

# 2019 Responsible Care and Sustainability Report



A RESPONSIBLE CARE® COMPANY





ABOUT THIS REPORT

Welcome to our 2019 Responsible Care® and Sustainability Report.

This report covers the period from January 1 to December 31, 2019. It focuses on Methanex’s performance and impact in five key areas: Sustainable Energy and Methanol, Environment, Workplace, Community, and Product Stewardship.

We report on our activities and performance as part of our commitment to Responsible Care and sustainability, our accountability to the public, and our pursuit of continual improvement.

This report includes descriptions of how we manage the sustainability topics that are most material to our stakeholders and our business and quantitative measures, or key performance indicators (KPIs), for some topic areas.

These KPIs help us drive and measure progress in key areas of Responsible Care and sustainability. They also reveal trends and help us identify issues that require further action.

Our reporting scope includes assets over which Methanex has direct or part ownership and full operational control. In the case of our wholly owned subsidiary Waterfront Shipping Ltd., our reporting boundary includes time- or spot-chartered vessels to the extent that Waterfront has commercial control through charter party contracts.

Please visit our [website](#) for past reports and more information about Methanex, our product, and Responsible Care.

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This report may contain forward-looking statements. By their nature, such forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those contemplated by the forward-looking statements. For a discussion of these risks and uncertainties, please refer to the Risk Factors section of the Management’s Discussion and Analysis, which can be found in our most recent Annual Report or on our website at [www.methanex.com](#).

Responsible Care and sustainability are vital to our strategy. They are about understanding our connection to society and the planet and aligning our priorities so we can be in business for the long term. In 2019, we continued to enhance best practices in our process safety and occupational safety programs. We also continued to focus on reliability and operational excellence at our plants and in the supply chain to improve our environmental performance, product stewardship, and community engagement.

As we deliver this report, our world is experiencing a global pandemic. I am very proud of our team members who are working as One Team under altered workplace conditions. I'm also very proud of our commitment to supporting local communities in all our regions to help meet critical needs as people's lives and livelihood are impacted by COVID-19. Our Switch On to Responsible Care training motto, *make sure everyone goes home safely, every day*, is a thought we carry for the frontline health and essential service workers worldwide. They are an inspiration to us all. I am confident we will come through this event with our teams and communities, our well-being, and our commitments not only intact, but strengthened.

2019 was a busy year for Methanex. We launched four more second-generation, low-emission methanol-fueled vessels and delivered record levels of production while strengthening our practice of Responsible Care and sustainability. We completed turnaround and refurbishing projects at existing plants. Debottlenecking, which is also underway at our Geismar site, directly increases production, and all these projects improve our ability to produce methanol safely and efficiently while also increasing the reliability of our plants and reducing our cumulative environmental footprint.

The commitment of our teams to safety in all operations brought us one of our best years for annual occupational safety performance. Accomplishing this during an

intense period of major work projects is truly notable. We've faced the challenge of a few years of disappointing safety performance by focusing even more on leadership and employee engagement, learning and competency, contractor safety performance, and turnaround management. Our sights remain on the goal of zero injury, and we remain guided by our longstanding commitment to Responsible Care.

We are grateful and fortunate that no one was hurt when a significant process-safety event occurred in Egypt this year. This event was a sober reminder of the importance of process safety in our workplaces. In supporting recovery and an injury-free restart and then sharing lessons learned throughout the organization and industry, the Egypt team and the global team members who supported them demonstrated our One Team culture and our commitment to improving PSM programs.

Process safety is also a key enabler supporting our environmental goals for preventing spills. For two years we have met our target of no significant spills. Environmental goals of improving energy efficiency and CO<sub>2</sub> emissions intensity from production are supported by projects undertaken to grow production capacity with newer technology and improve plant reliability and operations.

We continued to work with the Methanol Institute and grow our own Product Stewardship program to make sure that education in safe practices for methanol transport and handling keeps pace with the growing use of methanol in marine, vehicle, and other energy sectors.

