements were made in 2021 by shipping companies, including Maersk, the world's leading containership company, for orders of dual-fueled vessels that can run on methanol. I am proud of our continued leadership in advancing methanol as a cleaner-burning marine fuel.

#### Seeking continuous improvement

We are committed to improving the quality of our ESG disclosure and have added more information in this year's report to align with elements of the Task Force on Climate-Related Financial Disclosures ("TCFD"), including board and management oversight of climate-related risks and our management of these risks.

In 2022 and beyond, we will report on the performance of our new ESG commitments as well as the progress of our other sustainability initiatives.

The world is starting to emerge from a global health crisis and I am inspired by the resiliency I have seen in our global team, as we learned to live and work differently, all while continuing to reliably deliver methanol safely to customers. I want to thank our global team members for their dedication and hard work in a challenging time. I am optimistic about the future and the long-term sustainability of methanol and know that together as a team we can create a different kind of energy and continue to make a positive contribution toward a more sustainable world.

A handwritten signature in black ink, appearing to read 'John Floren'.

**John Floren**  
*President and Chief Executive Officer*



Methanol is essential to everyday life today, and a pathway to a low-carbon future tomorrow. As a key chemical building block or as a fuel, when made from renewable sources, methanol can help society achieve its decarbonization goals.

# About Methanol

**PLYWOOD**

A resin derived from methanol helps extend the durability and life of plywood (pictured) and other composite building materials.



# Methanol – Essential for Everyday Life

**\* NOTE**  
Compared to Tier I vessels running on traditional marine fuel (heavy fuel oil).

### CHEMICAL END USES

Methanol is an essential chemical building block for hundreds of consumer and industrial products, including paints, carpets, fabrics, building materials, and a variety of health and pharmaceutical products. It's also difficult to substitute based on its unique chemistry, scale, ease of transport and cost.



### BUILDING MATERIALS

Methanol is used to make plywood and medium-density fibreboard (MDF) and is also an essential ingredient in sealants, paints and solvents.

### HIGH-TECH APPLICATIONS

Methanol is used in technology that keeps us connected, like laptops and cellphones. It is also used in applications that harness clean energy, such as solar panels and wind turbines.



### MEDICAL EQUIPMENT

Methanol is used to make medical supplies such as masks and gloves that help keep front-line workers safe.

### PHARMACEUTICALS

Methanol is used in the manufacture of vitamins, hormones, antibiotics, and other pharmaceuticals.



### AUTOMOTIVE MANUFACTURING

Methanol is used in plastics that make cars lighter and more fuel efficient to reduce CO<sub>2</sub> emissions. Examples include plastic body panels, dashboard foam and plastic gears and mouldings.



### CLOTHING AND TEXTILES

Chemicals made with methanol can extend the durability and life of consumer products like fleece clothing and carpeting. New applications can also make these products more easily recyclable.

### ENERGY-RELATED END USES

A cleaner-burning fuel, methanol can help improve air quality by reducing emissions compared to traditional fuels such as diesel or coal. As it can be made from renewable sources, methanol fuel can also help society achieve its decarbonization goals.



### VEHICLE FUEL

Methanol is used to fuel cars, buses and trucks that transport people and goods, replacing gasoline and diesel. Methanol is also used as a fuel-additive (MTBE) to help reduce tail-pipe emissions.



### INDUSTRIAL + COMMERCIAL APPLICATIONS

Methanol-fuelled boilers in China generate heat and steam for industrial applications, and methanol provides a heat source for commercial applications like kilns.

### MARINE FUEL

As a cleaner-burning marine fuel, methanol significantly reduces emissions of SO<sub>x</sub> by 99 per cent, NO<sub>x</sub> by 80 per cent, PM by 95 per cent\* and CO<sub>2</sub> from combustion by 15 per cent.



### DOMESTIC APPLICATIONS

Methanol provides a heat source for residential applications like cooking stoves.



# Methanol's Role in a Low-Carbon Economy

**As society and industry commit to decarbonization, the world faces a dilemma: while demand for petrochemicals and global transportation of goods is growing, so are the pressures to reduce or eliminate the carbon footprint of these products and activities.**

Methanol, as both a chemical building block and a fuel, can help resolve this dilemma. Methanol can help meet the increased demand for petrochemicals-based products and reduce air pollution and GHG emissions from combustion-related applications. Methanol can also be made from renewable sources and support the long-term decarbonization of both the chemicals that make modern life possible and the transportation sector. Here are five key reasons why we believe methanol is “future-proof”:

**1 Methanol can support the decarbonization of the shipping industry** – The shipping industry facilitates more than 75 per cent of world trade. While shipping is the most energy-efficient<sup>1</sup> way to carry cargo (in terms of energy use per tonne-kilometre transported), it accounts for 3 per cent of man-made CO<sub>2</sub> emissions. Transitioning maritime shipping to lower-carbon fuels could have tremendous economic and environmental benefits. Using conventional methanol as a fuel significantly reduces air emissions such as SO<sub>x</sub>, NO<sub>x</sub> and PM during combustion on a tank to wake basis and reduces carbon emissions by 15 per cent<sup>2</sup> compared to other fossil fuels. The carbon reductions are greater moving from conventional to lower carbon forms of methanol. Investing in low- carbon and green methanol can support the decarbonization goals the shipping industry has set for itself.

<sup>1</sup> IEA. <https://www.iea.org/reports/international-shipping>

<sup>2</sup> Stena Germanica. <http://www.imsf.info/media/1220/methanol-as-marine-fuel.pdf>

**2 Methanol can support decarbonization pathways in developing economies** – Although electric vehicle adoption is rising quickly across advanced economies, developing economies will transition more slowly to lower-carbon fuels, not achieving net-zero goals until after 2050 even in the most aggressive International Energy Agency scenarios. These countries will require affordable energy options that still set them on a path to decarbonization. Methanol can be used as a vehicle fuel, heavy cargo fuel and even cooking fuel. While not all forms of energy can be moved or exported easily, methanol can be shipped across the world and has been safely transported for decades.







**3 Methanol can leverage existing infrastructure –** One the greatest challenges in achieving the transition to a low-carbon economy is the massive investment required in energy infrastructure. Right now, one of the competing alternative fuels for transport is liquefied natural gas (LNG), which requires insulated tanks capable of maintaining an extremely cold temperature to preserve its liquefied state. Methanol is liquid at ambient temperature and pressure, allowing the continued use of the existing network of pipelines, storage tanks and ports that store methanol across the world. Engine designs require relatively minor modifications to use methanol for combustion in cars, trucks and ships, making a transition to methanol relatively easy and more affordable.

**4 Methanol plays an important role in society as an essential ingredient in everyday life –** Methanol, like other petrochemicals, is part of the fabric of modern society as an ingredient in clothing, construction materials, packaging, pharmaceuticals, and other everyday items. It is a chemical building block for many products that will help make our lives more sustainable, including energy-efficient buildings, electric cars, solar panels and wind turbines. According to the IEA<sup>3</sup>, petrochemicals are poised to consume an additional 56 billion m<sup>3</sup> of natural gas by 2030, equivalent to about half of Canada’s total annual gas consumption today. If we can transform methanol production to reduce carbon emissions, we can continue to meet that demand in ways that support the transition.

Throughout this document, you will notice photos of end use products that are made using methanol (anti-freeze, plywood, silicone, fleece, solar panels, LCD screens and vitamins).

**5 Methanol can be produced in alternative ways –** Depending on the feedstock used to produce methanol and associated carbon emissions, the resulting methanol can be categorized as high- or low-carbon intensity (see diagram on the next page). However, the end result is the same essential building block chemical. Therefore, blue or green (e-methanol, biomethanol) methanol when blended with conventional methanol or by itself can be used in the same applications, both chemical and fuel related, providing flexibility to meet society’s product and emissions requirements.

<sup>3</sup> IEA, the future of petrochemicals. <https://www.iea.org/reports/the-future-of-petrochemicals>



# Forms of Methanol Production

RENEWABLE

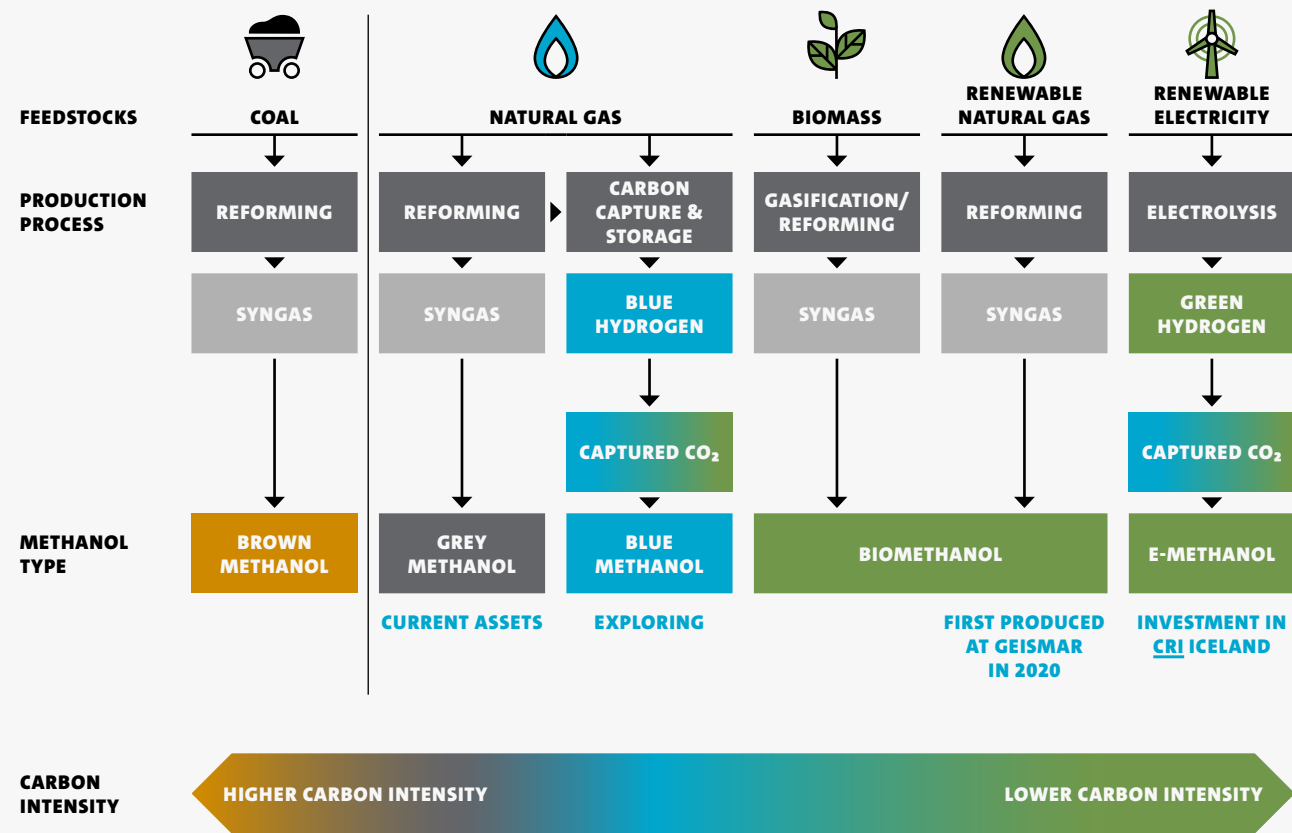
While methanol can be produced from different feedstocks and by using different energy sources, the resulting methanol is always chemically identical and can be used for the same applications.

**Brown Methanol:** from coal, a non-renewable feedstock, which is ~5 times higher in carbon intensity than methanol produced using natural gas.

**Grey Methanol:** from natural gas, a non-renewable/fossil fuel feedstock.

**Blue Methanol:** conventional methanol process with an integrated carbon capture and storage (CCS) scheme.

- Renewable methanol can be:
- **Biomethanol:** from renewable natural gas (sourced from landfills, sewage plants or animal manure farms) or biomass. Potential sustainable biomass feedstocks include but are not limited to (i) forestry and agricultural waste/by-products, (ii) municipal solid waste and (iii) black liquor from the pulp and paper industry.
  - **E-Methanol:** from CO<sub>2</sub> captured from renewable sources (e.g., via bioenergy with CCS or Direct Air Capture) and green hydrogen (i.e., hydrogen produced with renewable electricity).



Note: To qualify as **renewable**, feedstocks need to be of renewable origin (e.g., biomass, solar, wind, hydro, geothermal power).  
Modified from: [IRENA](#). Reflects common terminology at the time of publication.



In the last thirty years, we have grown from a single production facility to the world's largest producer and supplier of methanol.

# About Methanex

## **SILICONE**

Methanol is in silicone (pictured) which serves as a sealant to increase home and office building energy efficiency.



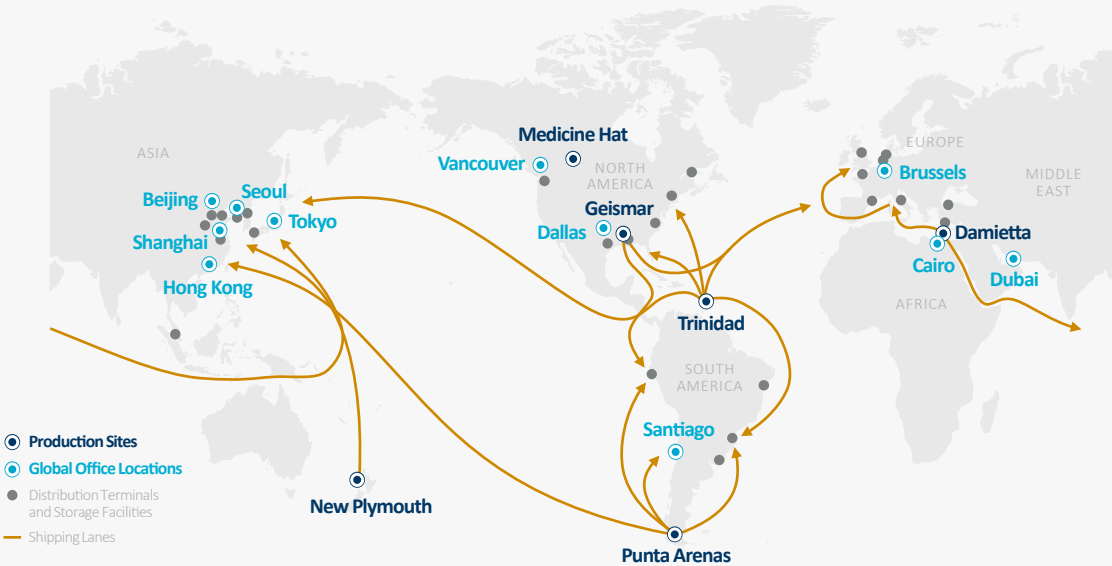
# About Our Company

Methanex Corporation is the world’s largest producer and supplier of methanol to major international markets in Asia Pacific, North America, Europe and South America. Our methanol production sites are located in New Zealand, the United States, Trinidad, Chile, Egypt and Canada. Methanex is headquartered in Vancouver, Canada, and the company’s common shares trade on the Toronto Stock Exchange under the symbol MX and on the NASDAQ Global Select Market under the symbol MEOH.





Our subsidiary, Waterfront Shipping, is a global marine transportation company specializing in the safe, responsible and reliable transport of methanol and clean petroleum products to major international markets in Asia Pacific, North America, Europe and South America. We operate Waterfront Shipping’s fleet of 28 vessels mostly through long-term time charters, with 50 per cent ownership of five of the 28 vessels.

### SIGNIFICANT CHANGES TO OUR BUSINESS

In February 2022, Mitsui O.S.K. Lines, Ltd. (MOL) and Methanex concluded its strategic partnership involving Methanex’s Waterfront Shipping (WFS) subsidiary. MOL acquired a 40 per cent minority interest in WFS. Methanex retains the remaining 60 per cent majority interest in WFS and will continue to manage WFS’ day-to-day operations and as a key element of our global supply chain operations.



### METHANEX’S ESG RATINGS PROFILE

		METHANEX’S SCORE	
RATING ORGANIZATION		2020	2021
	MSCI ESG Rating*	BB	BBB
	Sustainalytics ESG Risk Rating**	58	25.5
	ISS ESG Corporate Rating***	C-	C-
	Eco Vadis	Silver	Silver

We continue to focus on improving our disclosure and have maintained or increased our scores from the rating agencies shown above.

\* As of 2021, Methanex received an MSCI ESG Rating of BBB.

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\*\*\* ISS ESG Corporate Rating as of March 2022.



# How We Create Value

NOTE: All data in tables as at, or for, the year ending December 31, 2021.

\* Annual operating capacity reflects Methanex’s interest in the Atlas facility (63.1%) and Egypt facility (50%).

\*\* Our Titan plant in Trinidad was not in operation during 2021.

\*\*\* In addition to the methanol produced at our sites, we purchase methanol produced by others, under methanol offtake contracts and on the spot market.

## KEY RESOURCES

<b>\$6.1 billion</b> in total assets
<b>~290,000</b> TJ natural gas/year
<b>~23 million</b> m <sup>3</sup> of total water consumed/year
<b>~1,300</b> employees

## BUSINESS ACTIVITIES

Every year, we safely produce, ship and distribute millions of tonnes of methanol.

PRODUCTION	DISTRIBUTION
<b>9.330 million</b> tonnes/year* annual operating capacity	<b>11</b> commercial offices around the world
<b>11</b> plants** at 6 production sites	<b>28</b> marine vessels, 40% with methanol dual-fuel technology
<b>6</b> countries with production sites	<b>1,258</b> rail cars leased and operated
	<b>134</b> global terminals where methanol is loaded/unloaded

## PRODUCT USES

We produce an essential chemical product with hundreds of applications in everyday life. Innovative products made with methanol, or its derivatives, are poised to play an important role in the transition to a low-carbon economy. This includes the use of methanol as an alternative lower-emissions fuel.

**11.2 million**  
tonnes of methanol sold\*\*\*

DERIVATIVE CHEMICALS	FUEL AND FUEL ADDITIVES
Acetic acid, formaldehyde, methyl methacrylate (MMA), olefins, silicone	<ul style="list-style-type: none"><li>– Marine</li><li>– Vehicle</li><li>– Industrial Boilers, Kilns, and Furnaces</li><li>– Cooking stoves</li><li>– Generator sets (backup power sources)</li></ul>
<b>USED FOR</b> <ul style="list-style-type: none"><li>– Building materials</li><li>– Medical equipment</li><li>– Clothing and textiles</li><li>– Pharmaceuticals</li><li>– High-tech products</li><li>– Automotive manufacturing</li></ul>	

See [page 6](#) for details on how methanol is essential to everyday life.

## VALUE CREATED

We contribute to local economies by employing people directly and indirectly, purchasing goods and services from local suppliers, and contributing time and financial investments to the communities where we live and work.

<b>\$4.4 billion</b> in revenue
<b>\$1.5 billion</b> for suppliers
<b>\$211 million</b> for employees (wages and benefits)
<b>\$1.3 million</b> for communities (community investments)



# Looking Back: ESG Performance Summary

This outlines our performance in key ESG metrics over the last five years. Read more about our practices and programs in the rest of this sustainability report and find details of our ESG performance in the Appendix.

## ↓66%

Reduction in injury rates  
over the last 5 years

### RECORDABLE INJURY RATE

injuries per 200,000 hours worked

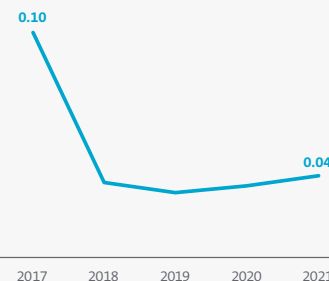


## ↓64%

Reduction in process safety  
incident rate over the last 5 years

### PROCESS SAFETY INCIDENT RATE

Tier 1 incident per 200,000 hours worked

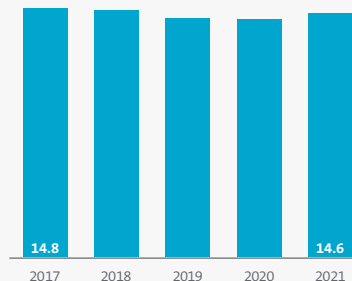


## ↓2%

Decrease in fresh water  
consumption

### FRESH WATER CONSUMPTION

million m<sup>3</sup>

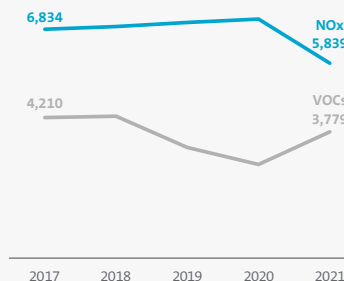


## ↓10-15%

Reduction in air emissions  
over the last 5 years

### NO<sub>x</sub> AND VOCs

tonnes

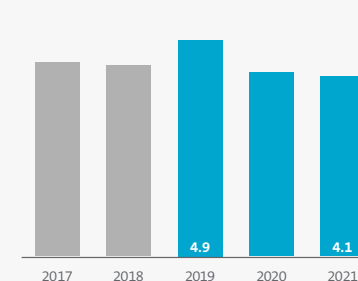


## ↓7%

Reduction in GHG emissions  
over the last 5 years

### GHG EMISSIONS\*

million tonnes CO<sub>2</sub>e (scope 1 and scope 2)

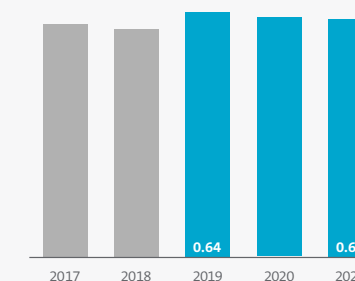


## Stable

GHG intensity  
over the last 5 years

### GHG EMISSION INTENSITY\*

tonnes of CO<sub>2</sub> per tonne of methanol



\* In 2021, we revised our GHG emissions to align with the ISO 14064-1 standard. The numbers for the years 2017 and 2018 are therefore not comparable to the revised data.



# Looking Forward: Our ESG Commitments

■ ENVIRONMENT  
■ SOCIAL  
■ GOVERNANCE  
■ WATERFRONT SHIPPING

Continual improvement is woven into the fabric of our company. We intend to progress in the following areas over the next two years.

**1**

**Reduce** Scope 1 and Scope 2 **GHG emission intensity** from manufacturing by **10 per cent** by 2030 from 2019 levels.

**2**

Complete evaluation of additional opportunities for **greenhouse gas (GHG) reduction projects** at all existing sites by 2022 and incorporate capital spend in annual capital cycle, beginning in 2023.

**3**

Target **97 per cent** or higher **reliability** of our existing assets, which will maintain or decrease current GHG emissions.

**4**

Invest \$1 million in resources and capital in 2022 for technology research and feasibility studies of **new conventional methanol plant design** with lower emissions than existing technology.

**5**

Complete a feasibility study for carbon capture, utilization, and storage (**CCUS**) for our North American assets where it can materially reduce GHG emissions by up to 90 per cent.

**6**

Actively pursue offtakes with green methanol projects in support of downstream markets with a willingness to pay required green premium.

**7**

Achieve **zero significant** (major or serious) environmental **spills**.

**8**

Develop a three-year **Diversity and Inclusion** roadmap in 2022 to be implemented across all global Methanex sites.

**9**

Annually lower our recordable injury rates with the aspirational goal to achieve **zero harm**.

**10**

Achieve zero Severe Injury or Fatality (SIF) incidents annually.

**11**

Achieve zero major incidents for process safety (i.e., Tier 1) annually by continuing to implement robust process safety programs.

**12**

Achieve zero reportable transport incidents (for methanol that we handle), annually.

**13**

**Work with governments** to advance initiatives that support the transition to a low carbon economy, including the benefits of methanol.

**14**

Ensure that at least 40 per cent of independent Board members are from diverse groups.

**15**

All employees of the Company as well as directors and officers of Methanex and its wholly owned subsidiaries complete ethics/Code of Business Conduct and Respectful Workplace Training annually.

**16**

All Marketing & Logistics employees will receive antitrust training annually.

**17**

All employees complete **cybersecurity training** annually.

**18**

Conduct a corporate internal Responsible Care® audit at each manufacturing location, once every three years.

**19**

Complete safety visits on 100 per cent of our time charter vessels, annually.

**20**

Ensure all vessels have a plan in place to **meet decarbonization regulations** set by the International Maritime Organization's Marine Environment Protection Committee by 2023, in partnership with the technical managers of our time charter vessels.





During this year, we improved our readiness for the transition to a low carbon economy, formalized our vision for diversity and inclusion, and demonstrated our unwavering commitment to safety and the communities where we operate. We did this amid global challenges in supply chains and rapidly changing pandemic regulations across the world, a true testament to the resilience of our teams and our agility as an organization.

# 2021 Highlights

**FLEECE**

Methanol is used in fleece (pictured) and other fabrics and clothing material that keep us warm and style our lives.



# Embedding Sustainability: From Strategy to Action

## We are committed to integrating sustainability across our company.

Methanex has a clear and consistent corporate strategy: maintaining global leadership, preserving a low-cost position and striving for operational excellence. Central to this strategy have been the safety and environmental principles of Responsible Care, which we have expanded over the last few years to include broader sustainability considerations, particularly GHG emissions. Looking forward, we are integrating material ESG issues into our annual strategy process. In 2021, we formalized accountability for sustainability by adding two ESG-related roles to our executive team:

- **Senior Vice President of Corporate Development and Sustainability** – Oversees the development of corporate and ESG strategy, and the identification, development and execution of future growth opportunities. A key goal for this position is to ensure alignment between business opportunities and sustainability-related objectives.

- **Vice President of Corporate Sustainability** – Oversees the Corporate Sustainability function, Global Communications, Investor Relations and Diversity & Inclusion, and works closely with the Strategy team to ensure that ESG issues are embedded into existing strategy processes.

Although we monitor our performance and implement activities in a variety of sustainability topics, the Board and management have identified three specific climate and transition-related issues as having strategic importance to our company: transition to a low-carbon economy, GHG emissions and energy use, and the societal benefits of methanol. To develop meaningful actions towards these three strategic issues, we established two internal leadership teams with complementary responsibilities for guiding CO<sub>2</sub> emissions management and planning our role in a low-carbon economy. The key accomplishments of these two senior-level leaderships are outlined on the next page.







Read more about governance for climate-related issues and the role of the Board ([page 23](#)), senior-level representation on these teams ([page 23](#)) and technologies under evaluation ([pages 24-29](#)) in the climate-related disclosures section of this report.

**CO<sub>2</sub> EMISSIONS MANAGEMENT  
LEADERSHIP TEAM**

**Role**

Evaluates emissions reduction opportunities, technologies and strategies in our manufacturing operations.

**2021 Accomplishments**

- 1 We aligned measurement and reporting of carbon dioxide (CO<sub>2</sub>) emissions for all sites to ISO standards. This consistent data collection across sites is essential for reporting and target setting.
- 2 We began a comprehensive analysis of opportunities to reduce site and global emissions (see [page 44](#) for details). This will allow us to focus our time and capital on initiatives that provide the maximum CO<sub>2</sub> reductions in the most economic manner.
- 3 We screened our production sites for their potential to apply carbon capture, utilization and storage (CCUS) as a carbon-abatement strategy. CCUS has the potential to reduce up to 90 per cent of a manufacturing site’s GHG emissions.

**TRANSITION TO A LOW-CARBON  
ECONOMY LEADERSHIP TEAM**

**Role**

Evaluates new and innovative technology solutions, assesses potential market-related impacts of the transition to a low-carbon economy and identifies future opportunities for low-carbon and green methanol.

**2021 Accomplishments**

- 1 We completed a review of low and zero carbon pathways for methanol production. Multiple pathways available for producing methanol from both renewable and non-renewable feedstocks and energy sources will position us to meet our customers' needs as demand for low carbon methanol develops.
- 2 We developed a project screening tool for evaluating potential low-carbon investments. New investments require robust economic cases since methanol production facilities last for decades and are capital intensive.



# Investing in the Future: Building an Industry- Leading Methanol Plant

## Optimizing efficiency and reducing emissions intensity through synergistic project design.

In October 2021, we restarted construction on our G3 project, after a deferral period initiated in April 2020, when the project was put on temporary care and maintenance.

The G3 project, budgeted at \$1.25-1.35 billion, is adjacent to our existing G1 and G2 plants, with shared infrastructure that creates material capital and operating cost advantages. G3 will be one of our lowest cost plants with one of the lowest CO<sub>2</sub> emissions intensity profiles in the industry by utilizing excess hydrogen from the G1 and G2 steam reforming plants coupled with access to abundant and low-cost natural gas.

Once commissioned, the G3 facility will be capable of producing 1.8 million tonnes of methanol per year (the industry's worldwide production capacity is approximately 110 million tonnes). G3 is scheduled to begin commercial operations by the end of 2023 or early 2024.

**We estimate G3's CO<sub>2</sub> emissions intensity to be approximately 0.4 tonnes of CO<sub>2</sub> per tonne of methanol which compares favourably to Methanex's existing portfolio of ~0.62/tonne and to the emissions intensity of coal-based methanol plants (~5 times higher than natural gas-based plants).**

**~0.40**

tonnes of CO<sub>2</sub>/tonne  
of methanol  
*Estimated for G3*

**<0.62**

tonnes of CO<sub>2</sub>/tonne  
of methanol  
**Methanex company-  
wide intensity**

**«3.2**

tonnes of CO<sub>2</sub>/tonne  
of methanol  
**Coal-based methanol**

Combined, our three Methanex plants in Geismar will represent one of the largest methanol complexes in the world.



<sup>4</sup> G1 and G2 are two plants in operation at our Geismar site. G3 is under construction.




**93%**

of our team members participated in our diversity and inclusion survey



Our team members speak different languages, represent different cultures and have different backgrounds, experiences and perspectives.



# Laying a Strong Foundation for Diversity and Inclusion

**We believe that having a diverse team and an inclusive workplace creates a better culture, better decision making and a better company.**

In early 2021, we **established a Global D&I Council** made up of senior Methanex leaders from around the world to lead the development and implementation of Methanex's Diversity and Inclusion Strategy. We also created a new senior role at Methanex: Director, Diversity & Inclusion.

Together, the Director and Council oversaw an in-depth, third-party assessment of Methanex's current state of D&I, consisting of interviews, focus groups, a systemic analysis and a global D&I survey, which had a 93 per cent participation rate. The assessment reinforced that we have a motivated, engaged, and hardworking team with clear values and a positive and collaborative culture. It also revealed opportunity for improvement to ensure all team members feel a sense of belonging and that our people practices are fair and transparent.

Following the D&I assessment, we finalized our **Diversity and Inclusion Strategy** which includes our vision and guiding principles.



## VISION

Our vision is to have an inclusive culture where diversity is valued, differences are embraced and everyone has the opportunity to contribute, develop and advance.



## GUIDING PRINCIPLES

- 1** We are committed to building an inclusive organization where everyone feels safe, respected and valued as their unique self.
- 2** We are committed to a diverse organization that values different perspectives, backgrounds, skills and abilities.
- 3** We are committed to fair and unbiased people practices that are transparent and consistently applied.



# When it Comes to Safety, Little Things Add Up

## We are engaging workers in hazard identification to increase accountability.

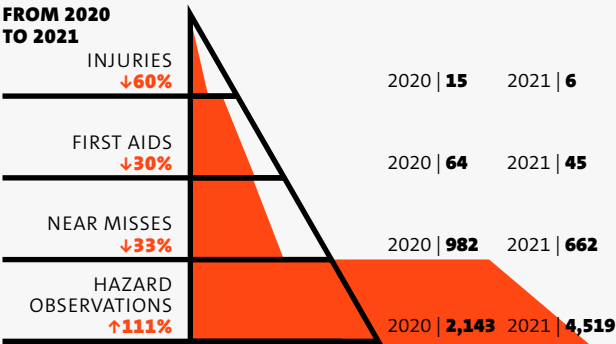
Becoming a more proactive safety organization requires a perspective shift from the traditional approach of minimizing injuries to increasing positive safety behaviours.

At Methanex, we believe that hazard identification and near miss reporting are essential to preventing injuries and to increasing attentiveness and focus during each task. In 2019, we launched a global hazard awareness and training campaign to help employees and contractors recognize hazards and encourage intervention, reporting and follow-up of safety concerns. The campaign involved facilitated workshops at each of our manufacturing sites, and all sites completed the training by the end of 2020. Each site reinforces hazard awareness during Toolbox Talks, which are short safety conversations before starting a particular job or task.

To increase accountability for hazard identification, mitigation, follow up and resolution, each site sets goals for the number of hazard observations.

Some sites set site-level and team-level goals to reinforce the message that safety is a shared responsibility. Other sites set individual goals to foster a sense of healthy competition. The goal setting process suits their working style and site culture.

We are now reaping the rewards of our focus on hazard identification. Between 2020 and 2021, we saw a significant decrease in recordable injuries and more than doubled the number of hazard identifications.



By becoming more aware of every hazard, no matter how small, we can help prevent safety incidents.





# Sustainability in Action: Stories From Our Regions

## CANADA

In 2021, we developed an internal Indigenous Reconciliation Action Plan to align our internal policies and standards more closely with the Canadian Truth and Reconciliation Commission's recommendations to promote meaningful reconciliation with Indigenous People in Canada and the Responsible Care Indigenous Communities Code. Our 2021 actions focused on: providing Indigenous awareness training for leaders, modifying the membership requirements for our Medicine Hat Community Advisory Panel to include at least one person who identifies as Indigenous, and committing to support or partner with at least one Indigenous community, event, or initiative on an annual basis as part of our social responsibility program.

## U.S.

In early 2021, our Geismar team marked the successful completion of a complex turnaround at our G2 plant. With up to 900 employees and contractors on site at the same time, G2's turnaround required heightened safeguards and protocols due to COVID-19. The success of the G2 turnaround is due in large part to our relentless focus on safety and the commitment of our employees and contractors to take personal ownership for safe performance – every day, on every site, with every task. Since restarting the plant, Geismar has set new daily and site production records.

## NORTH AMERICA

For the sixth consecutive year, Methanex was awarded the Non-Accident Release Grand Slam Award from the Association of American Railroads (AAR). In 2020, Methanex shipped railcars across North America an estimated 15.4 million miles without any non-accident releases (NAR) – no leaks, splashes or unintended releases of our product during transportation.

## CHILE

Over the last two years, the Chile team has developed more than 20 projects and collaborated with 12 local institutions to provide Covid-related support to the Magallanes community near our Chile operation. In 2021, our Chile team received the Association of Chemical Industrialists of Chile's Responsible Care 2021 Award in recognition of our efforts to support front line workers and those most vulnerable in the face of the pandemic.

## TRINIDAD

In November, our Trinidad operation won the inaugural Green Agenda Award from the Trinidad and Tobago Chamber of Industry and Commerce. This award recognizes the contributions Methanex has made "towards growing a greener future in business today and delivering a new blueprint for business in the 21st century", including the implementation of energy efficiency projects and team member-led sustainability initiatives at the site.

## CHINA

Methanex China was awarded a Responsible Care (RC) Award from the AICM (Association of International Chemical Manufacturers), recognizing Methanex's leadership in RC in the China region.

## EGYPT

In partnership with the International Labor Organization (ILO), we restarted a training project called Decent Jobs for Egypt's Young People that was put on hold in 2020 due to the COVID-19 pandemic. The project, aligned with the United Nation's Sustainable Development Goals, provides support to neighbouring community members in their aspirations for decent work. In 2021, we supported 695 beneficiaries with programs such as GET (Gender and Enterprise Together) Ahead for Women in Enterprise, Start and Improve Your Business, and Job Search Clubs. To date, we have supported a total of 1,563 people through these programs.

## NEW ZEALAND

In 2021, we entered into an agreement with the Manukorihi Hapū, Ngāti Rāhiri Hapū, Otaraua Hapū, and Pukerangiora Hapū. The hapū are tangata whenua, or "people of the land", in the Motunui and Waitara areas where we operate. The agreement formalizes our commitment to work together as we renew and maintain resource consents in our areas of operation. We are committed to working with our hapū partners on initiatives that respect community traditions and knowledge and place environmental responsibility at the forefront of our shared vision.



We believe that investors, insurers and banks can make better decisions on the basis of improved climate-related disclosures. In this section, we provide responses to the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD).

# TCFD

## Climate-related Financial Disclosures

### **SOLAR PANELS**

Methanol is used in the manufacture of solvents, adhesives and coatings used to manufacture building materials including those required for wind turbines and solar panels (pictured).



# Governance of Climate-Related Issues

At Methanex, we believe that effectively identifying and managing climate-related risks and opportunities contributes to value creation today and in the future.

### BOARD OVERSIGHT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

Our Board of Directors provides the highest level of oversight for our risk management processes. General oversight of our risk management framework, including our processes and controls to identify, monitor, evaluate and manage enterprise-wide risks is delegated to the Audit, Finance & Risk Committee. The Board has identified three specific climate and transition-related issues as having strategic importance: transition to a low-carbon economy, GHG emissions and energy use, and the societal benefits of methanol. Since these issues are strategic, primary responsibility for overseeing them sits with the Board as a whole. ESG-related matters are a standing item in leadership updates to the Board. For more details about the responsibilities of each Board committee, read the [Governance for Sustainability](#) section.

### MANAGEMENT’S ROLE

#### Executive Leadership Team

Although the Board provides the highest level of oversight, our Executive Leadership Team (ELT) has overall responsibility for ensuring that a broad range of environmental, social and governance matters are being effectively evaluated and managed. ESG matters include risks and opportunities associated with our GHG emissions, climate change and the transition to a low-carbon economy. The ELT incorporates these matters into our strategic and business planning activities to support the long-term sustainability of our business.

#### Leadership teams

We established two senior-level leadership teams in 2021 to support our ELT in assessing and managing Methanex’s climate-related risks and opportunities. These two teams are laying the groundwork for our transition to a low-carbon economy and GHG emissions reduction commitment. ELT members provide regular updates to the Board on the work of these teams. These updates facilitate consideration of climate-related risks and opportunities in strategy development and will inform the annual Board strategy process.



### CO<sub>2</sub> EMISSIONS MANAGEMENT LEADERSHIP TEAM

#### TEAM MEMBERS

SVP Manufacturing, VP Responsible Care and Operational Excellence, VP Manufacturing Strategy and Planning, VP North America, and VP Sustainability, subject matter experts as needed, and representation from our manufacturing regions.

#### ROLE

Evaluate further emissions reduction opportunities, technologies and strategies for our manufacturing plants. The team is responsible for:

- Developing strategies, policies and projects to further reduce CO<sub>2</sub> emissions from existing facilities in a cost-effective manner.
- Leading the development of CO<sub>2</sub> emissions performance targets.
- Ensuring aligned measurement and reporting of GHG emissions to ISO standards and that regional Greenhouse Gas Inventory Management Plans are established and maintained at each site.

#### ACTIVITIES

For details on the team’s achievements in 2021, see [page 17](#).

### TRANSITION TO A LOW-CARBON ECONOMY LEADERSHIP TEAM

#### TEAM MEMBERS

SVP Corporate Development and Sustainability, SVP Global Marketing and Logistics, General Counsel, VP Corporate Development, VP Sustainability, and Manager, Technical as well as other subject matter experts as needed.

#### ROLE

Assess a) risks and opportunities related to the transition to a low-carbon economy and b) new technologies for producing methanol with a low-carbon footprint. More specifically, the team is responsible for:

- Assessing policy, legal, technological and market changes related to the transition to a low-carbon economy.
- Assessing new technologies for producing low-carbon and renewable methanol.
- Developing and recommending to senior management strategies aimed at ensuring transition-related risks and opportunities are understood, managed and, where appropriate, capitalized on.

#### ACTIVITIES

For details on the team’s achievements in 2021, see [page 17](#).



# Methanex’s Approach to a Low-Carbon Future

The road to a low-carbon economy holds both risks and opportunities. By leveraging our existing production assets and leading market position and by collaborating with government and industry, we will drive solutions that can meet growing demand for our product in ways that respect the environmental commitments of our company, industry and customers.

Two priorities are guiding our activities to support a transition to a low-carbon economy: producing low-carbon/carbon neutral methanol and growing markets for methanol. The following pages describe our approach and progress in more detail.

## METHANEX'S PRIORITIES

### PRODUCING LOW-CARBON METHANOL



Plant efficiency



Carbon capture, utilization and storage



Alternative feedstocks and renewable energy

### GROWING MARKETS FOR METHANOL



Marine fuel



Vehicle fuel



Thermal applications such as industrial boilers and cooking stoves



Low carbon methanol as a feedstock for chemical applications





# I. Producing Lower-Carbon or Carbon-Neutral Methanol

Our first set of activities are geared towards reducing the carbon footprint of methanol production. We are exploring processes to reduce emissions from our existing facilities through improvements to efficiency and reliability, using lower-carbon or renewable feedstocks, and evaluating and implementing new technologies to produce methanol with a lower-carbon footprint at existing or future sites.



## 1. Plant Efficiency

We continually look for ways to reduce CO<sub>2</sub> emissions from our methanol manufacturing process. While these initiatives provide only incremental benefits, the cumulative effects can be meaningful when spread across our production base and applied over the lifespan of our operations.

### WHAT ARE SOME OF THE CHALLENGES ASSOCIATED WITH ACHIEVING STEP CHANGE EFFICIENCY IMPROVEMENTS AT OUR CURRENT PLANTS?

Building a methanol plant requires enormous investments, not only of dollars but of research and planning, to ensure that the latest technologies are implemented in a cost-effective manner. However, since methanol plants have a decades-long lifespan, best in class technology used when plants are built may be overtaken by more efficient technology years later. We strive to operate reliably and efficiently to ensure that all our assets continue to contribute to our emissions reduction goals as they mature.

### WHAT PROGRESS HAVE WE MADE AT OUR CURRENT PLANTS?

We have always pursued strategies to reduce CO<sub>2</sub> emissions from our manufacturing facilities and to use energy efficiently, which reduces our emissions intensity and lowers our overall cost structure. From 1994 to 2021 we achieved an approximately 32 per cent reduction in Scope 1 (direct) emissions intensity and approximately three per cent reduction in absolute emissions from our manufacturing operations, even with a 42 per cent increase in production. These results are due to the closure of some of our older plants due to market conditions at the time, the addition of newer, larger and more efficient plants to our asset mix, and efficiency improvements at our existing plants. Our emissions reduction initiatives include:

1. **Maintaining reliability** – To reduce our emissions intensity, we focus on maintaining a high level of reliability. Reliable plants run continuously at full operating rates to optimize natural gas efficiency and are critical to managing emissions. The safe start up and shutdown of methanol production facilities requires flaring some natural gas from the system and this flaring results in emissions.

To keep our plants running continually and minimize unplanned shutdowns, we focus on preventive maintenance, condition monitoring for critical assets and risk-based inspection for static equipment. Our 2021 global plant reliability was approximately 98 per cent, exceeding our reliability target of 97 per cent. Our five-year reliability average is 94 per cent.

2. **Maximizing natural gas conversion efficiency** – We continually monitor and optimize our production parameters to ensure we maximize methanol production per unit of natural gas. If the natural gas conversion efficiency drops (meaning the amount of natural gas used to produce one tonne of methanol increases), we investigate the cause and adjust operating parameters. The percentage of natural gas converted into methanol depends on the technology and design efficiency of the plant as well as the catalyst lifecycle.



**G3'S CO<sub>2</sub> EMISSIONS INTENSITY WILL BE APPROXIMATELY 0.4 TONNE OF CO<sub>2</sub> PER TONNE OF METHANOL, ONE OF THE LOWEST CO<sub>2</sub> EMISSION INTENSITY PROFILES IN THE INDUSTRY.**

### 3. Injecting recovered CO<sub>2</sub> during the production process

— At our production sites that employ conventional steam reforming technology, the chemical reactions involved in making methanol lead to the production of excess hydrogen. By injecting additional CO<sub>2</sub> to combine with the excess hydrogen, we can make more methanol. The injected CO<sub>2</sub> is imported from an industrial site where it would otherwise have been released into the atmosphere. In 2013, we modified our Medicine Hat plant and began to inject CO<sub>2</sub> sourced from an industrial neighbour into our production process. In 2021, we produced approximately 80,000 tonnes using injected CO<sub>2</sub>.

4. **Trialling new catalyst** — The chemical reaction process to produce methanol requires the use of a metal catalyst. Catalysts degrade over time and, depending on the technology, need to be changed every three to six years. We replace catalysts as part of our turnaround process (planned shutdown to conduct major plant maintenance). We are currently trialling a new catalyst at our Medicine Hat facility (installed in 2020). The new catalyst has a lower deactivation rate which improves overall efficiency, lowers emissions, and potentially extends the time between plant turnarounds.

The initial performance of this catalyst looks promising, and we are evaluating the potential for application at other sites.

5. **Evaluating potential projects** — During the year, each of our six manufacturing sites held workshops to identify potential emission-reducing projects for submission to the CO<sub>2</sub> Emissions Management Team for consideration. The CO<sub>2</sub> Emissions Management Team reviewed submitted projects and is prioritizing them based on three key factors: potential impact on CO<sub>2</sub> emissions, cost, and timing considerations (i.e., if they require time to develop technology, or if they require a plant turnaround to complete). Projects chosen will be piloted and implemented in the next few years. We will continue to measure improvements associated with these projects and apply lessons learned across the company, where applicable.

### LOOKING FORWARD:

6. Our G3 plant is currently under construction, with commercial operations scheduled for the end of 2023 or early 2024. This project, budgeted at \$1.25-1.35 billion, is adjacent to our existing G1 and G2 plants, with shared infrastructure

that creates very material capital and operating cost advantages. By utilizing excess hydrogen from the G1 and G2 steam reforming plants, G3 is expected to have one of the lowest CO<sub>2</sub> emissions intensity profiles in the industry. We estimate G3's CO<sub>2</sub> emissions intensity to be approximately 0.4 tonne of CO<sub>2</sub> per tonne of methanol. See [page 18](#) for details.

7. We have developed a process design for a new conventional methanol plant that could operate at approximately half the carbon emission intensity of our current plant design. This design could achieve close to zero carbon emissions if a substantial amount of green electricity was economically available. Methanex's team of global experts with decades of experience developed this new process design and are beginning the process to prove the technology works as expected. To further this work, we have committed \$1 million to technology research and feasibility studies, starting in 2022.







## 2. Carbon Capture, Utilization and Storage

Methanex has invested time and resources into better understanding the potential that carbon capture, utilization and storage (CCUS) holds for reducing our Scope 1 emissions from manufacturing. CCUS refers to the process of capturing CO<sub>2</sub> from fuel combustion or industrial processes, purifying and compressing the CO<sub>2</sub>, and transporting it via pipeline to either be reused as a feedstock or be stored underground in deep geological formations. Other than producing renewable methanol at scale, CCUS holds the greatest potential to materially reduce emissions from the production of methanol.

### WHAT ARE SOME OF THE CHALLENGES ASSOCIATED WITH CARBON CAPTURE?

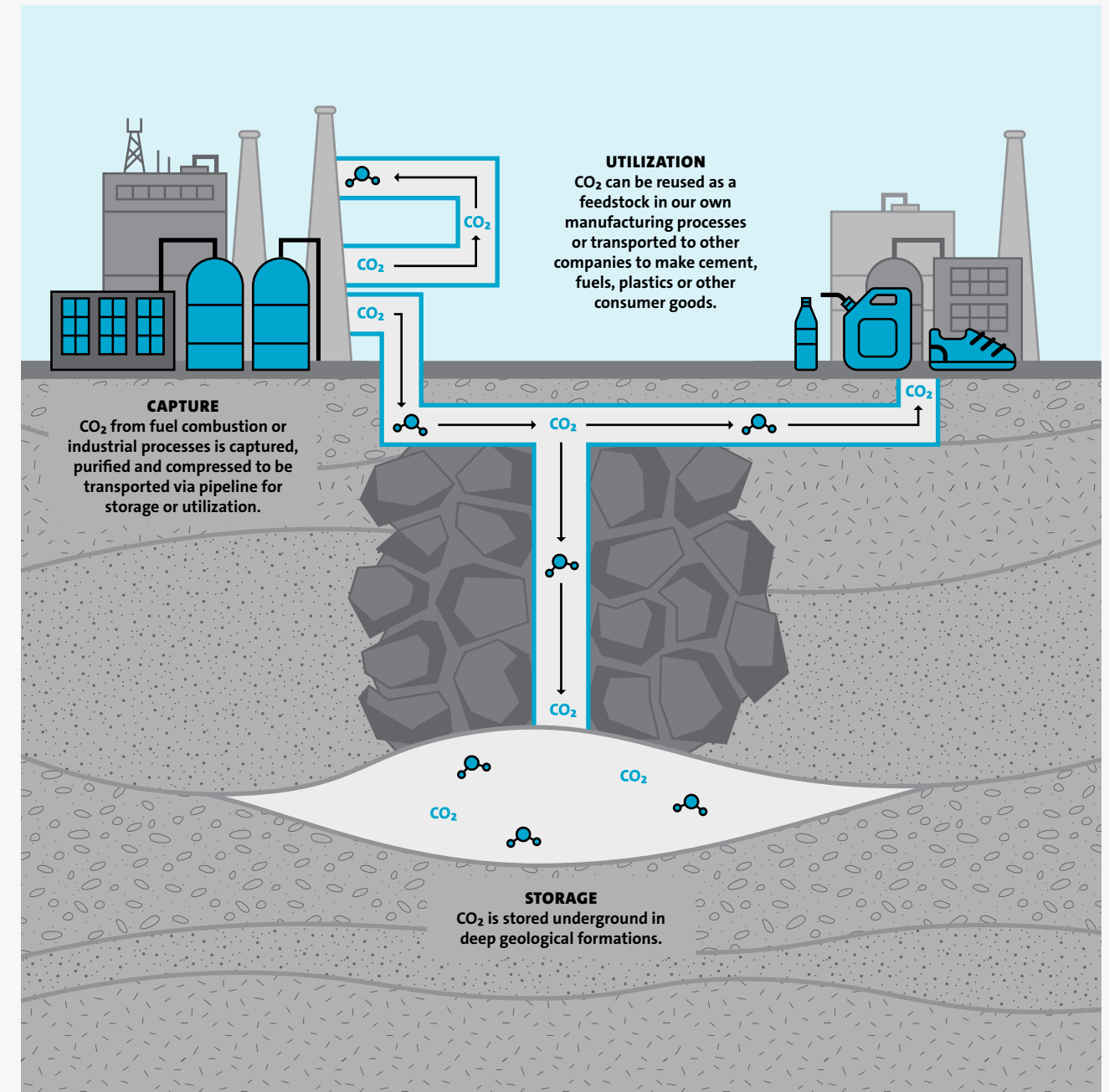
CCUS is emerging as a key tool to address the global carbon challenge for hard-to-abate sectors such as the chemical industry. However, the economic feasibility of CCUS remains challenging – given the material capital and operating costs required and the uncertainty around offsetting value streams including sale of offset credits, price premium for low carbon methanol, and avoidance of carbon tax.

It is expected that ongoing technological advancements and increased government policy support will help address these economic obstacles. Another important challenge is related to the availability of cost effective, long term, and secure underground storage.