The communities in which we operate are critically important to us. They are home to our people; they provide us with our valued workforce and our license to operate; they nurture our people and their families; and they are our neighbors. Giving back to our communities and supporting important causes through fundraising and volunteerism are key parts of our culture and activities as

a company, expressing our commitment to contribute to the places where we live and operate.

I am proud of the steadfast work of our team in 2019 to enable our business strategy by working safely and controlling what is within our realm. Commitment to Responsible Care, operational excellence, and safety is about protecting all of us, not only *from* undesirable outcomes but *for* the things that are most important in our lives. Carrying this vision forward, in 2020 and beyond, is our ongoing mission and commitment.



John Floren  
President and Chief Executive Officer







# Responsible Care and Sustainability



**1,544**

employees



**6**

manufacturing sites



**12**

global office locations



**11**

methanol plants



**9.2**

million tonnes  
production capacity in 2019



**3.3**

billion USD in revenue



At Methanex, Responsible Care and sustainability mean that we adhere to the principles of health, safety, environmental stewardship, and social responsibility. We are committed to having a positive impact on the communities and environments in which we live and work and to acting responsibly.



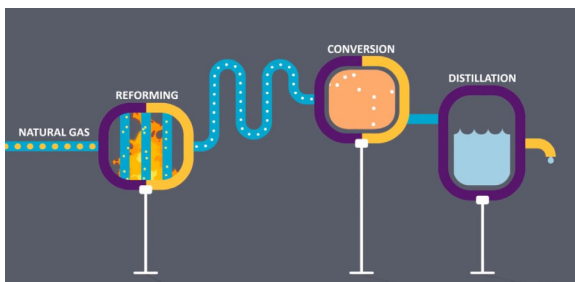
## OUR BUSINESS

We are the world's largest producer and supplier of methanol to major international markets in North America, Asia Pacific, Europe, and South America.

## What is methanol?

Methanol ( $\text{CH}_3\text{OH}$ ) is a commodity chemical that is a key ingredient in a variety of chemical derivatives and serves as a building block to produce a multitude of everyday consumer and industrial items. Made of hydrogen, oxygen, and carbon, methanol can be produced from a variety of sources, including natural gas and coal, as well as renewable sources such as municipal waste, landfill gas, biomass, and captured carbon dioxide ( $\text{CO}_2$ ).

On an industrial scale, methanol is predominantly produced from natural gas by reforming the gas with steam and then converting and distilling the resulting synthesized gas mixture to create pure methanol. The result is a clear, liquid, organic chemical that is water soluble and readily biodegradable.



## What is methanol used for?

Approximately 50% of all methanol is used to produce traditional chemical derivatives, including formaldehyde, acetic acid, and a variety of other chemicals. In turn, these derivatives are used to produce everyday products, such as building materials, foams, plastics, paints, polyester, and a variety of health and pharmaceutical products. Demand for traditional chemical applications is influenced by global economic activities. Methanol is also used in an increasing number of energy-related applications.

As an innovative, clean-burning fuel, methanol is an economically viable alternative that can provide fuel diversity and reduce emissions. Methanol can be produced from renewable resources like biomass, landfill gas, and  $\text{CO}_2$ .

Find out more about methanol in the video linked below.



## THE RESPONSIBLE CARE ETHIC AND PRINCIPLES FOR SUSTAINABILITY

Methanex's Responsible Care program is founded on the Responsible Care Ethic and Principles for Sustainability, a sustainability initiative recognized by the United Nations and adopted by the global chemical industry. It is based on the Chemistry Industry Association of Canada's (CIAC) Responsible Care® ethic, principles for sustainability, and codes of practice, and follows a "Plan, Do, Check, Act" cycle to enable continual improvement.