### WHAT PROGRESS HAVE WE MADE?

- **Identified potential sites** – In 2021, Methanex screened our production sites for their potential to apply CCUS as a carbon-abatement strategy. We determined that our North American sites are most promising for CCUS due to local geological formations and the potential for government incentives.
- **Assessed government support** – CCUS requires large capital investments and significant ongoing operating costs, making government support and incentives essential for implementation. In 2021, we engaged with Canadian and U.S. government representatives at the federal, state/provincial, and local levels to better understand the levels of support.

CCUS technology can materially reduce GHG emissions from our North American assets by up to 90 per cent.





### LOOKING FORWARD:

In 2022, we are committed to conducting technical and economic feasibility studies at our Geismar and Medicine Hat locations. As part of this work, our CO<sub>2</sub> Emissions Management Leadership Team will evaluate the following:

- geological suitability of storage locations near our Geismar and Medicine Hat sites
- potential to use pipelines near our facilities to capture and transport CO<sub>2</sub>
- competing carbon capture technologies
- capital and operating costs of CCUS

We will continue to work collaboratively with local jurisdictions and neighbouring industries – including our work with the City of Medicine Hat on a carbon capture hub concept, Project Clear Horizon – and to assess government supports for CCUS.

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**CCUS has the potential to reduce up to 90 per cent of a manufacturing site's GHG emissions.**

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### 3. Alternative Feedstocks and Renewable Energy

Today, methanol is commonly produced on a commercial scale from natural gas and coal. Methanex only uses natural gas as a feedstock in our production facilities. However, methanol can also be made from renewable sources, such as renewable natural gas, biomass and green hydrogen combined with recycled carbon dioxide. Developing methods to efficiently and reliably produce methanol from renewable sources on a commercial scale is an important step change on the path to meeting society's decarbonization goals.

#### WHAT ARE SOME OF THE CHALLENGES ASSOCIATED WITH ALTERNATIVE FEEDSTOCKS?

The renewable methanol market is currently small but growing, accelerated by concerted global activity to mitigate climate change. There remain significant barriers to producing these products at scale. These include:

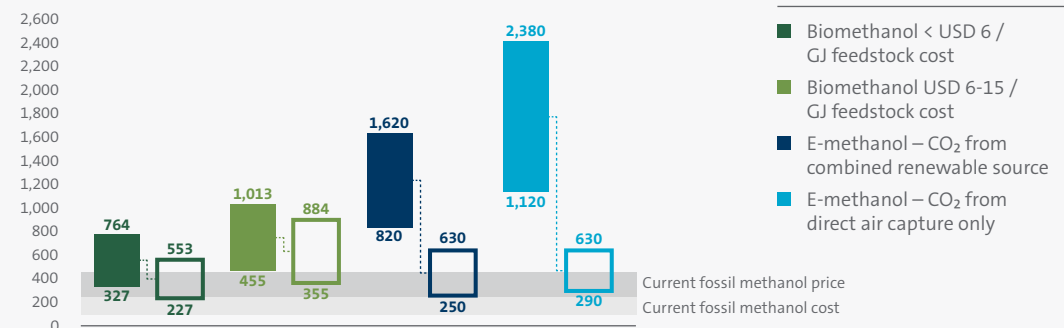
- Access to low-cost, clean and reliable power.
- Availability of concentrated sources of CO<sub>2</sub>.

- The current cost of electrolyzers needed to produce green hydrogen. Electrolyzers use electricity to break water into hydrogen and oxygen.
- If using biomass feedstocks, the vast amount of land required to produce the volumes of biomass feedstocks required at industrial scale will become an increasingly important factor and may ultimately constrain this renewable production pathway.
- “The green premium” – the gap between the cost to produce renewable methanol and what customers are willing to pay for it.

#### WHAT PROGRESS HAVE WE MADE?

- **Certifying Biomethanol** – We can use renewable natural gas as a feedstock and heat source instead of conventional natural gas in our current production process. In late 2020, we used renewable natural gas from municipal solid waste to produce a small volume of biomethanol at our two Geismar plants, receiving International Sustainability & Carbon Certification for biomethanol production in the United States.

**CURRENT AND FUTURE PRODUCTION COSTS FOR BIO- AND E-METHANOL**  
USD \$ / tonne of methanol (exchange rate used USD 1 = EUR 0.9)



One of the biggest challenges to scaling production of renewable methanol is bringing down the cost of production. The industry expects to see significant cost reduction as technologies mature.

Source: [Irena](#)

This certification enables sales to European customers under the Renewable Energy Directive II, which sets targets for energy from renewable sources. While renewable natural gas costs significantly more than conventional natural gas feedstock, making biomethanol more expensive to produce, we continue to explore this market and our Geismar plant is ready to produce it based on customer demand.

- **Investing in e-Methanol** – In 2013, Methanex made a pioneering investment in green e-methanol technology developer Carbon Recycling International (CRI) based in Iceland. The CRI demonstration plant was used to prove their emissions-to-liquids (ETL) technology, recycling CO<sub>2</sub> from a nearby geothermal power plant and using renewable energy to produce renewable methanol. The demonstration plant can produce 4,000 tonnes of methanol per year.

- **Participating in market development** – Governments across the world are encouraging lower-carbon fuel production and use through various forms of funding and incentives. Many companies, especially in the marine industry, also have set voluntary targets for decarbonization. Together with private technology development, these targets and incentives can help create conditions for renewable methanol projects to be cost competitive with conventional fuels. We continued to explore these options in 2021 to understand the impact of various price drivers, regulatory regimes and incentives at a global level. We are also engaging with project developers of renewable methanol about potential offtake arrangements.



## II. Growing Markets for Methanol as a Transition Fuel

Methanol can be either a chemical feedstock or a conventional or alternative fuel. This flexibility creates opportunities for Methanex in the transition to a low-carbon economy. We will continue to promote the emissions benefits of methanol in all its forms and support a pathway for a transition to low-carbon methanol. We will also continue to leverage our investments to develop a market for conventional and alternative methanol as a transition fuel.



### 1. Marine Fuel

The market for methanol as a marine fuel is a significant opportunity for Methanex. Methanol is a safe, proven, cost-competitive marine fuel for the commercial shipping industry that can meet or exceed current and planned emissions regulations.

Shipping accounts for nearly 3 per cent of global GHG emissions and there is growing global demand for lower-emission marine fuel. To reduce the shipping industry's environmental impact, the International Maritime Organization (IMO) has adopted mandatory measures to reduce carbon intensity, as well as emissions of sulphur oxides (SOx), nitrogen oxides (NOx) and particulate matter (PM), from international shipping. With methanol available at over 100 of the world's largest ports, its use as a marine fuel can help the shipping industry meet these increasingly strict air emissions regulations. See sidebar for details.

#### WHAT LEVEL OF SUPPORT ARE WE SEEING FOR THIS USE?

Industry interest in methanol as a marine fuel is rapidly growing. In 2021, some of the world's largest shipping companies ([Maersk](#), [Proman Stena Bulk](#), [X-Press Feeders](#) and [Eastern Pacific](#)) demonstrated their commitment to methanol as a lower-carbon marine fuel by either commissioning new methanol or dual-fuel vessels or announcing plans to retrofit existing vessels to run on methanol. We estimate that by 2025 there will be more than 60 dual-fuelled vessels on the water, including 19 of our own ships. Annual methanol demand from these vessels will be approximately one million tonnes per year, assuming they run on methanol 100 per cent of the time. In addition, large engine manufacturers such as [MAN Energy Solutions](#), [Wartsila](#) and [Rolls Royce](#) are currently manufacturing or beginning to manufacture methanol engines for vessels.

#### WHY METHANOL AS A MARINE FUEL?

## 95%

Methanol can reduce SOx and PM emissions by more than 95 per cent, and NOx by up to 80 per cent compared to conventional marine fuels.

## 15%

Methanol can reduce CO<sub>2</sub> emissions during combustion by up to 15 per cent compared to conventional fuels on a tank-to-wake (TtW) basis and can be [carbon neutral](#) on a well-to-wake (WtW) basis when made from renewable sources, providing a "future-proof" pathway to global and industry decarbonization goals.

## 100+

Methanol is available at more than 100 of the world's largest ports.

- As a liquid product, methanol is safe to transport, store, and bunker using regular safety procedures (see [page 31](#) for details).
- Dual-fuel engine technology is already available.
- Renewable methanol and biomethanol are compatible with current methanol dual-fuel engine technology, offering a clear pathway to decarbonization without future investment or compatibility issues.



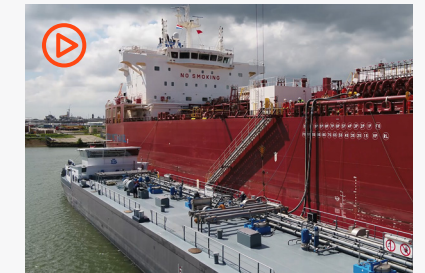


### WHAT PROGRESS HAVE WE MADE?

- **Proving methanol's feasibility in our own ships –**  
Waterfront Shipping has been operating methanol-fueled ships since 2016, accumulating more than 100,000 operating hours running on methanol. Having proven that methanol technology is safe, we continue to expand our dual-fuel fleet. As of December 31, 2021, approximately 40 per cent of our operating fleet is dual-fuel vessels.
- **Promoting methanol's adoption in a major market –**  
Following the IMO's December 2020 adoption of its Interim Guidelines for the Safety of Ships Using Methyl/Ethyl Alcohol as Fuel, Methanex was invited by the China Classification Society in early 2021 to participate on a review panel to help apply these guidelines in China. The anticipated 2022 publication of these safety guidelines is a critical step towards the commercialization of methanol as a marine fuel in China. We also partnered with the China Waterborne Transportation Research Institute, the think-tank of the Ministry of Transport, to support an evaluation of the technical and operational requirements for the use of methanol as a marine fuel.

- **Proving methanol's safety during bunkering –**  
We also held a successful bunkering demonstration of methanol at the Port of Rotterdam along with our partners Vopak terminals, a leading independent storage company, Nippon Yusen Kabushiki (shipowners) and TankMatch (bunker barge provider). See the sidebar for details and a video link.
- **Exploring new markets –** In 2021, we signed a Memorandum of Understanding with National Energy Corporation of Trinidad & Tobago to assess methanol as a marine fuel for the region. The goal of this public-private partnership is to explore and potentially define pathways to reducing emissions in the transportation sector using methanol that is already produced locally in abundance and currently exported.

### ONE STEP CLOSER TO METHANOL AS THE MARINE FUEL OF THE FUTURE



In 2021, our Waterfront Shipping subsidiary demonstrated the first-ever barge-to-ship methanol bunkering operation at the Port of Rotterdam in the Netherlands. Bunkering is the process of refueling a vessel. It can take place when the ship is berthed using a pipeline or tanker vehicle, or on the water by barge or ship.

This bunkering demonstration, in which our Takaroa Sun vessel became the first methanol-powered ship to be fueled by a standard barge, proved that methanol is safe to ship, store, handle and bunker using procedures similar to those used for conventional marine fuels.

We take pride in our leadership role in advancing the use of methanol as a cleaner-burning marine fuel that can support the shipping industry in its journey to reduce emissions.





## 2. Passenger and Cargo Vehicle Fuel

Methanol is an affordable substitute for gasoline and diesel in countries that are looking to transition away from fuels that result in high levels of air pollution. Methanol is an alternative liquid transportation fuel due to its energy density, efficient combustion, ease of distribution and wide availability around the globe.

### WHAT LEVEL OF SUPPORT ARE WE SEEING FOR THIS USE?

**Additives or fuel blends** – Methanol is used to manufacture methyl tertiary-butyl ether (MTBE), a gasoline additive that reduces tailpipe air emissions, and to produce fuels like biodiesel which is a diesel alternative. By 2025, the average output of biodiesel and similar fuels is anticipated to increase by 30 per cent from 2019 levels<sup>5</sup>. Methanol is also used in gasoline blends around the world at high volume percentages (50-100 per cent), mid (15-30 per cent) and low blends (3-5 per cent). China currently uses such methanol blends, and countries including Israel, India, Denmark, Germany and Italy are at the assessment or near-commercial stage for low-level methanol fuel blending.

**Fuel for passenger vehicles** – In China, increasingly stringent air quality standards are supporting the adoption of methanol as a cleaner-burning vehicle fuel. By the end of 2021, approximately one hundred M100 (100 per cent methanol fuel) filling stations were operating in China's Shaanxi, Shanxi, Gansu and Guizhou provinces to service approximately 27,000 M100 taxis (running on 100 per cent methanol).

**Fuel for heavy-duty vehicles** – Methanol is a diesel substitute for heavy-duty vehicles. Commercial trucks are another emerging opportunity in China, with Geely developing the world's first pure methanol combustion heavy-duty truck. As of 2021 there were 1,000 methanol heavy duty trucks in operation in China, and Geely has ambitions<sup>6</sup> to manufacture and market up to 3,000 methanol-fueled trucks per year by 2025.

Methanol-powered truck



### WHAT PROGRESS HAVE WE MADE?

For the past 10 years, Methanex has been working with Chinese automobile manufacturer Geely and other partners in China to support market growth of M100 for vehicles, including taxi fleets in the country. Together with Geely we have provided Responsible Care education for the industry (including government agencies and stakeholders along the value chain) and supported the development of crucial standards and guidelines for the use of methanol as vehicle fuel.

In September 2021, Methanex Trinidad signed a Memorandum of Understanding with the National Energy Corporation of Trinidad and Tobago to explore methanol as an alternative fuel for vehicle and marine transport. See the previous page for details.

**Methanol is an alternative liquid transportation fuel due to its energy density, efficient combustion, ease of distribution and wide availability around the globe.**

<sup>5</sup> IHS Markit. Methanol World Analysis, 2022

<sup>6</sup> <https://www.cvnews.com.cn/article.php?id=68811>





### 3. Other Uses

**METHANOL-FUELED KILN**

The ceramic souvenirs, Bing Dwen Dwen and Shuey Rhon Rhon, the official mascots of the Beijing 2022 Winter Olympics and Paralympic Games, were made in a methanol-fueled kiln in China, which we helped to convert so cleaner-burning methanol could be used. Methanol as a fuel also helps enhance the bright white colour of the ceramics, making the mascots look their best.

Methanol can be used as a fuel for thermal applications, including industrial boilers, kilns, heating furnaces and cooking fuel. When used in thermal applications, it has significantly lower air emissions (NOx, SOx) than coal and other fossil fuels.

**WHAT LEVEL OF SUPPORT ARE WE SEEING FOR THIS USE?**

Growing demand for methanol as an industrial boiler and kiln fuel has been driven largely by China, where industrial boilers are used extensively to generate heat and steam for various industrial applications and kilns. Industrial boilers have traditionally been coal-fueled in China. However, environmental regulations being phased in by the Chinese government are prompting a transition to cleaner-burning fuels (including methanol) that can reduce impacts on local air quality and related human health. Chinese residential buildings, restaurants and homes are also using methanol as a lower air emission and affordable heating alternative to burning coal. Methanol is also used in power plants on remote islands in the Caribbean.

Methanol has been used as a cleaner-burning cooking fuel in Africa, China and India for the past two decades. A 2020 study by China Association of Alcohol and Ether Clean Fuel and Automobiles<sup>7</sup> found that more than half of China’s use of methanol as energy (excluding MTBE and MTO) is as cooking fuel. With 2.6 billion people around the globe relying on solid biomass, kerosene or coal as their primary cooking fuel<sup>8</sup>, methanol could play a role in scaling access to cleaner cooking fuels.

**WHAT PROGRESS HAVE WE MADE?**

In 2021, Methanex worked with industry partners to draft a group standard for cooking fuel that was officially published by China Association of Rural Energy Industry (CAREI) in November. Effective from Jan. 1, 2022, the standard will be used by local governments to supervise the use of methanol fueled cooking stoves. We have previously supported similar efforts in the development of standards for industrial boilers and kilns.



<sup>7</sup> [https://www.methanol.org/wp-content/uploads/2020/04/China-Methanol-Fuel-Report-2020\\_final-1.pdf](https://www.methanol.org/wp-content/uploads/2020/04/China-Methanol-Fuel-Report-2020_final-1.pdf)

<sup>8</sup> IEA. <https://www.iea.org/reports/net-zero-by-2050>



# Risk Management

## RISK IDENTIFICATION

### Enterprise risk management

We have an enterprise risk management (ERM) process that is led by the Chief Financial Officer (CFO) and our Director of Internal Audit. As part of the ERM process, the CFO and Director of Internal Audit, in conjunction with the ELT, annually review and update our register of strategic and enterprise-wide risks (the Strategic Risks Register), including the significance of the risks and risk mitigation strategies. As part of that annual process, the Director of Internal Audit also seeks input from the senior leaders for each of our manufacturing and marketing and logistics operations to ensure that any material risks identified through their operational risk assessment processes (described below) are reflected within the Strategic Risks Register, where appropriate. The Strategic Risks Register is reviewed by our ELT and included as part of the materials for the Board's annual strategy process.

Each risk on the Strategic Risks Register is assigned to the ELT (as a whole or to an individual) and to the Board (as a whole or to a Committee) to manage and oversee the risk mitigation strategies.

The Board receives an annual update on the status of our assessment of strategic and enterprise-wide risks, including anticipated impacts and significant changes to the Strategic Risks Register. Our climate-related transition risks and physical risks are described on [pages 35-38](#) and our material environmental and social risks are fully described in the Risk Factors section of our 2021 [Management's Discussion and Analysis](#).

To incorporate climate-related risks into our risk identification process, we:

- Monitor emerging regulatory and policy trends regarding climate change and GHG emissions globally to assess their potential financial impact.
- Monitor market and technology developments to assess the risks they present in the global transition to a low-carbon economy.
- Engage with investors to understand their expectations around climate-related risks.

## RISK ASSESSMENT

Our regions use a risk matrix standard to assess operational risks to our business. Using the risk matrix, risk owners determine the consequences and likelihood of the identified risk by examining

the effect that the risk may have on our financial position, reputation, environment or the safety and health of employees, contractors or communities. Once assessed, risks are then prioritized based on their likelihood, anticipated severity, anticipated time horizon of the risk and the level of impact on our business strategy.

## RISK INTEGRATION

Our process for identifying climate-related risks is integrated into, not separate from, our ERM process. Once risks have been identified and assessed, we incorporate climate-related risks into different aspects of our business, by:

- Modeling a wide range of carbon prices and mechanisms when forecasting revenues, demands and costs.
- Considering the impact of new investments on our GHG emissions profile.
- Including carbon pricing in our Authorization for Expenditures (AFE) process to approve new projects in locations with an existing tax.
- Incorporating extreme weather events into emergency preparedness. Read more on [page 53](#).





# Transition-Related Opportunities and Risks

Climate change poses strategic business risks, but it also generates strategic opportunities. We monitor policy and regulatory changes, market and technology developments, and potential changes in consumer behaviour and perceptions to assess the business opportunities and risks they present in the global transition to a low-carbon economy. In this section we describe the key climate-related opportunities we are pursuing and the risks we are monitoring and mitigating, in alignment with the recommendations of the Task Force on Climate-related Financial Disclosures. Our material climate-related risks are fully described in the Risk Factors section of our [MD&A](#).

REGULATORY

CLIMATE-RELATED ISSUE	WHAT IS THE OPPORTUNITY?	WHAT IS THE RISK?	WHAT ARE WE DOING TO CAPITALIZE ON THE OPPORTUNITY/MITIGATE THE RISK?
<b>Carbon tax/ trading schemes</b> Under the Kyoto Protocol and the Paris Agreement, many of the countries we operate in have agreed to reduce GHG emissions and/or impose carbon taxes. We are currently subject to GHG regulations in Canada, New Zealand and Chile.	Carbon border adjustment mechanisms are being considered in the <a href="#">EU</a> and <a href="#">Canada</a> to address carbon leakage issues and support the competitiveness of Emissions Intensive Trade Exposed (EITE) industries like methanol. These types of policies have the potential to boost our competitiveness with regions producing methanol from coal or where producers are less carbon efficient.	Potential for increased cost of production due to: <ul style="list-style-type: none"><li>– Increasingly costly carbon tax/trading schemes (Canada, New Zealand, Chile) that could impact us and/or our natural gas providers.</li><li>– Reduction in CO<sub>2</sub> emissions allowance/cap for us or our natural gas providers.</li><li>– Increasing difficulty of building/permitting pipelines could impact the cost to produce/transport natural gas, potentially impacting our production costs.</li><li>– Continued asymmetric carbon costs in regions where we operate vs competitors could erode our competitiveness.</li></ul>	<b>BUSINESS PROCESSES</b> <ul style="list-style-type: none"><li>– Model a wide range of carbon prices and mechanisms when forecasting revenues, demands and costs.</li><li>– Integrate carbon pricing into our internal Application for Expenditure process in locations with an existing tax</li><li>– Hedge natural gas prices, up to 14 years in some locations.</li><li>– Engage with governments (<a href="#">page 74</a>)</li></ul>
<b>Clean fuel regulations</b> Jurisdictions targeting reductions in the lifecycle emissions of liquid fuels have introduced regulations such as Clean Fuel Regulation (Canada), Renewable Energy Directive II (EU), Renewable Fuel Standard (U.S.), Low Carbon Fuel Standard (California, British Columbia), Clean Fuel Standard (CA).	Increasing demand for lower carbon methanol and customers willing to pay a premium for it strengthens the business case for our company to invest in alternative feedstocks or carbon-reducing technologies and leads to increasing pressure on the long-run price expectations for methanol. Methanol producers with existing assets capable of sourcing renewable feedstocks will have a competitive advantage in such an environment.	<ul style="list-style-type: none"><li>– If increased demand for methanol from lower carbon intensity forms of production grows rapidly, it could lower demand for conventional methanol in North America and Europe.</li><li>– Future growth expectations around methanol as a clean/low carbon fuel may be less than anticipated.</li></ul>	<b>ACTIVITIES</b> <b>Emissions reduction</b> <ul style="list-style-type: none"><li>– <a href="#">Plant efficiency</a></li><li>– <a href="#">CCUS</a></li><li>– <a href="#">Alternative feedstocks</a></li></ul> <b>Market development</b> <ul style="list-style-type: none"><li>– <a href="#">Marine fuel</a></li><li>– <a href="#">Passenger and cargo vehicle fuel</a></li><li>– <a href="#">Other uses</a></li></ul>
<b>IMO regulations</b> To reduce the shipping industry's environmental impact, the International Maritime Organization (IMO) has set a goal to reduce carbon intensity from international shipping by at least 40 per cent by 2030. Stringent standards are also in place limiting SOx, NOx and particulate matter (PM) from ships.	Methanol presents a practical solution for the maritime industry to meet the IMO regulation. It can be used in existing diesel engines (with minor modifications) to lower CO <sub>2</sub> (TtW basis), NOx, SOx, and PM emissions and reduce lifecycle CO <sub>2</sub> emissions through the increased use of low carbon intensity methanol.	Methanol is one of several options being tested by the shipping sector, creating the risk that maritime customers may prefer another fuel (ammonia, liquified natural gas, hydrogen, renewable/bio diesel, ethanol, etc.). Should insufficient volumes of low carbon methanol be produced and/or should such methanol be too expensive, the shipping industry could adopt a different fuel.	



MARKET

CLIMATE-RELATED ISSUE	WHAT IS THE OPPORTUNITY?	WHAT IS THE RISK?	WHAT ARE WE DOING TO CAPITALIZE ON THE OPPORTUNITY/MITIGATE THE RISK?
Demand for lower-carbon methanol is increasing globally	<ul style="list-style-type: none"><li>– Demand for lower carbon methanol is increasing globally and existing assets will lead the transition, as renewable natural gas can be used as a feedstock. Renewable natural gas is completely interchangeable with the natural gas we use today in our manufacturing process.</li><li>– Increasing demand for lower carbon methanol and customers willing to pay a premium for it strengthen the business case for our company to invest in alternative feedstocks or carbon-reducing technologies and leads to increasing pressure on the long-run price expectations for methanol.</li><li>– Methanol producers with existing assets capable of sourcing renewable feedstocks will have a competitive advantage in such an environment.</li></ul>	<ul style="list-style-type: none"><li>– One of the risks related to scaling renewable methanol production is securing access to renewable natural gas (RNG) as feedstock. In the U.S. we are competing with buyers who pay a premium to purchase RNG for utilities or in compressed form for vehicle fuel.</li><li>– One of the risks related to e-methanol production is the high capital requirements and operational costs.</li><li>– One of the risks related to any technology is that more cost-effective technologies will be developed in the future.</li></ul>	<ul style="list-style-type: none"><li>– We are well positioned in the North America market having already produced biomethanol at our Geismar site and received ISCC certification.</li><li>– We are investors in <a href="#">CRI</a>, a globally-recognized leader in CO<sub>2</sub>-to-methanol technology in Iceland. This strategic investment helps us understand the e-methanol technology and market.</li><li>– We are in active discussions with renewable methanol projects for offtake and marketing.</li><li>– We are assessing CCUS feasibility to ready ourselves to implement when signaled by the necessary market/commercial conditions that will support such an investment.</li></ul>
Demand for alternative fuels is growing	<p><b>Hydrogen</b> Momentum for hydrogen as an alternative fuel is growing worldwide. Hydrogen is seen as a fuel (including in fuel cells) that can help countries achieve their emissions reduction targets. Methanol is one of the most hydrogen dense fuels and can play a role in a hydrogen economy, by functioning as a hydrogen carrier (i.e., methanol could be processed after transportation to release the hydrogen molecules that are contained in both the methanol and water required to support the reforming reactions.</p> <p><b>LNG, ammonia, ethanol and renewable diesel</b> As a liquid fuel, methanol is easy and safe to transport compared to gaseous fuels and can be an effective and practical fuel compared to other alternative fuels.</p>	<ul style="list-style-type: none"><li>– In certain energy-related applications, hydrogen could be perceived as a potential substitute to methanol as a fuel.</li><li>– Increased demand for liquefied natural gas (LNG) could lead to higher natural gas prices which could impact our operating costs.</li><li>– There could be lower-than-expected demand growth for methanol (especially low carbon methanol) if the market favours competing alternative fuels in the transition to decarbonization, namely:<ul style="list-style-type: none"><li>• LNG, Ammonia, bio/renewable diesel and ethanol could be used as a low-carbon marine fuel</li><li>• Hydrogen fuel-cells and bio/renewable diesel can be used to power light and heavy-duty vehicles</li></ul>Current demand for methanol in fuel applications, including biodiesel, is approximately 15 per cent of total demand.</li></ul>	<ul style="list-style-type: none"><li>– <a href="#">Marine fuel</a></li><li>– <a href="#">Passenger and cargo vehicle fuel</a></li><li>– Methanol is liquid at ambient temperature, which makes it easier to store and transport than hydrogen, and therefore much more suitable for different energy-related applications.</li><li>– We continue to monitor hydrogen as a fuel source which is at an early stage of market development.</li></ul>







TECHNOLOGY

CLIMATE-RELATED ISSUE	WHAT IS THE OPPORTUNITY?	WHAT IS THE RISK?	WHAT ARE WE DOING TO CAPITALIZE ON THE OPPORTUNITY/MITIGATE THE RISK?
Companies are seeking transformational technologies and processes that could revolutionize the carbon footprint and profitability of emissions-intensive industries like ours.	Today, we can produce renewable methanol with RNG with our existing assets without requiring additional capital investment. In addition, through investment and collaboration, we can implement step-change technologies – like CCUS – that would dramatically alter the emissions profile of our methanol plants. As the transition to a low carbon economy evolves and the market for low carbon methanol develops, we are taking an incremental approach to staging our future capital investments in a manner that ensures we are meeting the needs of all our stakeholders.	<ul style="list-style-type: none"><li>– Prohibitive expense of new technology (e.g., electrolyzers)</li><li>– Delays in finding/implementing new technology</li><li>– New technologies can reduce the cost competitiveness of existing plants (which can run for many decades)</li><li>– Although energy systems tend to transition slowly over time, rapid electric or hybrid vehicle adoption could result in lower-than-expected demand growth for methanol, with slower growth in energy markets such as MTBE.</li></ul>	In addition to learning about e-methanol technology through our investment in CRI, we are monitoring the key drivers that will support the commercial viability of this technology (e.g., cost of electrolyzers, cost of power, availability of concentrated carbon sources, Government incentives/regulations, among others). <ul style="list-style-type: none"><li>– <u>Transition to a Low-Carbon Economy Team</u></li></ul>

REPUTATION

CLIMATE-RELATED ISSUE	WHAT IS THE OPPORTUNITY?	WHAT IS THE RISK?	WHAT ARE WE DOING TO CAPITALIZE ON THE OPPORTUNITY/MITIGATE THE RISK?
Stakeholder perceptions of how companies address climate-related issues are becoming an increasingly influential component of a company’s reputation.	We have an opportunity to articulate our solutions-oriented approach to material ESG issues, to support continued access to the best customers, team members, partners and capital providers.	Although we believe that we conduct our operations in a prudent manner and that we take care in protecting our reputation, we do not ultimately have direct control over how we are perceived by others. Reputation loss may result in decreased access to and/or higher cost capital and insurance coverage, decreased investor confidence, challenges with team member retention and talent attraction, an impediment to our overall ability to advance our projects, obtain permits or increased challenges in maintaining our social license to operate, which could have an adverse impact on our results of operations and financial condition.	In our role as the industry leader, we are working to demonstrate our commitment to provide solutions to our customers while creating value to shareholders and society. <ul style="list-style-type: none"><li>– <u>CO<sub>2</sub> Emissions Management Leadership Team</u></li><li>– <u>Transition to a Low-Carbon Economy Leadership Team</u></li><li>– <u>ESG Commitments</u></li></ul>



# Climate-Related Physical Risks

The physical impacts of climate change pose a number of potential risks that may negatively impact our operations, suppliers or customers. We focus on acute physical risks, recognizing that chronic risks such as temperature change could exacerbate the impact of such risks. We describe these potential risks and how we work to mitigate them below.

RISK	RISK MITIGATION
<b>WATER SCARCITY</b> The conversion of water into steam is an essential step in the methanol production process. Fresh water shortages could restrict the amount of methanol we can produce. Four of our six manufacturing sites use fresh water, and two sites use desalinated water in the methanol production process. Water shortages at sites without desalination units may have the impact of restricting methanol production.	<ul style="list-style-type: none"><li>– We desalinate seawater to produce methanol in Trinidad and Chile, reducing our reliance on fresh and municipal water sources which can be impacted by drought or low tide. In Trinidad, we completed a maintenance project in 2021 that will increase our volume of desalinated water by an estimated 43,000 m³ per year, further reducing our use of municipal water to supplement desalinated water.</li><li>– We maintain our focus on water optimization at all sites, guided by our Water Stewardship Standard (see <a href="#">pages 42-43</a> for details).</li></ul>
<b>CHANGING SEA OR RIVER LEVELS</b> We primarily transport methanol on vessels, shipping our product from our production sites to customers around the world. We have, at times, experienced logistics delays in our supply chain due to high and low river levels when we are exporting methanol from a production site or delivering methanol by vessel or barge to customers. High or low river levels could also negatively affect our operating capacity.	<ul style="list-style-type: none"><li>– Our resilient supply chain has allowed us to keep our customers supplied in even the most challenging scenarios. Our purchasing agreements and our relationships with other methanol producers allow us to exchange product where needed to meet our commitments with our clients even during supply chain interruptions.</li></ul>
<b>CHANGING STORM PATTERNS/INTENSITIES AND EXTREME WEATHER EVENTS</b> More severe and frequent storms and weather events could negatively impact our operating capacity and supply chain. Specifically, tropical storms could impact our plants in Geismar and Trinidad, and our Medicine Hat site has experienced flooding in the past. Other extreme weather events can impact rail or marine shipping transportation.	<ul style="list-style-type: none"><li>– We have integrated a response process to extreme weather events as part of our business continuity standard plans.</li></ul>



**WEATHERING HURRICANE IDA**  
With Hurricane Ida projected to heavily impact the Geismar region, we enacted our Hurricane Shutdown Plan on August 27, 2021, proactively shutting down our Geismar G1 and G2 plants.

After making landfall, the storm unexpectedly veered away from Geismar, sparing it the worst of the extreme weather. While the facility sustained minor damage to insulation and flashing, no personnel were injured. We successfully shut-down the facility prior to losing any utility streams and had no environmental spills or releases. We continued to supply our customers without interruption through Hurricane Ida.

Learnings from the event will be used to improve future hurricane responses. These include:


- Adding timelines to procedures for shutdown and shut in.
- Implementing written communications to shifts to ensure clarity of instructions.
- Clarifying site staffing levels for future events.





In this section of the report, we describe the systems, processes, and ongoing activities to manage the environmental and social impacts of our operations, and key governance aspects of our business.

# ESG Management



**LCD SCREENS**  
Several chemical building blocks are synthesized from methanol and used in the manufacturing of liquid crystal displays (pictured) for smart devices.



# About This Report

**This report provides our stakeholders with information about how Methanex manages environmental, social and governance (ESG) matters, and how our business and product contribute value to stakeholders and society. By managing our risks, capitalizing on opportunities and conducting our operations in an environmentally and socially responsible manner, we create long-term value, protect our reputation, enhance our resilience and contribute to the sustainability of our business.**

We cross-reference our disclosures against the following recognized reporting frameworks:

Sustainability Accounting Standards Board (SASB) for the chemical and marine transportation sectors	<a href="#">pages 79-80</a>
Task Force on Climate-related Financial Disclosures (TCFD)	<a href="#">pages 22-38</a>
Global Reporting Initiative (GRI)	<a href="#">pages 81-82</a>

**RESPONSIBLE CARE® AT METHANEX**  
We are committed to Responsible Care, a chemical industry initiative that informs our governance and the management of environment, health, safety and community matters. The goals of Responsible Care – safe, responsible and sustainable chemical manufacturing – are central to our culture. We continually work to improve our own environmental, health and safety performance, and we champion Responsible Care principles with peers and customers to contribute to the betterment of society, the environment, and the economy.

# Reporting Scope

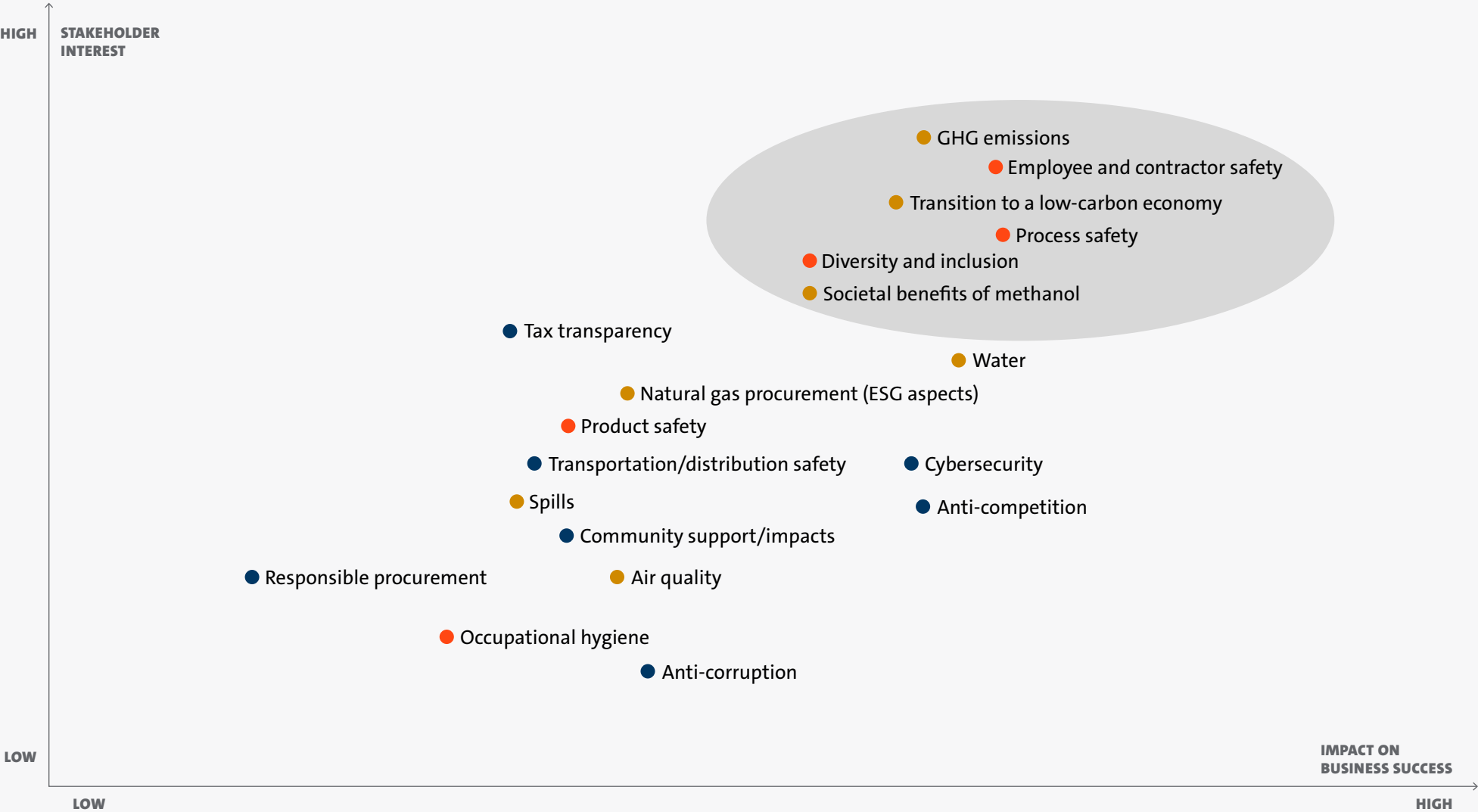
- The terms “Methanex”, “our”, “we”, “us”, “the company” and “the organization” refer to Methanex Corporation and its subsidiaries as a whole.
- This report covers information related to our subsidiary Waterfront Shipping. Metrics for Waterfront Shipping are provided separately on [page 78](#), with a qualitative discussion on [pages 69-72](#).
- We account for our GHG emissions for our methanol manufacturing business based on financial ownership (equity). Therefore, we include 50 per cent of the emissions from our Damietta plant in Egypt and 63.1 per cent from our Atlas plant in Trinidad.
- We report shipping-related emissions using two methods: operational control and financial ownership. For operational control, we include 100 per cent of the GHG emissions associated with the 28 vessels in the fleet, regardless of financial ownership. For financial ownership, we include 50 per cent of the GHG emissions associated with the five vessels we own.
- This report describes initiatives related to our material sustainability topics and supporting metrics for the year ended Dec. 31, 2021 (unless otherwise specified). When available, additional years of historical data are provided for reference.
- Financial data is in U.S. dollars (unless otherwise specified) and environmental data is in metric units.
- Safety data includes Methanex employees and contractors.
- Senior management and relevant employees have reviewed the information in this report and believe it is an accurate representation of our performance. The metrics included in this report have not been externally assured.
- The terms “sustainability” and “ESG” are used interchangeably in this report.



# Our Material Topics

- ENVIRONMENT
- SOCIAL
- GOVERNANCE

In a sustainability context, material topics are ESG topics that can significantly impact our business success and are of interest to our key stakeholders. Our material topics remained unchanged from the results of our 2020 internal materiality assessment. The assessment allowed us to identify the sustainability topics that are most relevant to our business and stakeholders. We sourced topics from recognized reporting frameworks and reviews of chemical industry peers. Stakeholder perspectives considered included those of investors, customers, team members, communities, governments, regulators and supply chain partners. Our Executive Leadership Team reviewed and approved the results of the assessment; the material topics have been covered in this report. We regularly review our material ESG topics to ensure they reflect stakeholder expectations and the changing business environment. To learn more about how we identify and manage our climate-related risks, see the [TCFD section](#).





We strive to minimize our environmental impact through initiatives that reduce GHG and other air emissions; efficiently using resources such as natural gas, energy and water; and preventing spills and minimizing waste from our operations. As a company committed to the Responsible Care Ethic and Principles for Sustainability, we continue to advance our CO<sub>2</sub> emissions reduction efforts and evaluate climate-related opportunities and risks for our business.

# Environment

## Water

We depend on water for our operations and share this vital resource with the communities where we operate.

Through our water stewardship program, we focus on minimizing our water use and protecting water quality in our areas of operation. Methanol production uses water in several stages of the process. While most of the water we use is for cooling systems to remove heat, a portion is also consumed as steam during the methanol manufacturing process (see figure on the right). Depending on the location, our plants use either seawater or fresh water. The vast majority of the water we withdraw is seawater which is used at two of our manufacturing sites. At these two plants, seawater is used as cooling water and, following desalination and treatment, used to produce steam.

### 2021 WATER USE

114.8

million m<sup>3</sup>  
withdrawn

Most of this water is used for cooling and cooling water can be reused several times.

#### SEA WATER

96.7

million m<sup>3</sup>

#### FRESH WATER

11.1

million m<sup>3</sup>

#### PURCHASED WATER

4.5

million m<sup>3</sup>

#### MUNICIPAL WATER\*

2.5

million m<sup>3</sup>

23.3

million m<sup>3</sup>  
consumed

The majority of this water is returned to the environment through evaporation.

91.5

million m<sup>3</sup>  
discharged

Once the water has been used (in some cases several times), it is discharged to:

#### SEA

90.2

million m<sup>3</sup>

#### SURFACE WATER SOURCE

0.8

million m<sup>3</sup>

#### MUNICIPAL SYSTEMS

0.5

million m<sup>3</sup>

\* Municipal water may include desalinated water and fresh water.



IMPROVING WATER EFFICIENCY

Because fresh water is a shared natural resource with our communities and environment, we put the bulk of our water stewardship efforts into conserving and protecting freshwater sources. This is particularly important in regions with potential for freshwater scarcity. To maximize efficiency and return as much water to the environment as possible, our facilities have water conservation procedures to minimize, reuse and recycle water. For example, almost all of our production facilities reuse condensed steam in different phases of the production process, and over half of our sites reuse the wastewater from distillation columns, reducing the overall volume of water we need to withdraw.

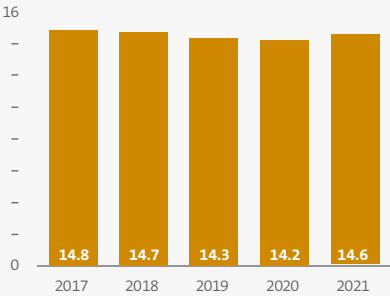
The selection of plant technology can impact plant efficiency, including water consumption. Over time, as we have transitioned to newer reforming technology, we have also incrementally reduced our water consumption per tonne of methanol in the reforming stage. Some of our plants with older steam methane reforming technology inject CO<sub>2</sub> gas into the manufacturing process to improve production efficiency, which also helps to lower water consumption intensity. In 2021, we completed a project to improve the output of our Trinidad desalination facility, which provides desalinated seawater for our Atlas plant. The project has increased our yearly output of desalinated water by an estimated 43,000 m<sup>3</sup>, reducing our reliance on municipal water sources by approximately 6 per cent.

PROTECTING WATER QUALITY

Water generated from the manufacturing process is treated in accordance with local requirements and analyzed before we safely discharge it back into the environment or to municipal services. The majority of our water is used for cooling, meaning it simply circulates through pipes and heat exchangers and does not contain contaminants that would require treatment before being released.

We continue to send clean effluent for reuse in community gardens in Egypt. In 2021, our Damietta, Egypt, plant pumped 18 per cent of its treated wastewater to irrigate community gardens in New Damietta, with the goal of reaching 80 per cent in the next few years. This innovative project is a partnership between Methanex Egypt and the New Damietta Development Authority to help the community conserve river water from the Nile.

FRESHWATER\* CONSUMPTION  
million m<sup>3</sup> of water consumed



Year-over-year freshwater consumption intensity is influenced by production levels at our four sites that use fresh water and their various reforming technologies and cooling systems. The 2020 freshwater consumption data has been restated since the publication of our 2020 sustainability report. The new figure is 5 per cent higher than the previously reported number.

\* Freshwater consumption also includes purchased water and municipal water.



# GHG Emissions From Our Operations

~98%  
global plant  
reliability in 2021

We are committed to playing an active role in the transition to a low-carbon economy by seeking ways to improve our energy efficiency and lower the CO<sub>2</sub> emissions from our operations.

Our operations generate CO<sub>2</sub> emissions directly and indirectly through the production, distribution and use of our product. To learn how we manage the emissions from marine vessels used for distribution, see [page 70](#) in the Waterfront Shipping section. This section describes how we reduce emissions from our operations.

Natural gas combustion in the reforming stage of our manufacturing process represents the primary source of CO<sub>2</sub> emissions from our operations. Multiple factors determine the emissions intensity (CO<sub>2</sub>/tonne of methanol) of our manufacturing process from year to year. These include the reforming technology in use at our plants, process efficiency, fuel composition, age of catalyst, natural gas supply, the source of purchased electricity and steam, and the age, design and reliability of our facilities. To reduce our emissions intensity, we focus on maintaining a high level of reliability to keep our plants running continuously and optimizing our natural gas efficiency. Read more on [pages 25-26](#).

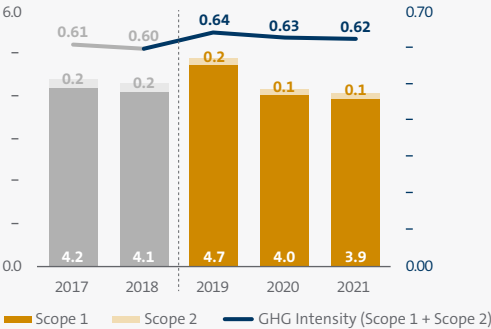
Given the complexity of our processes, in 2021, we established a CO<sub>2</sub> Emissions Management Leadership Team (CO<sub>2</sub> Team) to find further solutions to improve our energy efficiency and lower the CO<sub>2</sub> emissions from our current assets. Over the past year, they oversaw key accomplishments include standardizing measurement and reporting of carbon dioxide (CO<sub>2</sub>) emissions for all sites to ISO standards and establishing performance benchmarks for emissions intensity capability (tonnes of CO<sub>2</sub>/tonne of methanol under optimal operating conditions) at each of our plants. Together, these accomplishments enable effective target setting for emissions reductions, and accurate and timely measurement of progress against these targets.

During the year, each of our six manufacturing sites held workshops to identify potential emission-reducing projects for submission to the CO<sub>2</sub> Team for consideration. The CO<sub>2</sub> Team reviewed submitted projects and is prioritizing them based on three key factors: potential impact on CO<sub>2</sub> emissions, cost, and timing considerations (i.e., they require time to develop technology or they require a plant turnaround).

Projects chosen will be piloted and implemented in the next few years. We will continue to measure improvements associated with these projects and apply lessons learned across the company, where applicable.

The CO<sub>2</sub> Team also explored carbon, capture, utilization and storage technologies to better understand the potential they hold for large GHG reductions at our manufacturing sites. Details available on [page 27](#).

GHG EMISSIONS FROM MANUFACTURING  
million tonnes of CO<sub>2</sub>e | tonnes of CO<sub>2</sub> / tonne of methanol



In 2021, we revised our GHG emission quantification procedures to align with the ISO 14064-1 Quantification and Reporting of GHG emissions standard. Since the publication of our last sustainability report, we have recalculated and restated our GHG emissions for the years 2019 and 2020 to align with the ISO standard. **The numbers for the years 2017 and 2018 are therefore not comparable to the revised data.** The increase in GHG emissions is due to how ISO 14064-1 standards account for CO<sub>2</sub> utilized from an industrial neighbour at our Medicine Hat facility.

Over the last five years, our Scope 1 and 2 GHG emissions intensity (on an equity basis) has remained relatively consistent and been closely linked to production levels in our asset mix.



# Spills and Releases

Methanex manages large volumes of liquids safely every day. We work proactively to prevent spills through rigorous controls and containment measures and are committed to delivering rapid response and remediation in the event of a release.

Since methanol occurs naturally in the environment and is readily biodegradable, methanol spills are unlikely to accumulate in groundwater, surface water, air (as vapour) or soil. However, since a large release of methanol can potentially impact the immediate environment, we have a comprehensive spill monitoring and prevention program in place to mitigate any health, safety and environmental impacts.

### SPILL PREVENTION

Given the nature of our operations, our most significant potential spills relate to methanol, petroleum fuels and lubricants for machinery on site, and water treatment chemicals. We use water treatment chemicals to treat sea and fresh water. Seawater used in our manufacturing process requires desalination, filtering and ion exchange, while the fresh water we use requires filtering treatment, ion exchange and pH adjustments.

We use two complementary strategies to address spill prevention:

#### Maintenance and inspection

The goal of maintenance and inspection is primary containment or “keeping it in the pipe.” All sites must comply with our internal Environment Critical Equipment (ECE) standard (see sidebar for details). As part of our regular facility maintenance program, we have a rigorous inspection process for storage tanks (total capacity of ~ 1 million m<sup>3</sup> across sites), pipes, flanges and connectors.

#### Management programs and training

We train our team members in environmental management and implement process safety management programs (see more in the Process Safety section on [pages 50-52](#)). One of the key goals of process safety is to ensure the safe containment of substances that are harmful to human health, safety and the environment.

### SPILL MONITORING

In 2021, we refreshed our spill monitoring program to better predict and prevent spills. Methanex has historically focused on releases from primary containment with the real or potential environmental impact. We have enhanced our focus to include all spills and releases, regardless of substance or release quantity. We analyze this data for patterns that could give us greater insights into the causes of spills and inform our spill prevention initiatives, potentially averting more serious releases.

### SPILL RESPONSE

In the event of a spill, we have spill containment berms (i.e., a secondary containment barrier) around storage tanks to prevent the spill from reaching soil or water. We also use monitoring wells across our facilities to periodically track both soil and groundwater conditions. This allows us to monitor potential pathways to water sources should a spill occur and to plan our response in the event of a spill. Our sites have emergency spill and release plans and we conduct training exercises for spill response.

0

In 2021, we had zero significant (major or serious) releases.



### ENVIRONMENT CRITICAL EQUIPMENT STANDARD

In 2021, we implemented a new standard with the goal of identifying equipment that, if it were to fail, would result in environmental consequences to air, land or water. The standard includes:

- Site-based identification of systems and critical parts of systems for maintenance.
- Risk-based maintenance and inspection program for asset integrity and function.
- Performance monitoring of environmentally critical equipment (e.g., scrubbers, flares) to make sure they are operating correctly and within regulatory limits.



# Air Quality

Good air quality is fundamental to human health and well-being. In alignment with local regulations, we continually work to reduce emissions that could impact local air quality and ultimately our communities.

Air quality is measured by the concentration of pollutants in the air, including nitrogen oxides (NOx), sulphur oxides (SOx) and volatile organic compounds (VOCs) such as methanol vapours. We aim to reduce emissions associated with our operations through process and equipment improvements as well as our Environment Critical Equipment standard (see [page 45](#) for details).

**NOx**

Our primary source of NOx emissions occurs as a byproduct of natural gas combustion during the manufacturing process, primarily from the steam methane reforming process and a smaller amount from the use of boilers to generate steam.

We follow air quality regulations at all of our sites and stay within regulatory limits. Over the past 20 years, we have been able to significantly reduce NOx emissions from our plants through the use of technology:

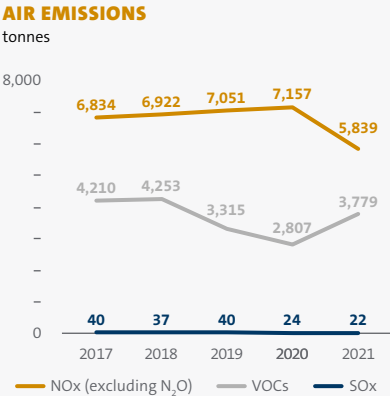
- Our plants with newer combined reforming technology emit significantly lower levels of NOx emissions compared to plants with older reforming technology.
- Lower-NOx burners prevent the formation of NOx in the reformer. We use this technology at two of our newer plant sites. Following the 2020 upgrade of our Medicine Hat plant to low-NOx burners, we reduced our NOx emissions by 60 per cent when compared to the previous year.
- Selective catalytic reduction uses “scrubber” units that remove NOx from the exhaust gas of the reformer unit. These remove approximately 97 per cent of NOx from the baseline case. This technology is used in one of our plant sites with older reforming technology located in an area with strict NOx emission regulations due to existing local air quality issues.

**SOx**

Methanex plants emit very low levels of SOx from the combustion of natural gas because the gas we use has very low sulphur content.

**VOCs**

Methanol storage tanks and some processing equipment can release methanol vapour, a type of VOC. To reduce the amount of VOCs that are released into the atmosphere, we have installed floating roof storage tanks and VOC scrubbers at some of our locations. In 2021, Trinidad completed the installation of a new floating roof on one of its methanol storage tanks which is anticipated to reduce VOC emissions by 300 tonnes annually. Methanol vapour leak detection and repair programs for methanol pipe fittings, flanges, seals and other connections further enable us to minimize the emission of methanol vapours throughout the plant. We follow air quality regulations at all of our sites and stay within regulatory limits for VOC emissions.



Changes in NOx and VOC emissions are closely linked to production levels in our asset mix.

**NOx:** Our NOx emissions have decreased by 15 per cent over the last four years. This is due more recently to lower NOx burners installed at one of our plants with older reforming technology.

**VOCs:** Year-to-year VOC emissions are linked to production levels. In 2021, our VOC emissions were 33 per cent higher than in 2020 due to an increase in VOC emissions at our Medicine Hat plant. Although a new catalyst improved the efficiency of the plant, required process changes resulted in a small additional quantity of VOCs released.

**SOx:** Historically, SOx emission levels have been consistent and associated with sulphur content in natural gas supply.

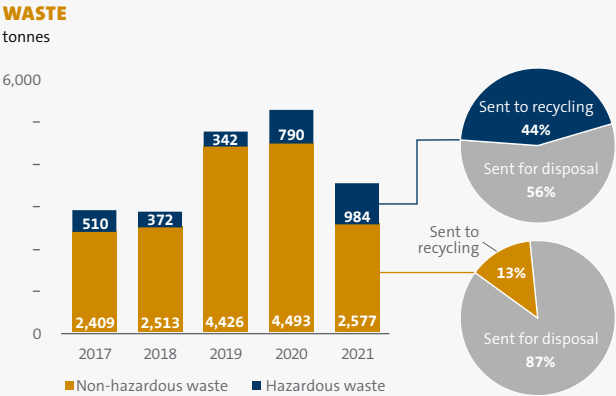


# Waste

Responsible and safe management of waste streams is essential to conserving resources used in our operations. At Methanex, we strive to minimize waste through recycling or reuse where possible and are committed to disposal practices that respect local regulations and the environment.

Most of our waste volume is generated during major maintenance projects (turnarounds), plant refurbishments and servicing work. These waste sources include construction-related materials such as scrap metal, wood waste, piping and vessel insulation. We use qualified waste management companies for waste transport and recycling/disposal.

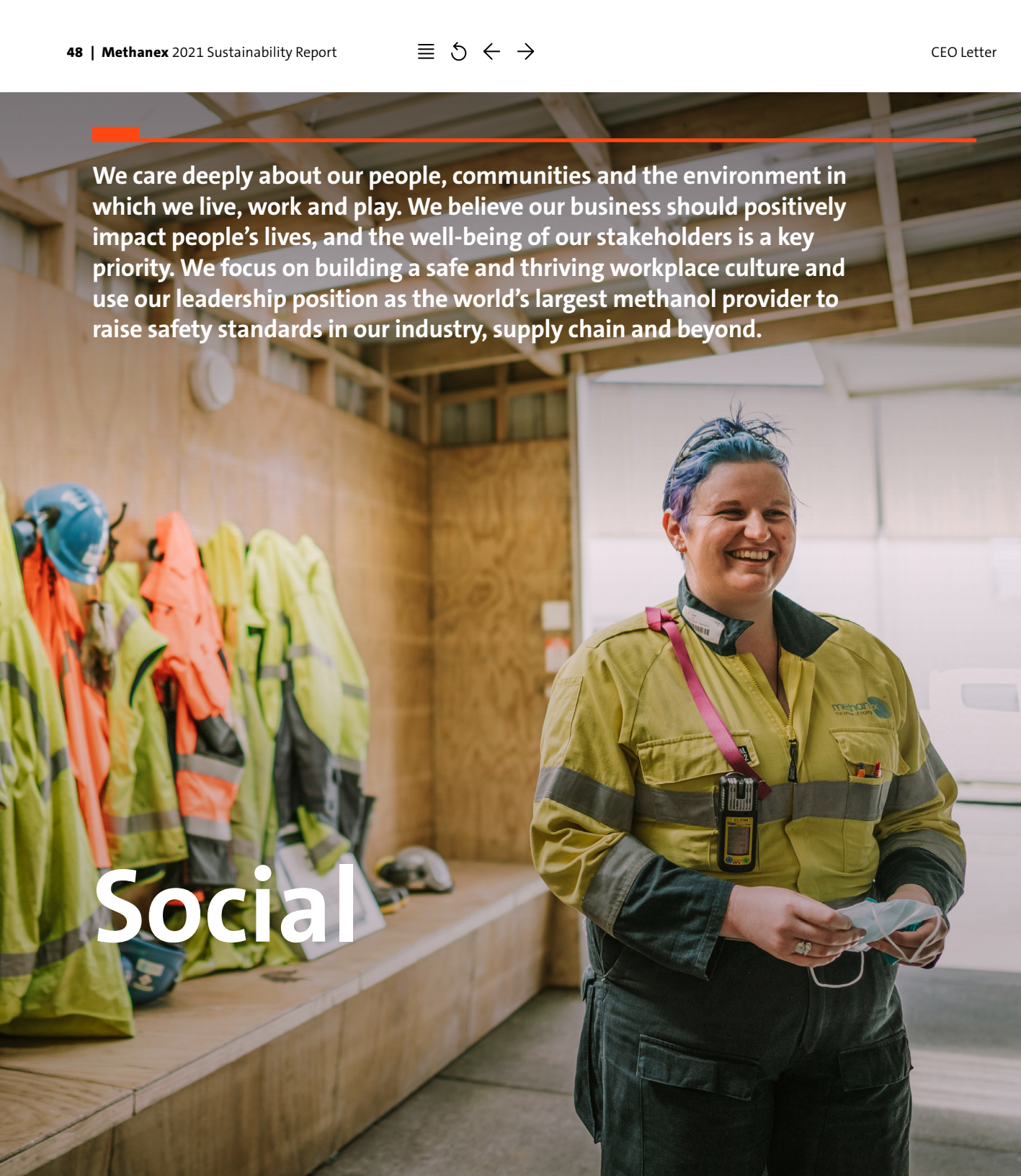
We also responsibly manage our hazardous waste, which is predominantly spent catalyst. Catalyst (small, metal-containing pellets that help promote the chemical reactions required to manufacture methanol) becomes less efficient over time (is “spent”) and eventually needs to be replaced. The metal in spent catalyst can sometimes be recovered and reused.



From year-to-year, the volume of hazardous and non-hazardous waste generated and recycled is linked to the number of turnarounds. We completed one turnaround in 2021 compared to an average of three turnarounds per year from 2017 to 2020. Almost half of our hazardous waste in 2021 consisted of spent catalyst sent to approved facilities for metals recovery.

**Most of our waste volume is generated during major maintenance projects (turnarounds), plant refurbishments and servicing work. We use qualified waste management companies for waste transport and recycling/disposal.**





We care deeply about our people, communities and the environment in which we live, work and play. We believe our business should positively impact people's lives, and the well-being of our stakeholders is a key priority. We focus on building a safe and thriving workplace culture and use our leadership position as the world's largest methanol provider to raise safety standards in our industry, supply chain and beyond.

# Social

## Employee and Contractor Safety

Our number one priority is making sure every team member goes home safe, every day.

We believe all injuries are preventable and make a concerted effort to design and manage our health and safety programs with the goal of achieving a zero-injury workplace year after year.

### EMPLOYEE SAFETY

We have comprehensive health and safety programs to protect the safety of our team members and contractors. Our safety management initiatives include:

#### Fostering safe behaviours

Safety is critical across our business, and particularly at our manufacturing sites, where more than 75 per cent of our employees work. New employees at our manufacturing sites participate in a Switch On to Responsible Care (Switch On) workshop after joining the company. Our Switch On program is a driving force in our safety culture, connecting the reasons that motivate our employees to work safely (such as going home to loved ones) with conscious efforts to behave safely. We also provide regular refresher sessions for all employees.

#### Focusing on critical activities

Our Critical Activities, Rules and Expectations (CARE) Standard defines the activities that present the greatest risk to workers, and the actions required to work safely and avoid significant injuries. The critical rules (commonly referred to as Life Saving Rules) apply to seven activities: hot work (such as welding), lifting, hazardous energy, confined space entry, electrical work, work at heights and excavation. Each manufacturing site is responsible for hosting CARE training programs, and employees and contractors must take this training as part of their onboarding. Refresher training is offered at least every three years.

Maintaining hazard awareness

A hazard observation is a formal process to report a situation or object that may have the potential to cause harm to people, the environment, the community, or the facility. At Methanex, we believe that hazard identification and near miss reporting is essential to preventing injuries and to increasing attentiveness and focus during each task. We reinforce hazard awareness during Toolbox Talks, which are short safety conversations before starting a particular job, and encourage reporting, intervention and follow-up to any safety concerns. In 2021, we saw a marked increase in the level of hazard observations following a 2020 global hazard awareness and training campaign. Each manufacturing site now sets yearly goals for hazard observations.

Tracking leading indicators

As part of our proactive approach to building our safety culture, we track leading indicators to measure team member engagement. This data allows us to customize our safety culture and engagement programs to ensure we are all switched on to safety and go home safely each day.

LEADING INDICATOR	2020	2021	% CHANGE
Hazard identification	2,143	4,519	↑111%
Behaviour-based safety observations	9,843	11,214	↑14%
Near misses	982	662	↓33%

Occupational hygiene and wellness

We are committed to the well-being of our team members and prevention of work-related injuries and illnesses. In alignment with our Occupational Hygiene Standard, we set requirements for stress management, noise and hearing conservation, as well as heat stress and cold stress, where applicable. We also prioritize ergonomics, fitness to work and mental health; our global health network and Human Resources teams help to drive efforts in these areas. In 2021, all regional offices completed a work-from-home ergonomics program to support our team members during the extended periods of remote working due to the pandemic. The program involved the improvement of home-related workstations through remote assessments by external ergonomists and tailored follow-up by internal resources.

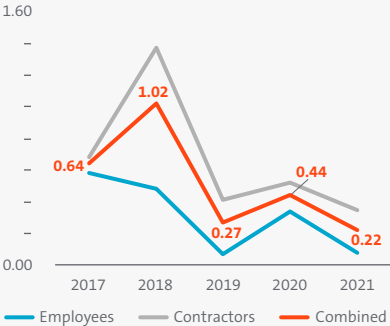
CONTRACTOR SAFETY

Contractors are responsible for approximately 50 per cent of our total worked hours due to their role in turnarounds (large capital projects) and ongoing operations. Our goal to be a zero-injury workplace is only achievable with their active participation. In 2021, we implemented a new Contractor Management Standard, which defines a consistent approach for contractor selection and onboarding, on-site supervision and risk management, and offboarding and performance review, across all sites. The standard requires collaboration between our procurement department, Responsible Care team and the hiring business units to ensure our high standards of safety are maintained.

TURNAROUND SAFETY

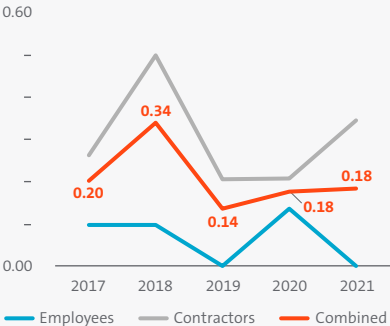
Each of our six manufacturing locations undergoes turnarounds on average every three to five years. This year we safely completed the turnaround of our G2 plant in Geismar, Louisiana.

RECORDABLE INJURY RATE  
injuries per 200,000 worked hours



In the last five years, we have decreased our combined recordable injury rate by 66 per cent. This record safety performance results in part from increased employee engagement and improvements to our contractor management program. See [page 20](#) and Contractor Safety (left) for details.

DAYS AWAY FROM WORK RATE  
injuries per 200,000 worked hours



Days away from work rate describes the number of recordable injuries and illnesses that resulted in days away from work, divided by 200,000 worked hours. We are focusing on quality investigation reviews and sharing learnings from these incidents to help raise awareness and prevent these types of incidents from occurring.



# Process Safety

Our commitment to Responsible Care is unwavering; we work every day to put our values and safe practices into action to ensure the safety of our employees, contractors and visitors, and communities near our operations.

Like all chemicals and fuels, methanol has inherent hazards. The process we use to manufacture methanol is also hazardous, requiring the containment of gases and steam at elevated pressures and the use of chemicals, flammable fuels, gas-fired furnaces and heavy machinery rotating at high speeds. Our process safety programs are designed to manage these process-related hazards and protect our employees, contractors and communities from the potential for fires, explosions or toxic releases. We further protect our communities by situating our manufacturing sites in rural or low-density industrial locations.

**EXECUTIVE OWNERSHIP OF PROCESS SAFETY**

Process safety is one of our company’s most critical operational risks and is overseen at the highest level of the organization. Methanex has an Executive Process Safety Steering Committee (“EPSSC”) that includes the participation of senior executives from each manufacturing region and global roles.

The committee meets four times a year to discuss and monitor our process safety performance and the execution of strategic improvement plans.

In 2021, the EPSSC Committee oversaw two major projects:

- **Major Accident Hazard (MAH) review:** The MAH review is a multi-year project to identify our process safety risks and assess the adequacy of the established safeguards at each of our manufacturing sites. The review is conducted every five years as part of our ongoing commitment to Responsible Care and continuous improvement. Following the review at each site the EPSSC endorse the timeline for implementation of the recommended actions to improve process safety at each site. In a recent example, the MAH review in New Zealand determined that a seismic trip was warranted, to automatically shut down the main gas supply to the site in the event of a significant earthquake. Installation of this trip was completed in early 2022. Similarly, in Chile, the MAH review determined that a building near the processing plant was exposed to elevated risk.

In late 2021 the occupants of this building were permanently relocated to a new building located further away from the plant.

- **Corporate Appraisal Process pilot:** A new process that provides an additional layer of corporate oversight was successfully piloted to validate the MAH review of our plant in Damietta, Egypt. In the new process, an internal team including Methanex’s global Director, Process Safety and our Global Expert for Process Safety reviews the site’s technical risk analyses and specific aspects of the site’s management systems. The appraisal team also interviews regional leaders to assess their process safety management comprehension. The new process enhances our internal accountability mechanism and will be adopted globally in 2022.



**HOW ARE PROCESS SAFETY AND OCCUPATIONAL SAFETY DIFFERENT?**

**Type of industry**

All industries have occupational safety hazards that must be managed. However, only some industries have process safety hazards. In our manufacturing business, our process has inherent hazards that need to be safely and reliably contained.

**Number of people impacted**

Process safety incidents have the potential to simultaneously cause harm to multiple people, while occupational safety incidents generally harm individuals. Process safety incidents are rare. Our plants and management programs are designed so that multiple safeguards would need to fail, at both the same location and the same time, for a process safety incident to occur.

## INTERCONNECTED SAFEGUARDS TO REDUCE PROCESS SAFETY RISKS

Process safety management (PSM) works to prevent incidents from occurring through a blend of technical engineering processes and astute operations management to safely and reliably contain process-related hazards. Our PSM program is informed by the Center for Chemical Process Safety's [Guidelines](#) for Risk Based Process Safety. We contain our process safety risks through a combination of risk reduction measures known as "safeguards." These safeguards take the form of physical infrastructure, management systems and processes, the competence of our team members, and a safety culture that supports them:

### 1. Plant design and physical infrastructure

One of our objectives for new plants and upgrades is "inherently safe design" in which we aim to completely eliminate or minimize hazards inherent in our process. When a process hazard cannot be eliminated, we design our equipment and technology (i.e., physical infrastructure) to minimize the potential for these hazards to bring about harm.

For instance, if there are inherent risks associated with an aspect of the manufacturing process, we physically isolate workers from these risks and protect them via automated pressure-relief equipment and shutdown systems.

### 2. Management system and processes

—**Hazard analysis:** Our Process Hazard Analysis (PHA) program helps us identify potential risks at each of our plants, ensure adequate safeguards are in place and identify further risk mitigation opportunities. We conduct PHAs before we design, change or decommission a plant. We also revalidate our PHA every five years.

—**Asset integrity management:** We use a formal and systematic program of risk assessments to determine our asset inspection strategies (i.e., risk-based inspections). During these inspections, we periodically evaluate the physical condition of our assets and verify any degradation modelling we have employed.

—**Management of Change:** We review risks, including unintended consequences, associated with proposed changes to plant components and the production process or with organizational changes. This process helps us identify how potential changes might influence our operating risks and determine any necessary safeguarding measures before authorizing a change.

—**Emergency preparedness:** Our emergency response plans are developed to address specific emergency scenarios that could occur at our sites. Ongoing training, drills, exercises and follow-up evaluations are a central part of our emergency-response programs in all regions, including our plants and marketing and logistics offices.

—**Performance monitoring:** The Global Manufacturing Team (plant managers from each of our manufacturing locations) and the Executive Process Safety Steering Committee formally monitor our process safety performance. Both groups receive formal briefings on any significant process safety incidents, including investigation findings.

### 3. Competence

Our senior leaders across the business are expected to continually build their competency in process safety, including adherence to guidance in Methanex's Process Safety Handbook, published in 2017. This is because senior leaders are influential in decisions around project scope, engineering standards, capital allocation and maintenance budgets, all of which can directly impact process safety in our operations.

### 4. Organization, site and team culture

All team members are required to maintain a disciplined approach to safety-critical operations and to avoid complacency by adopting a perspective of "chronic unease" – a state of unrelenting watchfulness and healthy skepticism about what people see and do – to protect themselves and those around them. We also provide training to raise hazard awareness and encourage employee and contractor intervention, reporting and follow-up when they have safety concerns.

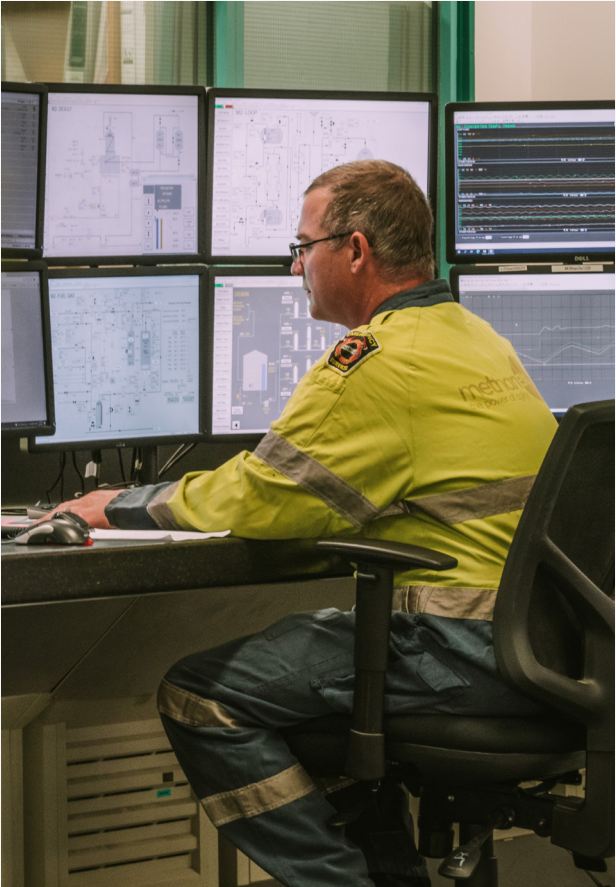


**FOSTERING A CULTURE OF CONTINUOUS IMPROVEMENT**

A key part of our culture is our willingness to learn from mistakes and find better ways to conduct our work. Being a learning organization is particularly important when it comes to process safety events (i.e., unplanned or uncontrolled loss of containment of a process-related hazard such as flammable gases or pressure). Due to their potential for catastrophic impacts, we consider all process safety events to be significant. Our manufacturing sites report and investigate all process safety events and monitor the implementation of improvement actions.

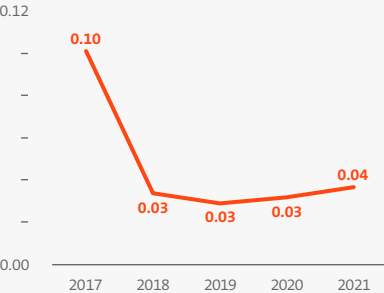
Lessons learned from process safety events are shared in Lessons Learned (L2) reviews with senior leaders, including the regional VP, site manager and SVP of Manufacturing before being shared across the wider manufacturing business. Our goal is to conduct quality reviews of 100 per cent of serious or major events.

**Our goal is to conduct quality incident reviews of 100 per cent of serious or major events.**



**PROCESS SAFETY INCIDENT (TIER 1) RATE**

Tier 1 incidents per 200,000 worked hours



Our focus on hazard prevention and high-quality incident reviews by leadership has resulted in a significant reduction of process safety incidents in the last five years.

Process safety events are reported consistent with the Center for Chemical Process Safety's incident classification. Note that Tier 1 incidents have the highest consequences of process safety incidents.

**TIER 1 INCIDENT**

In 2021, our only Tier 1 incident occurred at our New Zealand site when a valve failure resulted in a sudden release of hot steam and natural gas and the projection of the valve bonnet over 10 metres away.

**No workers were injured.**

The plant was safely shut down and the necessary repairs were executed. We performed an investigation that determined stress corrosion cracking caused the valve bolts to fail. Findings from the investigation were shared with the Global Process Safety Team and all other manufacturing sites to prevent reoccurrence.

## Business Continuity and Emergency Preparedness

**219**

In 2021, we held 219 emergency response exercises with more than 400 individuals involved in the exercises.

Our ability to respond effectively to disruptions is essential for safe, continuous operations during a crisis or disaster.

### CRISIS MANAGEMENT

We have crisis management plans and crisis management teams in all regions. Our Crisis Management Plans cover many scenarios and include responses to extreme weather events, pandemics and process safety events. Our regional teams collaborate with our Global Crisis Management Team to support business continuity during a crisis or disaster.

### EMERGENCY PREPAREDNESS

We hold regular exercises to test our emergency responses both at a global and regional level, including regional emergency simulations and exercises with external emergency response agencies. In 2021, we held 219 emergency response exercises with more than 400 individuals involved in the exercises.

### STANDARDIZATION

All our sites and offices have long-standing emergency preparedness plans. In response to the extraordinary impacts of the pandemic and several extreme weather events in recent years, we have moved to standardize our processes globally to incorporate best practices learned from our experiences. In 2021, we standardized plans across our regions to include the following:

- **Emergency Response Training Standard:** This standard prescribes training and the number of tabletop and full-scale exercises that each site must complete.
- **Business Continuity Plan Standard:** This standard describes roles and steps to take during a crisis and how individual sites must work with our corporate office to ensure business continuity.

Roll-out and training for these standards will occur in 2022 and will include communications to all sites, a gap identification and closure period with the global standards, training for impacted personnel, and a review of the effectiveness of implementation.

## COVID-19 Update

When COVID-19 emerged in early 2020, we activated our Global Infectious Disease Contingency Plan (developed in response to the SARS epidemic in 2003) and our Global Crisis Management Plan. Key plan elements included protecting employees' and contractors' safety and health, mitigating supply chain and cybersecurity risks and communicating effectively to our stakeholders.

We maintained these priorities in 2021 while remaining agile, responding to pandemic shifts as they occurred and adjusting our procedures and plans as needed to mitigate exposure and maximize the safety of our team members and communities.

### REFINING OUR PANDEMIC RESPONSE

As an organization dedicated to continuous improvement, we took time in 2021 to reflect on our pandemic learnings over the past two years and implement changes to further improve our processes.

Responsible Care and Human Resources team members from across the globe refreshed our Global Infectious Disease Contingency Plan in the following ways:

- Updated our definition of pandemic phases to be consistent with the World Health Organization classification. This update will improve internal communications about risks levels across the organization.
- Updated our regional risk matrix (the tool that help us rank risks according to their likelihood and severity) to help sites make business continuity related decisions related to the pandemic.
- Updated guidance for internal reporting, communications, and remote work to ensure that ergonomics and home safety are considered in our preparation and execution plans.



## Product Safety

Methanol is an essential chemical building block used to produce hundreds of everyday industrial and consumer items. It's also a cleaner-burning fuel. Like many other chemicals and fuels, methanol can be toxic if swallowed, inhaled or absorbed by the skin. It is also flammable. Appropriate safety precautions must be taken when using, handling or working around methanol to keep people and the environment safe.

We promote the safe use and handling of methanol. Our product stewardship programs cover the entire product value chain, starting with product safety programs for our team members and customers, and expanding into how we interact with others in our supply chain through safe product transportation (see [page 55](#)). Through our product safety practices, we provide information about how to manage the risks of methanol and promote its proper use and safe handling. We do this through:

### Supporting safe handling by workers

At our manufacturing sites, methanol is stored in tanks, transported via pipelines into marine vessels or loaded into rail cars or trucks. For this reason, very few workers come in contact with methanol. The only people who directly handle methanol are individuals who conduct quality testing (such as in our labs) or other procedures. These individuals are required to undergo specialized training and wear adequate personal protective equipment (PPE). To ensure workers and handlers of methanol have the information they need to stay safe, we provide [Safety Data Sheets](#) (SDSs), which are available in different languages. SDSs provide information on the hazards of methanol and contain advice about safety precautions, including minimum PPE to run facilities, undertake quality analysis and provide emergency response. As a global company, we provide SDSs in two formats: Globally Harmonized System (GHS) for use around the globe, and Registration, Evaluation, Authorization and Restrictions of Chemicals (REACH) for countries in the European Union.

### Encouraging safe methanol practices in our supply chain and beyond

We regularly offer free seminars and webinars to share best practices in the safe handling and distribution of methanol and similar products. These information sessions are offered throughout the year in local languages and are attended by supply chain partners, customers, terminals, surveyors, distributors, carriers and emergency services, as well as local and/or regional authorities in all regions where we have sales activities. In 2021, we hosted 45 such seminars or webinars, reaching more than 800 participants. We provide technical and safety information about methanol in multiple languages on our [website](#), including material SDSs as noted above, a methanol safe handling guide and video, and other educational materials.

### Product stewardship through the industry

We are members of various global and regional industry associations, including the [Methanol Institute](#) and [Chemistry Industry Association of Canada](#) among others, that provide information to the public about the safe use and handling of methanol. Our team members attend industry conferences and host open houses around the world to share best practices in the handling and transport of chemicals, and to support the development of safety standards for methanol when used as a fuel.

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**In 2021, we hosted 45 seminars or webinars sharing best practices in the safe handling and distribution of methanol.**

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# Transportation Safety

As the world's largest producer and supplier of methanol, it is essential that we use our leadership position to promote methanol safety best practices and set high safety standards for our suppliers. We choose partners that share our values and standards, including responsible carriers to safely transport our product and well-managed storage terminals to safely store it.

## ASSESSING TRANSPORTATION CARRIERS

We contract sea vessels, barges, trucks and railcars to distribute our product. Depending on the mode of transport, we use different assessments to evaluate and select responsible carriers that align with our values and safety practices.

**Vessels:** Approximately 80 per cent of our production is transported by marine vessels through our subsidiary Waterfront Shipping. For details, see Waterfront Shipping on [page 69](#).

**Railcars:** In North America, 40 per cent of our customers are supplied with methanol by rail. Of this, the majority is shipped using Methanex's 1,144 leased, operated and maintained railcars. In addition to regulatory inspections of those railcars every 10 years, our railcar preventative maintenance program in North America requires Methanex inspections of railcars every five years. Inspections verify that all equipment meets legislated standards.

**Barges and trucks:** In addition to vessels and railcars, our regional offices also contract barges or trucks and conduct assessments appropriate for their jurisdiction. These assessments, which are conducted on a three- to five-year cycle, include criteria to evaluate quality, safety, security, environment and corporate social responsibility. In China, we developed a barge inspection questionnaire based on in-house shipping experience and use this in the barge vendor selection process.

## PROMOTING METHANOL SAFE HANDLING BEST PRACTICES

In addition to providing safety data sheets to all customers and distributors, we share best practices on methanol safe handling and loading procedures throughout our supply chain from our plants to ship, rail or truck. We also offer methanol-handling safety seminars, webinars and workshops to stakeholders throughout our supply chain. In 2021, we held 45 webinars/seminars, reaching 167 organizations and more than 800 people.

## EVALUATING TERMINALS

As part of our marketing and logistics service, we load and distribute methanol at 127 terminals around the world – the majority of which are customer terminals. We lease storage at 32 of these terminals. We use three types of assessments to gauge terminals' quality, health, safety, security and environment practices: In 2021, we completed 107 terminal assessments. We will continue working to further embed this strategic requirement in contract renewals with terminals, customers and suppliers. Read an in-depth discussion of our terminal assessments in our [2020 sustainability report](#).



## SIX-TIME CONSECUTIVE WIN FOR GRAND SLAM

In 2021, we received a Grand Slam Award from the Association of American Railroads for our 2020 rail performance in North America – our sixth year in a row receiving this award. Read more on [page 21](#).

## RESPONSIBLE CARE LEADERSHIP IN TERMINAL SAFETY

Contracted or leased terminals that store and distribute our product are important partners in safety.

The ethics of Responsible Care guide our interactions with these terminals, in some cases going beyond the written partnership; we meet regularly with leadership during site visits to discuss emergency response and equipment and preventive maintenance.

In one example, we paid for a platform modification at a third-party Geismar terminal to make boarding and disembarking vessel safer.



# Diversity and Inclusion

At Methanex, we strive to provide an inclusive work environment where diversity is valued and sought after, and all global team members are encouraged and supported to reach their full potential. Valuing diversity and inclusion (D&I) means embracing our differences as strengths and recognizing how this contributes to our competitive advantage. We believe this approach helps us attract and retain the best people, leading to better, more innovative decision-making. This, in turn, leads to a more successful and sustainable company.

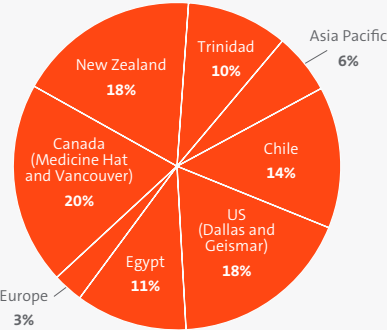
Our team members span 11 countries, speak different languages, represent different cultures and have different backgrounds, experiences and perspectives. Through our One Team approach, we collaborate across global functions and regions toward our common goals.

In early 2021, we established a Global D&I Council; the executive sponsor is Methanex’s Chief Financial Officer. Made up of senior-level Methanex leaders from around the world, the Council led the development and implementation of a formal Diversity and Inclusion Strategy. We also announced a new senior-level role at Methanex: Director, Diversity and Inclusion. Together, the Director and Council oversaw an in-depth third-party assessment of Methanex’s current state of D&I and finalized our Diversity and Inclusion Vision and Guiding Principles, shared on [page 19](#).

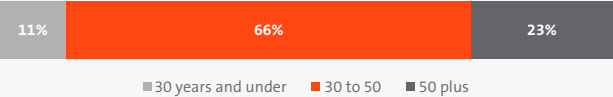
- In January 2022, we shared our strategic priorities with team members which are:
1. Embed inclusive behaviours into Methanex’s culture.
  2. Build leadership commitment and accountability to D&I.
  3. Enhance the fairness, transparency and inclusiveness of people practices.

- Our 3-year roadmap to execute our strategy will focus on:
- **Building awareness:** Developing foundational D&I learning for all team members
  - **Setting the foundation:** Embedding inclusive behaviours into our everyday culture
  - **Integrating:** Reviewing and updating our people practices, and linking D&I accountabilities to performance and succes

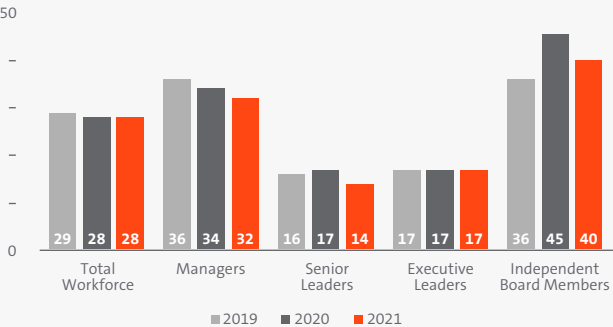
2021 TEAM MEMBERS BY LOCATION



2021 TEAM MEMBER AGE CATEGORIES



WOMEN AT VARIOUS LEVELS percent



For information about diversity on Methanex’s Board of Directors, see the Corporate Governance section on [page 61](#).

# People Practices

Our team members are central to everything we do, helping us maintain our competitive advantage in the marketplace through their commitment to safely and reliably producing and distributing an essential product to markets worldwide.

We aim to attract and retain the best and the brightest, and we engage our team members by encouraging and supporting them to develop their unique talents and insights. The result is a thriving global culture that enables us to work together as One Team across functions, regions and disciplines to deliver on our vision of global methanol leadership. Our diverse geographic profile, yet relatively small headcount, provides our team members with the opportunity to make a powerful impact while working with a talented team of colleagues across the globe.

We create tailored and meaningful experiences to grow and develop our team members with a focus on the specific competencies required to execute on our strategy. To maintain our engaged and talented workforce, we continue to evolve our integrated people and culture programs, with a particular emphasis on strategic workforce and succession planning, learning and development, competitive compensation, and driving diversity and inclusion.

– **Strategic workforce planning:** Strategic workforce planning ensures we have plans in place to access talent with the skills and capabilities we need over the short, medium and long term. To prepare our global and regional strategic workforce plans, we review external trends (e.g., employees seeking greater flexibility in the workplace) along with our knowledge of team member demographics (e.g., gender and age). This review and planning process enables us to develop strategies to fill gaps in capabilities, experience and resourcing, including finding the right balance between internal and external talent both locally and globally.

- **Enhanced succession planning:** We have a robust succession and talent management program to build and preserve organizational capability and minimize succession risks. We proactively identify, assess and develop talent at all leadership levels within the organization and tailor development needs accordingly. Our leadership development programs – combined with on-the-job experiences, assignments and projects – help us close identified gaps.
- **Learning and development:** As a learning organization, our team members are encouraged to consider their development in terms of the 70/20/10 approach: 70 per cent of development happens on the job; 20 per cent is from leadership coaching, mentoring and network interactions; and 10 per cent comes from formal learning. Leaders and employees regularly collaborate to define stretch goals for employees within their current roles.

## We engage our team members by encouraging and supporting them to develop their unique talents and insights.

– **Competitive compensation:** Our global Total Rewards philosophy focuses on rewarding performance and helps us attract and retain a highly skilled and effective workforce. Our competitive compensation programs include a range of benefits and flexible work arrangements that recognize and reward our diverse workforce across our regions.



## Communities and Indigenous Rights

We believe our business should have a positive impact on people's lives and we aim to be a good neighbour and valued corporate citizen by creating positive and sustainable impacts in our communities. We partner and collaborate with local and Indigenous communities on shared goals that foster healthy, long-term relationships.

### COMMUNITY ENGAGEMENT

We continually work to understand community interests, communicate information about our product and business activities, and address any community concerns. We do this primarily through Community Advisory Panels, as well as stakeholder associations, open house days, community projects, seminars, community surveys and public meetings.

**Community Advisory Panels (CAPs)** in our manufacturing locations encourage communication and transparency between Methanex and the community, helping us build and sustain positive, ongoing relationships with our stakeholders.

CAP meetings allow us to share information about plant operations, seek input on our community investment programs and address any community questions and concerns related to our product and operations. In 2021, we held 31 CAP meetings across six locations (both in person and virtually). Discussion topics were primarily related to COVID-19, community engagement programs, turnaround planning and our efforts to address climate change. In 2021, we modified our membership requirements for our Community Advisory Panel in Medicine Hat to require at least one person who identifies as Indigenous.

**Internal policies and standards** that guide our engagement and communication with communities include our [Stakeholder Relation Policy](#), which outlines principles for community outreach and involvement, and our Operating Site Community Dialogue Standard, which guides structured community dialogue with neighbouring communities.

**Industry standards for accountability** – We adhere to the Chemistry Industry Association of Canada's (CIAC) Responsible Care [Accountability Code](#) (Code) which outlines expectations for proactive community awareness and dialogue. The Code also requires members to engage with Indigenous communities in a manner that respects their unique history, culture and rights. Our internal policies and standards align with the new Indigenous Communities Code elements.

### Respecting Indigenous cultural heritage –

We interact with Indigenous communities in New Zealand and Canada. In our operations and interactions, we aim to respect Indigenous rights and culture, including cultural heritage resources. Cultural heritage resources refer to objects, sites or locations of cultural, historical or archaeological significance to Indigenous communities.

### COMMUNITY INVESTMENT

In addition to creating jobs and economic opportunities, we are committed to building and supporting healthy communities that are great places to live and work. Our community investments include partnering with team members through a matching grants program; financial assistance for health, safety and environmental initiatives; and support for regional educational development and scholarships. In 2021, Methanex donated \$1.3 million and more than 4,000 hours of employee time to community efforts around the world.

**TAKING STEPS TOWARDS RECONCILIATION IN CANADA**

In 2021, we updated our internal policies and standards to align more closely with the Canadian Truth and Reconciliation Commission’s Calls to Action to promote meaningful reconciliation with Indigenous Peoples in Canada. Call to Action 92 includes recommendations for the Canadian corporate sector to commit to meaningful consultation; ensure that Aboriginal peoples have equitable access to jobs, training, and education opportunities; and provide education for management and staff on the history of Aboriginal peoples.

**In our activities, we aim to respect Indigenous Rights and cultural heritage.**

Our first formal steps towards reconciliation began with the development of an internal Indigenous Reconciliation Action Plan which informed the following 2021 activities:

- Indigenous awareness training for leaders in Medicine Hat
- Modification of membership requirements the Community Advisory Panel in Medicine Hat to include at least one person who identifies as Indigenous
- Commitment to support or partner with at least one Indigenous community, event, or initiative on an annual basis as part of our social responsibility program

**THE GROUP OF SHARED VISION IN NEW ZEALAND**

In 2021, we entered into an agreement with the Manukorihi Hapū, Ngāti Rāhiri Hapū, Otaraua Hapū, and Pukerangiora Hapū. The hapū are tangata whenua, or “people of the land”, in the Motunui and Waitara areas where we operate. They have strong historical, cultural and spiritual connections in these areas, with responsibility for ensuring that environmental and cultural resources are protected and enhanced for future generations.

The agreement established Te Rōpū Rangapū Aronga Tahi, “The Group of Shared Vision”, and reflects our commitment to engage with Indigenous community members (tangata whenua) regarding the cultural aspects of implementing and monitoring our resource consents.

This includes, among other things, inviting tangata whenua to collaborate on the development and implementation of a Cultural and Environmental Monitoring Program and identifying opportunities to enhance air and water resources that are the subject of the consents.

**NEW ZEALAND**  
We provide Ngāti Rāhiri Hapū with access to sacred land for cultural ceremonies.





Our strong corporate culture and values inform everything we do and are embedded throughout our governance systems, processes and behaviours.

# Governance

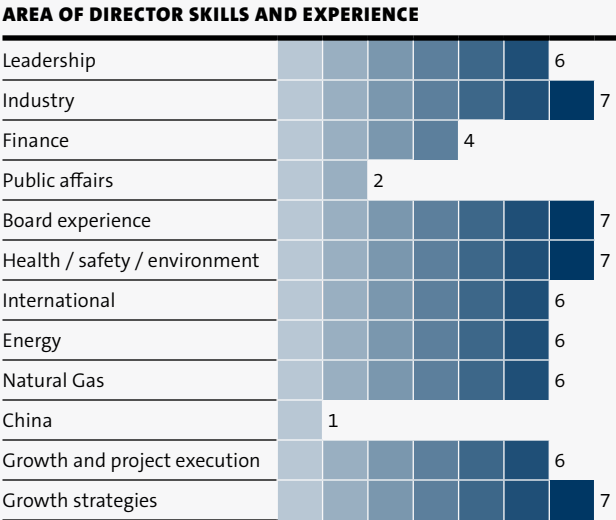
## Corporate Governance

We believe good corporate governance is critical for the effective, efficient and prudent operation of Methanex. This means ensuring we have the appropriate processes and structures in place to manage our business in the best interests of our stakeholders.

Our Board’s Corporate Governance Principles establish a system of goal setting, effective decision-making and ethical actions, with the objective of sustaining a vital company that creates and protects value for Methanex’s shareholders. It is with these principles in mind that the Board provides oversight and guidance to management.

**Board structure**  
The Board executes its mandate through four committees: Audit, Finance and Risk; Corporate Governance; Human Resources; and Responsible Care. Only independent directors chair or sit on our committees. The Board has identified a set of skills and experience as valuable in the context of Methanex’s strategic direction. Annually, the Corporate Governance Committee reviews the current directors’ skills and experience against that list, creating a skills matrix (see image).

When considering potential nominees, the Corporate Governance Committee considers potential gaps in the skills matrix (current or anticipated through retirement) as well as diversity. For more details on our Board structure and nomination process, see our [Information Circular](#).





IN JANUARY 2022, THE BOARD BROADENED ITS TARGET TO REQUIRE THAT AT LEAST 40 PER CENT OF INDEPENDENT DIRECTORS BE REPRESENTED BY WOMEN, ABORIGINAL PEOPLES, PERSONS WITH DISABILITIES, MEMBERS OF VISIBLE MINORITIES AND LGBTQ+.

Board diversity and renewal

At Methanex, we strive to create an inclusive culture in which diversity is valued and differences are embraced (see [page 56](#) for details). We recognize the importance of diversity at all levels of Methanex, starting with the Board. Board diversity promotes the inclusion of different perspectives and ideas and ensures Methanex has the opportunity to benefit from all available talent. This enhances and improves our decision-making, which makes for better corporate governance.

Our Board believes that directors with diverse backgrounds and perspectives are essential for creating an appropriate balance of skills, experience, independence and knowledge required on the Board and enhancing board effectiveness. The Board Diversity Policy defines diversity as encompassing characteristics or qualities that can be used to differentiate groups and people from one another and includes gender and gender identity, sexual orientation, visible minorities, Aboriginal peoples, persons with disabilities, age, education, business experience, professional expertise, personal character and interests, stakeholder perspectives, geographic background and other diverse attributes.

These diversity attributes, and the Board’s diversity target, are factored into the recruitment and decision-making process when new Board appointments are made.

In 2021, the Board Diversity Policy embedded a target that each gender comprises at least 30 per cent of the directors of the Board, and four of our ten independent directors (40 per cent) were women. In January 2022, the Board broadened its target to require that at least 40 per cent of independent directors be represented by women, Aboriginal Peoples, persons with disabilities, members of visible minorities and LGBTQ+, while maintaining a composition in which each gender comprises at least 30 per cent of the independent directors.

We do not have term limits or a formal retirement policy for Board members. It takes many years to acquire in-depth knowledge about Methanex and the cyclical nature of the chemical industry, and we place great value on maintaining a certain amount of institutional knowledge on our Board.

We also believe it is critical to have Board renewal. This helps ensure we have a high-performing Board over the long term and brings fresh ideas and new knowledge to the Board. It also provides opportunities to enhance diversity. We seek to achieve an appropriate balance of long-standing and new Board members to ensure the Board functions most effectively.

Executive compensation

Methanex’s executive compensation framework is based on a pay-for-performance philosophy to align performance with the interests of shareholders. Executive compensation is closely tied to Methanex’s financial performance. Since 2011, we have included an advisory “say on pay” vote at our annual meetings. In addition, the Chair of the Board solicits feedback during annual meetings with institutional shareholders. From mid-March to June 30, we also provide a link on the Investor Relations page of our website to enable such feedback. For more details, see our [Information Circular](#).

GOVERNANCE INFORMATION\*

Shareholder rights	
Ability to call a special meeting	Yes
Say on pay advisory vote	Yes
Shareholding	
Share ownership requirements for directors	Yes
Share ownership requirements for executive officers	Yes
Share ownership guidelines for management	Yes
Ethics	
Code of conduct for directors, officers and employees	Yes
Policy on share trading and hedging	Yes
Board composition and independence	
Size of Board	11
Number of independent directors	10
Separate Chair and CEO	Yes
Independent Chair	Yes
Comprehensive Board and committee assessment process	Yes
Board meetings held in 2021	6
Average meeting attendance	99%
Board renewal and diversity	
Annual election of directors	Yes
Majority Voting Policy	Yes
Average age of directors	63
Mandatory retirement age	No
Average (independent) director tenure	6.2 years
Women Board members (independent)	40%
Board Diversity Policy with gender targets	Yes

\* Information as of Dec. 31, 2021



# Governance for Sustainability

Our Board oversees risk management at Methanex, ensuring we have an effective process for identifying, monitoring, evaluating and addressing important enterprise-wide strategic and business risks. In addition, the Board oversees our long-term strategy and initiatives that require a long-term view on the evolving landscape of sustainability matters, including the impacts of climate change on our business. With oversight from Methanex’s Board, our Executive Leadership Team (ELT), including the CEO, is ultimately responsible for sustainability at Methanex.

### Board and committee oversight

The Board as a whole has oversight of ESG and is responsible for understanding and addressing emerging trends, regulations, risks and opportunities and the impact they can have on the methanol industry and our business and stakeholders. Annually, the Board reviews our assessment of Methanex’s principal strategic risks based on management’s formal risk review process.

We recognize the importance of climate change, and the trends and regulations that affect our business increasingly include climate-related risks and opportunities (for more details on our climate-related risks, see [pages 22-38](#)).

In 2021, the Board conducted an exercise, led by the Corporate Governance Committee, to consider the appropriate structure for oversight of the Company’s ESG strategy and its material sustainability topics. The Board determined that primary oversight responsibility of certain ESG topics would remain at the committee level and the Board, as a whole, would retain oversight for strategic ESG topics including transition to a low-carbon economy, GHG emissions and energy use, and the societal benefits of methanol. Each committee has a formal mandate to provide guidance to management and recommendations to the Board on relevant ESG topic areas. For more information regarding our Board and Committee Structure, please refer to our [Information Circular](#) and our [Committee Mandates](#) and [Board Governance Principles](#).

BOARD / BOARD COMMITTEE	SUSTAINABILITY-RELATED OVERSIGHT FOR THE FOLLOWING TOPICS			
Board of Directors	<div><div>– Business strategy</div><div>– Transition to a low-carbon economy</div></div>	<div><div>– GHG emissions and energy use</div><div>– Societal benefits of methanol</div></div>	<div><div>– ESG aspects of natural gas procurement</div><div>– Cybersecurity</div></div>	
Audit, Finance and Risk Committee	<div><div>– Enterprise risk management</div><div>– Tax transparency</div></div>	<div><div>– Cybersecurity</div></div>		
Corporate Governance Committee	<div><div>– Corporate governance</div><div>– Board diversity</div></div>	<div><div>– Ethics/Code of Business Conduct</div><div>– Anti-corruption</div></div>		
Human Resources Committee	<div><div>– Diversity and inclusion</div></div>	<div><div>– Executive compensation</div></div>	<div><div>– Talent management</div></div>	
Responsible Care Committee	<div><div>– GHG emissions</div><div>– Employee and contractor safety</div><div>– Process safety</div><div>– Product safety</div></div>	<div><div>– Water</div><div>– Spills</div><div>– Transportation/distribution safety</div><div>– Community support/impacts</div></div>	<div><div>– Air quality</div><div>– Occupational hygiene</div><div>– Physical security</div><div>– Crisis management</div></div>	

Three new sustainability-related roles in 2021

In 2021, we created three new leadership roles with sustainability as part of their mandate. These individuals will play a pivotal role in further integrating sustainably throughout the company. The three roles are: SVP, Corporate Development and Sustainability; VP, Sustainability; and Director, Diversity & Inclusion.

Executive compensation linked to environmental and social factors

Methanex’s short-term incentive plan is based on two components – corporate performance and individual performance. All our team members, including each of our executive officers, set annual individual performance goals that are aligned with the company’s overall strategic goals, including goals related to our environmental, health, and safety performance. Thirty per cent of the CEO and named executive officers’ annual short-term incentive award is tied directly to individual performance goals aligned with Methanex’s strategic and operational goals.

In 2021, the CEO’s individual goals related to environmental, social and governance factors included:

- Maintaining a strong focus on health, safety and the environment (prevention of injuries and environmental incidents, reduction of process safety risks).
- Progressing our Cybersecurity Strategy.
- Demonstrating our Core Values and One Team culture.
- Ensuring the health and well-being of our team members are protected as we continue to navigate the COVID-19 pandemic.
- Progressing the integration of ESG matters in our decision-making throughout the company.
- Progressing diversity and inclusion at Methanex through the establishment of a Diversity and Inclusion Council and a Diversity and Inclusion strategy and related action plan.

For details on executive compensation outcomes for 2021, please see our [Information Circular](#).

Board competency for ESG matters

Methanex’s Board members understand the increasing importance of non-financial matters to the long-term sustainability of any company. To enhance the effectiveness of their decision making and their ability to participate in ESG-related discussions, our Board members are continually developing their ESG competencies at the individual and group level. During 2021, Board members participated in individual and group learning that included the following topics:

- Climate targets and disclosures
- Diversity and inclusion
- Cybersecurity
- Corporate Social Responsibility
- Carbon capture, utilization and storage
- Outlook for methanol as a fuel
- Sustainable finance
- Workplace culture

GOVERNANCE FOR ENVIRONMENTAL AND SOCIAL MATTERS





# Implementing Sustainability Practices Across the Company

A thriving global culture is a key driver of our business success. It underpins the governance systems, processes and people that guide Methanex.

Our culture ensures we work in the best interests of our stakeholders. For shareholders, this means giving them confidence that Methanex will deliver sustained value through profitable investments and safe, reliable operations. For customers, this means peace of mind: a safe and reliable supply of methanol and responsive, cost-effective operations. For communities, this means upholding our commitment to health and safety, environmental protection and social responsibility. For team members, this means having a culture that aligns with their values, personal well-being and professional development.

## RESPONSIBLE CARE

Foundational to everything we do is the Responsible Care Ethic and Principles for Sustainability, a United Nations-recognized chemical industry initiative that informs our governance and management of environmental and social matters. This includes our commitment to environmental protection (including GHG emissions); health and safety (occupational and process safety); physical security

and product stewardship; business continuity and crisis management; and our social responsibility program and strategy, ensuring our commitment to communities is upheld in all regions.

## GLOBAL INTEGRATED MANAGEMENT SYSTEM

Methanex's Global Integrated Management System (GIMS) is how we embed our commitment to environment and social responsibility into our operations and business activities. It outlines requirements for all of our operations and offices and defines minimum expectations for the environment, occupational safety, process safety, reliability, emergency preparedness, crisis management, product stewardship, stakeholder engagement, social responsibility, and quality and security. GIMS meets or exceeds the following internationally recognized standards:

- Chemistry Industry Association of Canada Responsible Care Codes of Practice
- International Organization for Standardization: Quality (ISO 9001:2015), Environment (ISO 14001:2015)
- Center for Chemical Process Safety (CCPS) process safety management

To ensure compliance, assess performance and drive continual improvement, we audit our management system in two ways:

- Our internal, global, risk-based audit program reviews management practices through regional self-audits and global-level audits conducted by Methanex subject matter experts. In 2021, we upgraded our audit protocols and experience level for internal auditors and piloted a new process for corporate appraisal of our site's process safety MAH review (see process safety section, pages 50-52 for details).
- Third-party assessments, such as Responsible Care verification and ISO audits, are conducted globally on a regular audit schedule. They provide external benchmarking and verify the integrity of our systems. Audit results are communicated to leadership who report regularly to the Responsible Care Committee of the Board on work to close identified gaps. Our next scheduled CIAC Responsible Care audit is in 2022.

## METHANEX CULTURE



**As we work to continuously improve, innovate and learn, the four elements of our culture serve as the foundation for everything we do.**

### Core Values

Our core values of trust, respect and professionalism are at the core of our business and are the guiding principles for everything we do.

### One Team

We believe we do our best work together and we depend on one another for success. We are committed to working together as One Team across functions, regions and disciplines.

### Responsible Care®

We believe our business must have a positive impact on people's lives. Our commitment to Responsible Care is a commitment to the people and the environment in which we live, work and play, and the foundation of everything we do.

### Learning and Development

We are a learning, innovative organization and we strive for continuous improvement. We believe our team members are our greatest asset and we are committed to their personal and professional growth.

# Ethics and Anti-Corruption

Ethical behaviour is essential at Methanex for building trusting relationships with stakeholders, protecting our reputation and reducing our legal and financial risk. Our culture is centred around ethical and honest behaviour, which is reinforced through our corporate policies, regular training and an effective compliance program.

## SETTING EXPECTATIONS AND PROVIDING TRAINING

### Code of Business Conduct

Our Code of Business Conduct (Code) reinforces our core values of trust, respect, integrity and professionalism. It is an important element of how we do business and drives our success as a company. The Code outlines our expectations for ethical behaviour and applies to directors, officers and employees. The Code is available in English, Spanish, Arabic and Mandarin. Our directors, ELT and other senior leaders are required to confirm, on an annual basis, that they have read, understood and agree to comply with the Code, and are responsible for communicating Code expectations to employees. All new team members must review and acknowledge the Code as part of our hiring and onboarding process.

Senior leaders are also encouraged to provide training on the Code of Conduct and Respectful Workplace in person as part of their responsibilities in reinforcing our Core Values. Starting in 2022, all team members will be required to annually complete the Code e-learning module as part of our Annual Values Refresher.

### Respectful Workplace learning module (including our Anti-Harassment Standard)

Our Respectful Workplace module sets out our commitment to providing a workplace that is free from all forms of harassment and guides how we investigate and respond to allegations of harassment. Starting in 2022, all team members will be required to annually complete this e-learning module as part of our Annual Values Refresher.

### Corrupt Payments Prevention Policy

At Methanex, we do not tolerate bribery or corruption and we are committed to acting professionally, honourably and with integrity in all business dealings and relationships. Our Corrupt Payments Prevention Policy prohibits the negotiation, payment or receipt of bribes, facilitation payments or kickbacks by employees, contractors or agents acting on our behalf.

To address risks around facilitation payments in international shipping, we contractually prohibit our ship management companies (who operate the vessels that Waterfront Shipping charters) from accepting or offering facilitation payments in their charter contracts with us. Our Corrupt Payments Prevention Policy also includes guidance for third-party gifts and entertainment expenditures to ensure a gift would not be viewed as a bribe, facilitation payment or kickback. Our Corporate Gifts and Entertainment Policy provides additional detail around the appropriateness of gifts and entertainment that team members may be offered or accept. Training on the Corrupt Payment Prevention Policy occurs every two years for specific team members, including senior leaders, who interact with government officials.

### Confidential Information and Trading in Securities Policy

This policy provides guidelines to team members with respect to the treatment of confidential information and advises insiders as to when they may trade in Methanex shares. This policy also prohibits insiders, including all Methanex’s executive officers and directors, from purchasing financial instruments designed to hedge or offset a decrease in the market value of our common shares or equity-based incentive awards that they hold. Insiders are also prohibited from short selling the company’s securities, trading in put or call options on the company’s securities or entering into equity monetization arrangements related to the company’s securities. Team members regularly receive either web-based or in-person compliance training that focuses on ethical business conduct and the foregoing policies. In addition, employees and directors who are considered “insiders” under Canadian securities laws have been provided with training concerning their obligations and responsibilities under Canadian securities laws.



ASSESSING RISKS

Each year, as part of the planning process for our Sarbanes-Oxley (SOX) compliance testing, our internal audit team conducts a global fraud risk assessment. The team evaluates fraud risks and determines if the organization has controls in place to address these risks and if additional testing is required. In particular, this assessment considers different fraud-related risks such as kickbacks, theft (e.g., misappropriation of inventory, petty cash, false expense claims, equipment theft, securities fraud, creation of fictitious vendors), illegal payments/inappropriate gifts, securities fraud and conflicts of interest. In 2021, internal controls testing, based on risk assessment and materiality, was completed for all manufacturing and marketing and logistics operations.<sup>1</sup>

REPORTING VIA OUR ETHICS HOTLINE

Team members must report any conduct or proposed conduct that they reasonably believe to be a violation of the Code. They can do so through their supervisor, human resources, our legal department or the confidential whistleblower Ethics Hotline.

The hotline is available through our intranet, our company [website](#) or by phone. Team members who report Code violations in good faith will not be disciplined, demoted, fired, threatened, harassed or discriminated against in any way. We take allegations regarding breaches of the Code very seriously and all reports of Code violations received through the Ethics Hotline are investigated by Methanex’s general counsel and forwarded to appropriate members of management for follow-up. In the case of an alleged violation by an executive officer or director, the Chair and/or CEO and the Board of Directors are responsible for determining whether a violation has occurred and, if so, what disciplinary measures are appropriate. Reported violations of the Code are handled promptly, professionally and with as much confidentiality as possible. Concerns regarding financial or accounting-related matters are immediately reported to the Chair of the Audit, Finance and Risk Committee and together with the general counsel, they determine how best to investigate the reported concerns. In addition, the general counsel annually provides the Corporate Governance Committee with a summary of any reports of breaches of the Code.

Anti-Competition

As the leader in the global methanol industry, we believe it is critically important for our team members to be able to identify what is considered anti-competitive behaviour and to know how to prevent or respond to anti-competitive behaviour, real or perceived, that they may encounter. As a global company we have many different relationships with third parties, including customers, distributors, gas suppliers and competitors with whom we have methanol “swap” agreements or from whom we purchase methanol, as well as memberships in industry associations such as the Methanol Institute. In all our relationships, we abide by the principles of fair competition and comply with all applicable antitrust and competition laws. In addition to highlighting the importance of fair dealing with third parties and compliance with competition laws in our Code, we have a Competition Law Policy that outlines prohibited anti-competitive behaviours with competitors, customers or other third parties, as well as the behaviours and practices to follow to avoid inadvertent or perceived anti-competitive behaviour.

Training on this policy is provided regularly to team members who may encounter competitors through commercial negotiations, transactions or industry associations. Beginning in 2022, annual training will be mandatory for our ELT, marketing and logistics regions, senior corporate development employees, natural gas trading teams and employees involved in industry associations and our supply chain.

<sup>1</sup> These include our head office in Vancouver, Canada; our manufacturing operations in Canada, the U.S., Chile, Trinidad, Egypt and New Zealand; and our marketing and logistics operations in the U.S., Chile, China, Asia Pacific (includes our offices in Hong Kong, Korea and Japan) and Belgium.

# Tax Transparency

Through our business activities, we contribute to local economies through employment, the purchase of goods and services, tax payments and community investments. In accordance with our Tax Governance Guidelines, we ensure our tax procedures and interactions are compliant, co-operative, transparent and ethical. We undertake tax planning in accordance with applicable local laws and international transfer pricing standards such as the Organisation for Economic Co-operation and Development guidelines, with the goal of supporting the development of Methanex’s business in a way that reflects our legal obligations and our commitments to our team members, our shareholders and the communities in which we operate. Our financial statements and [Management's Discussion and Analysis](#) provide detailed information on income taxes.

# Responsible Procurement

Maintaining an ethical and responsible approach to our procurement processes helps us uphold our company standards for social and labour practices, and builds resilience to environmental, political and other disruptive events. The majority of our procurement budget is used to purchase natural gas and other feedstocks, followed by the procurement of services such as transportation for our product and labour, including contractors. We seek to work with suppliers and contractors that align with Methanex’s values and responsible practices.

## Natural gas procurement

Methanex requires natural gas to manufacture methanol and we aim to locate our production facilities in regions where there is excess natural gas after meeting local basic population needs. The supply and demand balance in a region can change over time, and in the event of a supply shortfall, our goal is to work with local authorities to ensure basic population needs are met while ensuring we are treated fairly versus other industrial natural gas users in the region. For further details on the security of natural gas for our operations please see our [Annual Report](#).

## Contractor selection

A contractor’s environmental, health and safety performance is an important consideration during the vendor qualification and selection process. For additional details on how we select responsible carriers and contractors, see Transportation and Storage Safety ([page 55](#)), Waterfront Shipping ([page 69](#)) and Contractor Management ([page 49](#)). In 2020, we conducted a pilot for a Supplier Code of Conduct (Supplier Code) by embedding it into our contracting process in New Zealand. The Supplier Code outlines three key principles that Methanex expects the service provider to adhere to: respect for people, environmental stewardship and corporate governance. We are evaluating applying this Supplier Code to our global contracting processes.

**The majority of our procurement budget is used to purchase natural gas and other feedstocks, followed by the procurement of services such as transportation for our product and labour, including contractors.**



# Cybersecurity

Methanex is focused on resilience against cyberattacks to protect our data, systems, assets and identities. When team members began working remotely in 2020 due to COVID-19, it became even more important to apply cybersecurity measures and ensure our team members are equipped to play a key role in helping to mitigate cybercrime. We use the following processes and systems to manage cybersecurity-related risks:

- **Comprehensive system:** We protect our systems, information and physical assets through a cybersecurity system that aligns with the National Institute of Standards and Technology Cybersecurity Framework and includes people, process and technology elements. The system is reviewed annually internally and assessed by an independent third party every three years. The most recent independent review was in late 2019.
- **Critical assets in separate networks:** Our network is divided into smaller segments (zones) to ensure our critical systems and assets are protected from malware and malicious actors. Each zone is classified based on how critical it is to the organization, with appropriate security controls or rules in place to manage access and traffic flow.

- We protect our most critical zones, such as our plant systems, from the Internet and the corporate network, minimizing the risk of breach.
- **Risk assessment:** We work with our business units to identify risks by conducting cybersecurity reviews of emerging threats, cyber process hazard assessments at our manufacturing sites, and threat modelling to simulate potential threats. The results inform changes to make business processes more resilient to cyberattacks.
  - **Training:** We provide annual, mandatory cybersecurity awareness training sessions for all team members. In 2021, over 99 per cent of employees and contractors completed cybersecurity training. We also provided specific training for distributed control system engineers, and Finance, Human Resources and IT team members to help them manage the increased cybersecurity and privacy risks related to their roles.
  - **Awareness campaigns:** We provide information to make team members aware of their critical role in preventing unauthorized access to Methanex’s network. Our CEO publishes a quarterly cybersecurity blog to reinforce the importance of cyber awareness, highlight

- best practices in digital hygiene and to direct team members to resources for questions or support. On our intranet, we provide a list of best practices to prevent common attacks such as phishing scams and social engineering. We also hold awareness events such as International Cybersecurity Awareness Month and International Privacy Awareness Day.
- **Testing:** We regularly test team members' cybersecurity awareness through phishing campaigns, and the results inform our cybersecurity training strategy for the year. In 2021, business leaders received testing results for their teams and, where needed, provided coaching to improve team awareness and compliance.
  - **Assessing cyber risks of suppliers:** While Methanex has invested significant time and resources into protecting our own systems and plants against cybersecurity threats, we could be potentially vulnerable to an attack on key vendors that provide services and materials required for our business continuity. In 2021, we took initial steps to better understand this risk through reviews with select suppliers. We will expand these reviews to include other suppliers in 2022.



**RANSOMWARE TABLETOP EXERCISE**

In December 2021, leaders from across Methanex conducted a cybersecurity tabletop exercise to identify opportunities to improve cyber incident response plans, decision-making and processes.

During the three-hour simulation and debrief, members of the IT-Technical Incident Response Team immersed themselves and participants in a mock ransomware scenario. Simulating real-life developments, the scenario evolved during the exercise, stimulating risk-based discussions, and deepening our understanding of potential business impacts from cybersecurity risks.

This successful test of our cyber incident response helped us identify areas for process improvement and where new guidelines or directives are required. Our next cybersecurity tabletop exercise is planned for mid-2022. As a learning organization, Methanex will continue to adapt our cybersecurity process to protect our facilities and information and support business continuity.

Waterfront Shipping is a subsidiary of Methanex Corporation and plays a unique role in our global supply chain. As a global marine transportation company, Waterfront specializes in the safe, reliable transport of methanol and clean petroleum products such as gasoline and ultra-low sulphur diesel oil. Waterfront transports approximately 85 per cent of Methanex's produced methanol to customers around the world and is a key component of our extensive global supply chain. Waterfront is also a key innovator in marine fuel technology, developing and globally promoting methanol as marine fuel.

# Waterfront Shipping



## Air Emissions

Nitrogen oxides (NOx), sulphur oxides (SOx) and particulate matter (PM) are byproducts of combustion from ship engines and a source of air pollution in heavily trafficked shipping lanes. In a study by Stena, 100 per cent methanol-fuelled vessels produced 99 per cent less SOx, 80 per cent less NOx and 95 per cent less PM per unit of energy of fuel consumed, compared to conventional marine fuel. By using methanol-fuel technology for marine vessels in Waterfront's fleet, we can meet increasingly stringent air emissions regulations established by the IMO.

**With a fleet of 28 deep sea tankers, Waterfront services major international markets in North America, Asia, Europe and Latin America.**



# GHG Emissions

**0.30**  
Waterfront Shipping's GHG intensity in 2021 was 0.30 tonnes of CO<sub>2</sub>e per nautical mile.

When Waterfront transports methanol to our customers worldwide, the vessels generate CO<sub>2</sub> emissions. Marine transport intensity (CO<sub>2</sub> emissions per tonne of cargo shipped) is influenced by numerous factors, including the distance of trade routes for our methanol cargo, as well as ship technology and operating efficiency. To reduce emissions, Waterfront's initiatives include:

**Methanol-fuelled vessels that exceed stringent emission regulations**  
As part of our ongoing vessel replacement program, we regularly replace older vessels with newer, more fuel-efficient vessels. As society transitions to the low-carbon economy, we are also prioritizing innovation in methanol marine fuel. Today, Waterfront's fleet includes 13 dual-fuel vessels that can run on either diesel or methanol, and we anticipate that approximately 60 per cent of Waterfront Shipping's vessel fleet will be able to be powered by methanol by 2023. To read about the benefits of methanol as a marine fuel see [page 30](#) of this report.

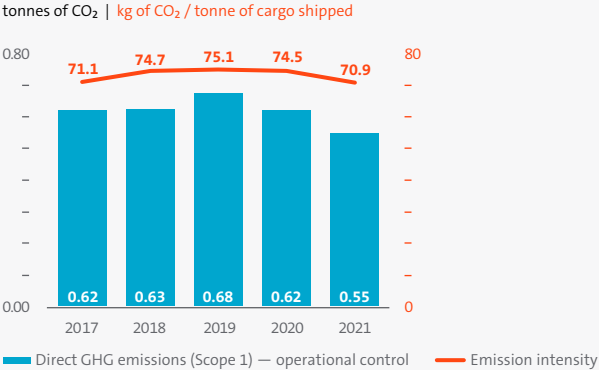
**Optimizing shipping by carrying backhaul cargo**  
After delivering methanol to its intended destination, our ships can also carry "backhaul" cargo (e.g., petroleum products such as gasoline or diesel) on their return voyage, rather than returning empty. By carrying cargo during both legs of the voyage and using fuel as efficiently as possible, we reduce our CO<sub>2</sub> emissions intensity.

**Ship modifications or improvements**  
We also employ the following strategies to reduce emissions generated by our shipping activity:

- **Propeller boss cap fins:** Installed on six vessels in 2021. A small propeller is installed on the cap of the boat's large propeller, reducing fuel consumption by 2 to 3 per cent per ship per day, increasing efficiency while providing the same power. We anticipate that a total of 14 WFS vessels will have this technology installed by 2023.
- **Speed reductions:** We reduce vessel speed, when possible, to improve fuel efficiency and reduce emissions.

**Strategic partnership with Mitsui O.S.K. Lines (MOL)**  
Expanding on a 30-year methanol shipping relationship, MOL acquired a 40 per cent minority interest in Waterfront Shipping in 2022, with Methanex retaining the remaining 60 per cent majority interest. Methanex will continue to operate Waterfront Shipping as a key element of our global supply chain capabilities. This partnership allows us to enhance our shipping capabilities by leveraging MOL's broad shipping experience and formalizes our intention to work together to advance the commercialization of methanol as a viable marine fuel.

## GHG EMISSIONS FROM SHIPPING (OPERATIONAL CONTROL)



In the last five years, Waterfront's CO<sub>2</sub> emissions intensity (per tonne of cargo) has remained relatively unchanged.

This graphic illustrates Waterfront Shipping's CO<sub>2</sub> emissions using the control approach (i.e., 100 per cent of the emissions from commercially operated vessels accounted as Scope 1). The 28 vessels in our fleet are commercially operated by Waterfront Shipping. This means that Waterfront Shipping:

- Approves the vessel's captain and technical operator (both of whom work on behalf of the ship owner).
- Instructs the vessel's captain and operator on destination, speed, cargo to load/unload at each port, as well as pertinent information to ensure Waterfront fulfills its commitment to Methanex and our customers.
- Schedules, orders and pays for the ship's fuel.
- Arranges appropriate disposal of cleaning residues from tank cleaning between cargo loads.

# Safety

To achieve reliable transport and safe operations, Waterfront works closely with ship owners and ship management companies who are responsible for the technical operation of Waterfront vessels. These technical operations include all crew-related matters (e.g., hiring, training, assigning to vessels, well-being), vessel maintenance (e.g., dry docks, repairs, upgrades) and compliance with applicable regulations. Waterfront aims to select responsible carriers and provide appropriate training, and regularly engages with ship management companies.

## SAFETY ASSESSMENTS

### Internal assessments

Waterfront sets a target to conduct an annual onboard safety visit of each vessel to evaluate safety management and people practices. We developed the safety visit program to validate that ship owners' programs are translating into a culture of safety and enhanced experience for those aboard the vessels (see sidebar for details).

Safety visit findings for individual vessels are shared with the vessel and owners, with corrective actions and remedy of findings required and tracked. Fleet findings are consolidated to produce a fleet safety rating that serves as a benchmark for continual improvement efforts.

### External assessments

We require each vessel to undergo an annual Chemical Distribution Institute – Marine inspection. In 2021, 29 of our vessels underwent this inspection. Additionally, we review ship inspection reports using SIRE (Ship Inspection Report Exchange), a database of vessel inspection reports from major international oil and gas companies. We access the database throughout the year to ensure vessels are maintained and technically managed in a safe manner that will allow us to commercially operate the vessel without restrictions.

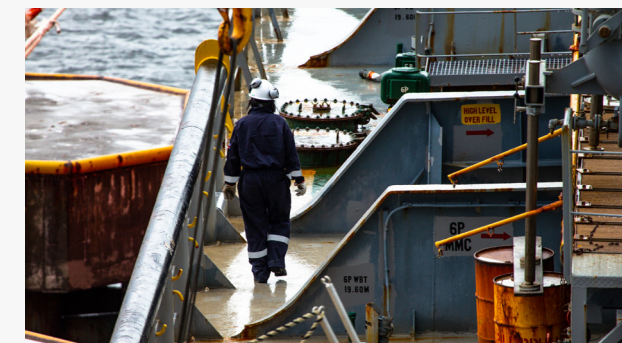
## SAFETY TRAINING

In addition to safety training required by the ship management companies, we develop targeted training programs for crews on Waterfront vessels, including training on key safety hazards. These include:

- **Methanol safety:** Crews receive customized methanol safety training twice per year, including a safe handling video, a presentation with Q&A and an assessment.
- **Nitrogen safety:** Crews receive training twice yearly on nitrogen safety to mitigate asphyxiation risk. (Nitrogen is used on board to remove the risk of fire and explosion in the cargo tank.) The training includes a nitrogen safety video, a presentation with Q&A and an assessment.

Waterfront vessels delivered 160 methanol and nitrogen safety training sessions in 2021.

## ANNUAL MARINE SAFETY VISITS



We aim to have a Waterfront Shipping marine safety expert spend 1.5 days on each of the vessels in the Waterfront fleet on a yearly basis. In 2021, we completed 24 safety visits.

A safety visit entails a review of more than 500 health and safety items, and significant interaction with all levels of the officers and crew on board. Some examples of review items include:

- **Vessel-related:** Maintenance is up to date, vessel is clean and organized, efforts are being made to use energy-efficient practices.
- **Procedural:** Record keeping is up to date, crew work-rest balance is being monitored.
- **Programs:** Stop Work authorization is being reinforced, crews are encouraged to report near misses and raise concerns about safety, and methanol and nitrogen safety training is being provided.
- **People:** Atmosphere on board the vessel is respectful, efforts are made to promote mental health awareness and monitoring. Increased restrictions placed on seafarers, due to the Covid pandemic has highlighted the importance of mental health. In 2021, we continued to focus on mental health and navigational safety.



## Ecological Impacts of Shipping

We work to reduce the environmental impacts associated with transporting product by vessel. Precautions range from choosing new vessels with best-in-class technology to retrofitting existing ships to improve their emissions performance.

### Preventing spills

Methanol is a more environmentally benign fuel than any of the bunker fuels widely used today because it dissolves in water and biodegrades rapidly. In the unlikely event of an accident, all vessels have double hulls and secondary deck containment to prevent product from impacting the environment and marine life. To prevent spills during loading and unloading, we have strict vessel loading guidelines and use best practices when loading and discharging. Because we load petroleum-based products on our backhaul voyages, we also have tank cleaning guidelines to ensure petroleum-based products are removed prior to loading methanol.

### Managing ballast water

When an empty ship is en route to a loading destination, it uses vast amounts of ballast water to provide stability and maneuverability. This ballast water is then discharged during loading operations. However, ballast water contains biological materials (e.g., bacteria, microbes) from the region in which it originated. When ballast water is discharged at a different location, these foreign materials can adversely impact the local aquatic ecosystem. All vessels in the Waterfront fleet have ballast water exchange plans that significantly reduce the risk of harmful aquatic organisms or pathogens. In 2017, the IMO implemented a code for ballast water management systems. To comply with this code, we completed the retrofitting of our ballast water treatment systems in 2021, well before the 2024 compliance deadline.

### Reducing noise

The propeller boss cap fins we installed in 2021 to help reduce fuel consumption have an additional benefit of reducing noise and therefore reduce disturbance to marine life. See [page 70](#).



In 2021, Waterfront Shipping took delivery of the Mari Innovator, the first of eight, third-generation methanol dual-fuel vessels that will enter our fleet over the next two years.



# Appendix

## PHARMACEUTICALS

Methanol is used in the manufacture of important pharmaceutical ingredients and products such as vitamins (pictured), antibiotics and hormones.



# Other ESG-Related Questions

## HOW DO WE PROTECT LABOUR RIGHTS AND HUMAN RIGHTS IN OUR WORKFORCE?

We support and adhere to all international and local human rights, general labour, and employment standards and regulations in jurisdictions in which we do business. This includes regulations relating to unlawful child labour, forced labour and modern slavery. We operate in regions that have large numbers of undocumented workers (e.g., Chile, Egypt, Asia-Pacific). A documentation/identification process is built into all of our recruitment and hiring processes, and includes confirming citizenship status, standard regional background checks such as criminal records, and specific role-required security clearances prior to finalizing employment confirmation. For more information, see our Stakeholder Relations Policy and Human Resources Policy.

## ARE OUR WORKERS REPRESENTED BY UNIONS?

We align with all government labour legislation in the regions in which we operate. Less than one per cent of our employees are represented by unions. Our employees can join an employee association or trade union, consistent with national or regional laws and practices.

## HOW DO WE ENGAGE WITH GOVERNMENTS?

To build awareness and understanding about our product and our business, we proactively engage with public policy officials to share information about our company and industry. We also have a policy against making donations to political partners. See our Stakeholder Relations Policy and Political Donations Policy for details. We are also members of various global and regional industry associations that engage with governments on a variety of topics impacting our business. Some examples of these associations include the Methanol Institute, European Chemical Industry Council (CEFIC), Chemistry Industry Association of Canada (CIAC), Association of International Chemical Manufacturers (AICM – China) and Asociación Gremial de Industriales Químicos de Chile (ASIQUIM) in Chile.

# Performance Table – Excludes Waterfront Shipping

OPERATIONS	UNIT	2017	2018	2019	2020	2021
Manufacturing						
Methanol produced (total tonnes)	tonnes	8,343,996	8,401,087	8,579,766	7,666,550	7,775,484
Methanol produced (equity share)	tonnes	7,187,000	7,211,000	7,589,000	6,613,578	6,514,388
ENVIRONMENT						
GHG emissions (equity share)						
Direct GHG emissions (Scope 1) <sup>1</sup>	tonnes CO <sub>2</sub> e	4,171,000	4,094,000	4,710,000	4,008,000	3,919,000
Energy indirect GHG emissions (Scope 2)	tonnes CO <sub>2</sub> e	205,000	207,000	162,000	140,000	145,000
Total GHG emissions	tonnes CO <sub>2</sub> e	4,376,000	4,301,000	4,872,000	4,148,000	4,064,000
Intensity (Scope 1)	tonnes CO <sub>2</sub> e / tonnes methanol	0.58	0.57	0.62	0.61	0.60
Intensity (Scope 1 + Scope 2)	tonnes CO <sub>2</sub> e / tonnes methanol	0.61	0.60	0.64	0.63	0.62
Energy use						
Total energy consumed from natural gas (excluding electricity)	GJ	315,500,000	318,900,000	329,100,000	293,100,000	290,100,000
Total electricity use	MWh	452,500	463,900	454,500	465,200	447,800
Total self-generated electricity	MWh	116,000	140,400	127,400	142,300	142,400
Self-generated electricity – non-renewable	MWh	116,000	140,400	127,400	142,300	142,400
Self-generated electricity – renewable	MWh	0	0	0	0	0
Total purchased electricity	MWh	336,500	323,500	327,100	323,000	305,400
Purchased electricity – non-renewable	MWh	277,600	281,700	272,100	262,600	246,600
Purchased electricity – renewable	MWh	59,000	41,700	55,000	60,400	58,700

<sup>1</sup> In 2021, we revised our GHG emission quantification procedures to align with the ISO 14064-1 Quantification and Reporting of GHG emissions standard. Since the publication of our last sustainability report, we have recalculated and restated our GHG emissions for the years 2019 and 2020 to align with the ISO standard. The numbers for the years 2017 and 2018 are therefore not comparable to the revised data. The increase in GHG emissions is due to how ISO 14064-1 standards account for CO<sub>2</sub> utilized from an industrial neighbour at our Medicine Hat facility. To learn more about this process, see [page 26](#).

ENVIRONMENT CONTINUED	UNIT	2017	2018	2019	2020	2021
Air emissions						
NOx (excluding N <sub>2</sub> O)	tonnes	6,834	6,922	7,051	7,157	5,839
VOCs	tonnes	4,210	4,253	3,315	2,807	3,779
SOx	tonnes	40	37	40	24	22
Water protection and water use <sup>2</sup>						
Fresh water consumption	m <sup>3</sup>	14,850,000	14,740,000	14,300,000	14,220,000	14,580,000
Seawater consumption	m <sup>3</sup>	NR	NR	NR	7,930,000	8,740,000
Water withdrawal (by source) <sup>2</sup>	m <sup>3</sup>	18,910,000	18,510,000	18,210,000	115,220,000	114,800,000
Non-fresh (sea water, saline, grey water)	m <sup>3</sup>	NR	NR	NR	96,700,000	96,650,000
Rivers, creeks, etc	m <sup>3</sup>	12,690,000	12,190,000	11,710,000	11,640,000	11,120,000
Purchased	m <sup>3</sup>	4,480,000	4,680,000	4,760,000	4,850,000	4,490,000
Municipal system	m <sup>3</sup>	1,750,000	1,640,000	1,750,000	2,040,000	2,540,000
Ground water (aquifer)	m <sup>3</sup>	0	0	0	0	0
Total water discharge (by destination) <sup>2</sup>	m <sup>3</sup>	4,060,000	3,770,000	3,920,000	93,070,000	91,490,000
Water returned to sea	m <sup>3</sup>	NR	NR	NR	92,050,000	90,220,000
Water discharged to rivers, creeks, etc.	m <sup>3</sup>	780,000	690,000	680,000	610,000	820,000
Water disposed to municipal systems	m <sup>3</sup>	360,000	450,000	450,000	400,000	450,000
Water disposed via third parties (for treatment)	m <sup>3</sup>	NR	NR	NR	1,365	942
Number of incidents of non-compliance associated with water quality permits and regulations	count	0	0	0	0	0
Fresh water intensity (fresh water consumption/tonnes methanol)*	m <sup>3</sup> water/tonnes methanol	2.68	2.68	2.75	2.54	2.54

NR: Not reported

<sup>2</sup> In 2020, we started including seawater withdrawal and discharges to sea in our total water consumption therefore the data is not comparable to the previous year. The 2020 freshwater consumption data has been restated since the publication of our2020 sustainability report and the new figure is 5 per cent higher than the previously reported number.



ENVIRONMENT CONTINUED

	UNIT	2017	2018	2019	2020	2021
<b>Spills</b>						
Methanol spill (serious)	count	0	0	0	0	0
Methanol spill (major)	count	1	0	0	0	0
Other spill – petroleum products or treatment chemicals (serious)	count	0	0	0	0	0
Other spill – petroleum products or treatment chemicals (major)	count	0	0	0	0	0
<b>Waste</b>						
Hazardous waste						
Total generated	tonnes	510	372	342	790	984
Sent for disposal	tonnes	179	362	263	102	548
Sent to recycling	tonnes	331	10	79	687	436
Non-hazardous waste						
Total generated including special waste	tonnes	2,409	2,513	4,426	4,493	2,577
Sent for disposal	tonnes	1,735	1,803	2,974	3,302	2,232
Sent to recycling	tonnes	674	710	1,453	1,190	345
Non-hazardous waste recycled (percent of total waste disposed)	percent	39%	39%	49%	26%	13%
Hazardous waste recycled (percent of total waste disposed)	percent	65%	3%	23%	87%	44%

SOCIAL

	UNIT	2017	2018	2019	2020	2021
<b>Safety</b>						
<b>Employee and contractor safety</b>						
Recordable injury rate, employees	injuries per 200k hours	0.58	0.48	0.07	0.34	0.08
Recordable injury rate, contractors	injuries per 200k hours	0.68	1.37	0.41	0.52	0.34

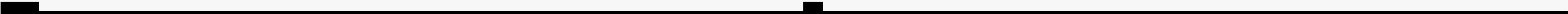
SOCIAL CONTINUED

	UNIT	2017	2018	2019	2020	2021
<b>Recordable injury rate, combined</b>						
Recordable injury rate, employees (non major capital) <sup>3</sup>	injuries per 200k hours	0.58	0.48	0.07	0.35	0.08
Recordable injury rate, contractors (non major capital)	injuries per 200k hours	0.68	1.39	0.44	0.60	0.42
<b>Recordable injury rate, combined (non major capital)</b>						
Days away from work rate, employees	injuries per 200k hours	0.10	0.10	0.00	0.14	0.00
Days away from work rate, contractors	injuries per 200k hours	0.26	0.50	0.21	0.21	0.34
Days away from work rate, combined	injuries per 200k hours	0.20	0.34	0.14	0.18	0.18
<b>Employee and contractor safety</b>						
Fatalities, employees	count	0	0	0	0	0
Fatalities, contractors	count	0	0	0	0	0
<b>Leading indicators</b>						
Near misses	count	NR	NR	NR	982	662
Hazard identification	count	NR	NR	NR	2,143	4,519
Behaviour-based safety observations	count	NR	NR	NR	9,843	11,214
<b>Process safety rates</b>						
Process Safety Total Incident Rate (PSTIR) <sup>4</sup>	incidents/200k hours	0.10	0.03	0.03	0.03	0.04
Process Safety Incident Severity Rate (PSISR) <sup>5</sup>		0.24	0.03	0.26	0.03	0.04
<b>Process safety</b>						
Tier 1 Process Safety Incidents Count (PSIC)	number of incidents	3	1	1	1	1

<sup>3</sup> This injury rate excludes worked hours in major capital projects to provide better comparability year over year.

<sup>4</sup> Worked hours for PSTIR include hours worked by employees, contractors and subcontractors, but exclude hours associated with major construction projects.

<sup>5</sup> Process Safety Incident Severity Rate (PSISR is calculated using the American Petroleum Institute (API) recommended practice 754 from 2016. This aligns with SASB recommendations.



SOCIAL CONTINUED	UNIT	2017	2018	2019	2020	2021
Product safety						
Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances	Percent	NR	NR	NR	100%	100%
Percentage of such products (above) that have undergone a hazard assessment	Percent	NR	NR	NR	100%	100%
Transportation safety						
Number of reportable transport incidents	count	NR	NR	NR	0	0
Non Accidental Release NARS (for rail transportation)	count	NR	NR	NR	0	0
Methanex indicators						
Terminal audits (level I, II and III)	count	NR	NR	NR	36	107
Responsible Care seminars held	count	NR	NR	NR	35	45
Responsible Care seminar attendees	# individuals	NR	NR	NR	798	835
Organizations reached	# organizations	NR	NR	NR	144	167
Human resources						
Employee numbers						
Total number of employees	count	1,357	1426	1,544	1,489	1,300
Full-time	count	1,317	1,390	1,512	1,464	1,268
Part-time	count	40	36	32	25	32
Employees by location						
North America	percent	34%	36%	36%	36%	38%
South America	percent	25%	25%	27%	27%	24%
Europe	percent	2%	3%	2%	2%	3%
Oceania	percent	22%	21%	19%	19%	18%
Africa	percent	12%	11%	11%	11%	11%
Asia	percent	4%	5%	5%	5%	6%

SOCIAL CONTINUED	UNIT	2017	2018	2019	2020	2021
Diversity						
Percentage of women						
Total workforce	percent	27%	28%	29%	28%	28%
Managers	percent	35%	34%	36%	34%	32%
Senior Leaders	percent	10%	16%	16%	17%	14%
Executive Leaders	percent	33%	17%	17%	17%	17%
Independent Board members	percent	27%	30%	36%	45%	40%
Employee age categories						
30 Years and Under	percent	16%	15%	15%	12%	11%
30 to 50	percent	63%	64%	64%	66%	66%
50 Plus	percent	21%	21%	21%	22%	23%
Length of employee service						
< 5 yr	percent	56%	56%	55%	48%	46%
5-10 yrs	percent	21%	21%	21%	26%	28%
11-20 yrs	percent	15%	16%	16%	16%	18%
20+ yrs	percent	7%	8%	9%	9%	8%
Retention						
Turnover rate, voluntary and involuntary	percent	7.1%	7.3%	7.2%	7.5%	7.5%
Turnover rate, voluntary	percent	5.1%	4.6%	5.3%	3.6%	3.6%
Communities						
Community investment						
Community investment	USD	1,062,373	1,112,679	1,467,193	1,740,149	1,287,681
Other community-related metrics						
Community volunteering	hours	–	–	–	2,383	4,240
Beneficiaries (organizations receiving our support)	count	369	302	304	310	322
Scholarships	count	69	101	53	98	94
Community Advisory Panel (CAP) meetings	count	23	23	22	16	31





GOVERNANCE	UNIT	2017	2018	2019	2020	2021
<b>Cybersecurity</b>						
Employees who received mandatory cybersecurity training	number	NR	NR	NR	1,824	1,620
<b>Ethics training/awareness</b>						
New employees who received ethics onboarding	count	NR	NR	NR	55	15
Number of senior leaders who acknowledged the Code of Conduct	count	NR	NR	NR	43	42
<b>Legal actions</b>						
Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	\$	NR	NR	NR	0	0
Fines or settlements paid in the fiscal year related to anti-competitive business practices	\$	NR	NR	NR	0	0
Number of legal actions (completed or pending) for anti-competitive behavior, anti-trust, and monopoly practices	number	NR	NR	NR	0	0

## Performance Table – Waterfront Shipping

INDICATOR	UNIT	2017	2018	2019	2020	2021
<b>Operations</b>						
Total distance traveled by vessels	nautical miles	NR	NR	NR	2,050,638	1,816,325
Operating days	days	NR	NR	NR	10,550	10,048
Deadweight tonnage	thousand deadweight tons	NR	NR	NR	1,256	1,220
Number of vessels in total shipping fleet	count	NR	NR	NR	29	28
Number of vessel port calls	count	NR	NR	NR	1,152	1,196
<b>GHG emissions (operational control)<sup>6</sup></b>						
Direct GHG emissions (Scope 1)	tonnes CO <sub>2</sub>	619,834	625,314	678,154	622,866	550,200
Emissions intensity (marine transportation)	kg of CO <sub>2</sub> /tonne of cargo shipped	71.1	74.7	75.1	74.5	70.9
<b>GHG emissions (equity share)<sup>6</sup></b>						
Direct GHG emissions (Scope 1)	tonnes CO <sub>2</sub>	63,182	68,146	50,839	46,665	41,094
<b>Safety (Methanex indicators)</b>						
Marine vessel safety visits		25	25	30	22	24
Marine vessel inspections (CDI-Marine)		28	25	31	29	29
Marine safety training sessions		100	100	118	160	160

NR: Not reported

<sup>6</sup> We report shipping-related emissions using two methods: operational control and financial ownership. For operational control, we include 100 per cent of the GHG emissions associated with the 28 vessels in the fleet, regardless of financial ownership. For financial ownership, we include 50 per cent of the GHG emissions associated with the five vessels we own.

# SASB Index – Chemicals

Below are the quantitative metrics and references to qualitative descriptions in this report that align with the Sustainability Accounting Standards Board (SASB) standards for the chemicals industry.

The SASB is a non-profit organization with the goal of enabling businesses around the world to identify, manage and communicate financially material sustainability information to their investors.

SASB REF	SASB SUGGESTED DISCLOSURES	2021 DATA OR PAGE #
Activity metrics		
RT-CH-000.A	Methanol produced (total tonnes)	7,775,484
RT-CH-000.A	Methanol produced (equity share) [tonnes]	6,514,388
GHG gas emissions		
RT-CH-110a.1	Gross global Scope 1 emissions [tonnes CO <sub>2</sub> e]	3,920,000
RT-CH-110a.1	Percentage of Scope 1 emissions covered under emissions-limiting regulations	Not reported
RT-CH-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	<a href="#">pages 16-17, 23-29, 44</a>
Air quality		
RT-CH-110a.3	NOx (excluding N <sub>2</sub> O) [tonnes]	5,839
RT-CH-110a.3	SOx [tonnes]	22
RT-CH-110a.3	Volatile organic compounds (VOCs) [tonnes]	3,779
RT-CH-110a.3	Hazardous air pollutants (HAPs) [tonnes]	NR
Energy management		
RT-CH-130a.1	Total energy consumed from natural gas (excluding electricity) [GJ]	290,100,000
RT-CH-130a.1	Total purchased electricity [MWh]	305,400
RT-CH-130a.1	Percentage renewable electricity purchased	19
RT-CH-130a.1	Self-generated electricity [MWh]	142,400
Water management		
RT-CH-140a.1	Total water withdrawn (fresh and seawater) [m <sup>3</sup> ]	114,800,000
RT-CH-140a.1	Total water consumed [m <sup>3</sup> ] <sup>7</sup>	23,310,000
RT-CH-140a.1	Percentage water withdrawn in regions with High or Extremely High Baseline Water Stress	Not available
RT-CH-140a.1	Percentage water consumed in regions with High or Extremely High Baseline Water Stress	Not available
RT-CH-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Not available
RT-CH-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	<a href="#">pages 42-43</a>

<sup>7</sup> We report water consumed as water withdrawn minus water discharged. This metric does not align with the SASB definition of water consumption.

SASB REF	SASB SUGGESTED DISCLOSURES	2021 DATA OR PAGE #
Hazardous waste management		
RT-CH-150a.1	Amount of hazardous waste generated [tonnes]	984
RT-CH-150a.1	Percentage hazardous waste recycled	44
Community relations		
RT-CH-210a.1	Discussion of engagement processes to manage risks and opportunities associated  with community interests	<a href="#">pages 58-59</a>
Workforce health & safety		
RT-CH-320a.1	Total recordable incident rate (TRIR) [incidents per 200,000 hours worked]	0.22
RT-CH-320a.1	Fatalities	0
RT-CH-320a.1	Near misses (count not rate)	662
RT-CH-320a.2	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	<a href="#">page 49</a>
Product design for use-phase efficiency		
RT-CH-410a.1	Revenue from products designed for use-phase resource efficiency	NR
Safety & environmental stewardship of chemicals		
RT-CH-410b.1	Percentage of revenue from products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances	100
RT-CH-410b.1	Percentage of GHS 1 and 2 products that have undergone a hazard assessment	100
RT-CH-410b.2	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	Not applicable
Genetically modified organisms		
RT-CH-410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Not applicable
Management of the legal & regulatory environment		
RT-CH-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	<a href="#">page 74</a>
Operational safety, emergency preparedness & response		
RT-CH-540a.1	Process Safety Total Incident Rate (PSTIR) (incidents per 200,000 hours worked)	0.04
RT-CH-540a.1	Process Safety Incident Severity Rate (PSISR)	0.04
RT-CH-540a.2	Number of transport incidents [number of incidents]	0



# SASB Index – Marine Transportation

Below are the quantitative metrics and references to qualitative descriptions in this report that align with the SASB standards for the marine industry. The Sustainability Accounting Standards Board is a

non-profit organization with the goal of enabling businesses around the world to identify, manage and communicate financially material sustainability information to their investors.

SASB REF	SASB SUGGESTED DISCLOSURES	2021 DATA OR PAGE #
Activity metrics		
TR-MT-000.A	Number of shipboard employees	does not apply
TR-MT-000.B	Total distance traveled by vessels [nautical miles]	1,816,325
TR-MT-000.C	Operating days [days]	10,048
TR-MT-000.D	Deadweight tonnage [thousand deadweight tons]	1,220
TR-MT-000.E	Number of vessels in total shipping fleet	28
TR-MT-000.F	Number of vessel port calls	1,196
TR-MT-000.G	Twenty-foot equivalent unit (TEU) capacity	does not apply
Greenhouse gas emissions		
TR-MT-110a.1	Gross global Scope 1 emissions – operational control [tonnes CO <sub>2</sub> e]	550,200
TR-MT-110a.1	Gross global Scope 1 emissions – equity share [tonnes CO <sub>2</sub> e]	41,094
TR-MT-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	pages 16-17, 23-29, 44
TR-MT-110a.3	Total energy consumed [GJ]	7,197,780
TR-MT-110a.3	Percentage heavy fuel oil	1
TR-MT-110a.3	Percentage renewable	0
TR-MT-110a.3	Percentage methanol as fuel	4
TR-MT-110a.4	Average Energy Efficiency Design Index (EEDI) for new ships [index]	4.30
Air quality		
TR-MT-120a.1	NO <sub>x</sub> (excluding N <sub>2</sub> O) [tonnes]	14,026
TR-MT-120a.1	SO <sub>x</sub> [tonnes]	8,969
TR-MT-120a.1	Particulate matter (PM <sub>10</sub> ) [tonnes]	1,237

SASB REF	SASB SUGGESTED DISCLOSURES	2021 DATA OR PAGE #
Ecological impacts		
TR-MT-160a.1	Shipping duration in marine protected areas or areas of protected conservation status [days]	75
TR-MT-160a.2	Percentage of fleet implementing ballast water exchange	100
TR-MT-160a.2	Percentage of fleet implementing ballast water treatment	100
TR-MT-160a.3	Number of spills and releases to the environment	1
TR-MT-160a.3	Aggregate volume of spills and releases to the environment [m <sup>3</sup> ]	0.001
Employee health and safety		
TR-MT-320a.1.	Lost time incident rate (LTIR) [cases/200,000 worked hours]	NR
Business ethics		
TR-MT-510a.1.	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	0
TR-MT-510a.2.	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	0
Accident & safety management		
TR-MT-540a.1	Number of marine casualties <sup>8</sup>	0
TR-MT-540a.1	Percentage classified as very serious	0
TR-MT-540a.2	Number of Conditions of Class or Recommendations	4
TR-MT-540a.3	Number of port state control deficiencies	41
TR-MT-540a.3	Number of port state control detentions	0

<sup>8</sup> Marine casualties definition [here](#), Section 2.9.

# GRI Index

This report provides information on the following GRI topics and indicators. We provide information related to our management approach for each of our material topics in the body of this report.

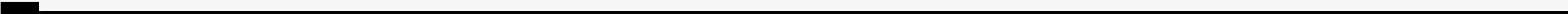
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305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<u>46</u>
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<sup>9</sup> Although Methanex has not formally adopted the precautionary principle, our consistent implementation of Responsible Care demonstrates a commitment to proactively identify and prevent or mitigate negative impacts.





TOPIC SPECIFIC DISCLOSURES CONTINUED		PAGE
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403-3	Description of occupational health services	<u>48-49</u>
403-4	Description of processes for worker communication on safety	<u>48-49</u>
403-5	Description of worker training on safety	<u>48-49</u>
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<b>Product safety</b>		
416-1	Percentage of significant products for which health and safety impacts are assessed for improvement	<u>77, Note 10</u>
417-1	Percentage of products/services subject to information requirements	<u>77</u>

<sup>10</sup> Aligned with SASB metric “percentage of products classified as GHS level 1 and level 2 that have undergone assessments”.

## Forward-Looking Statements

This report contains forward-looking statements with respect to us and our industry. These statements relate to future events or our future performance. All statements other than statements of historical fact are forward-looking statements. Statements that include the words “believe,” “expect,” “may,” “will,” “can,” “should,” “potential,” “develop,” “estimate,” “strive,” “anticipate,” “aim,” “goal,” “target,” “plan,” “predict” or other comparable terminology and similar statements of a future or forward-looking nature identify forward-looking statements. More particularly, and without limitation, any statements regarding the following are forward-looking statements: Methanex’s business strategies, plans, prospects, opportunities and its sustainability, climate change and ESG initiatives and strategies; expected demand for methanol (including low-carbon, bio-methanol or e-methanol) and its derivatives; the ability for low-carbon, bio-methanol or e-methanol to become commercially viable; expectations around our ability to reduce CO<sub>2</sub> emissions intensity, including the availability of new technology and our ability to invest in such technology; the reliability of our plants; our expected capital expenditures; the establishment of new fuel standards, including the ability for methanol to meet such standards; the establishment of future or increased carbon taxes in the regions where we manufacture methanol and where our competitors manufacture methanol; the impacts of significant weather events; expectations regarding our ability to improve water efficiency; and expectations regarding our diversity and inclusion initiatives. All of the forward-looking statements are qualified by the assumptions that are stated or inherent in such forward-looking statements, including the assumptions referred to in the report. Although we believe that we have a reasonable basis for making such forward-looking statements, including our experience, our perception of trends, current conditions and expected future developments as well as other factors, certain material factors or assumptions were applied in drawing the conclusions or making the forecasts or projections that are included in these forward-looking statements, including, without limitation, future expectations and assumptions concerning the following: the supply of, demand for and price of methanol (including low-carbon, bio-methanol or e-methanol) and methanol derivatives; our ability to procure natural gas feedstock (or renewable gas feedstock) on commercially acceptable terms; operating rates of our facilities; the establishment of new fuel standards and methanol meeting those standards; the availability

of committed credit facilities and other financing; the commercial viability of low-carbon (including carbon, capture, utilization and storage (CCUS)), bio-methanol or e-methanol technology and the capital costs thereof) and absence of a material negative impact from changes in laws or regulations, including carbon taxes.

However, forward-looking statements, by their nature, involve risks and uncertainties that could cause actual results to differ materially from those contemplated by the forward-looking statements. The risks and uncertainties primarily include those attendant with the ability to produce and market low-carbon, green or biomethanol and our ability to deploy sufficient capital to fund the necessary expenditures to implement the necessary operational changes to achieve the goals, strategies and plans set out in the report, including, without limitation: conditions in the methanol and other industries including fluctuations in the demand and price for low-carbon, bio-methanol or e-methanol; the ability to carry out ESG initiatives and strategies; actions of competitors, suppliers and financial institutions; our ability to obtain natural gas feedstock on commercially acceptable terms to underpin current operations; conditions within the natural gas delivery systems that may prevent delivery of our natural gas supply requirements; the availability and price of renewable natural gas feedstock; the availability and commercial viability of technology (including CCUS) to reduce our CO<sub>2</sub> emissions intensity; actions of governments and governmental authorities, including, without limitation, implementation of policies or other measures that could impact the supply of or demand for methanol (including low-carbon, bio-methanol or e-methanol) or its derivatives; changes in laws or regulations; worldwide economic conditions; the impacts of the COVID-19 pandemic; and other risks described in our 2021 Sustainability Report and our 2021 Annual Management’s Discussion and Analysis. Having in mind these and other factors, investors and other readers are cautioned not to place undue reliance on forward-looking statements. They are not a substitute for the exercise of one’s own due diligence and judgment. The outcomes implied by forward-looking statements may not occur and we do not undertake to update forward-looking statements except as required by applicable securities laws.



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