Our commitment to Responsible Care and sustainability compels us to:

- Work for the improvement of people's lives and the environment, while striving to do no harm
- Be accountable and responsive to the public, especially our local communities, who have the right to understand the risks and benefits of what we do
- Take preventative action to protect health and the environment
- Innovate for safer products and processes that conserve resources and provide enhanced value
- Engage with our business partners to ensure the stewardship and security of our products, services, and raw materials throughout their life cycles
- Understand and meet expectations for social responsibility
- Work with all stakeholders for public policy and standards that enhance sustainability, and act to advance legal requirements and to meet or exceed their letter and spirit
- Promote awareness of Responsible Care and inspire others to commit to these principles

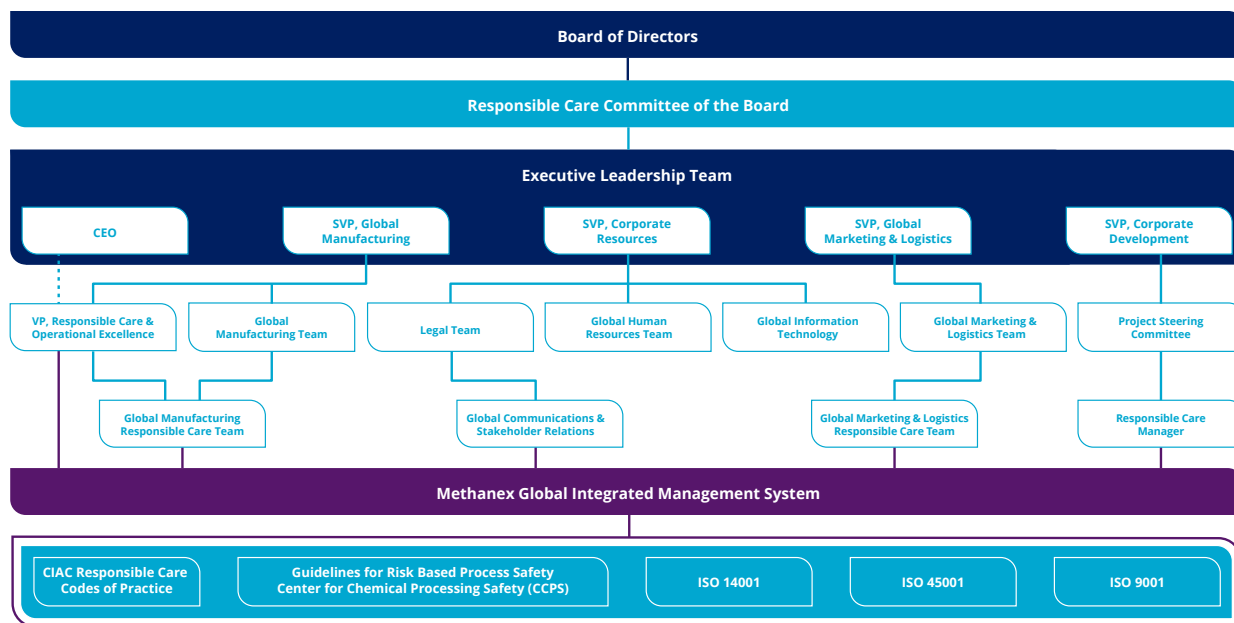
## Our approach to Responsible Care and sustainability Leadership and accountability

To guide and implement our Responsible Care and sustainability practices, we employ a structured approach that starts with clear organizational accountability.

Through its Responsible Care Committee, the Board monitors Responsible Care matters related to ethics, sustainability, safety (personal and process), environment, crisis management and communications, physical security, product stewardship, and social responsibility.

Our corporate governance policies ensure that business decisions and practices achieve the standards of accountability, ethical behaviour, and Responsible Care.

Our Responsible Care and Social Responsibility policies and practices are established by our Executive Leadership Team and endorsed by our Board of Directors.



These Responsible Care policies and practices are then embedded throughout the entire organization, from the Board of Directors all the way to individual team members. The most senior position in Responsible Care, the Vice President of Responsible Care and Operational Excellence, is directly accountable to the CEO in matters related to Responsible Care and also reports to the Senior Vice President, Global Manufacturing. Both the CEO and Executive Leadership Team have aligned performance goals and incentives linked to Responsible Care key performance indicators (KPIs). The KPIs reflect all the main elements of our Responsible Care programs and have targets to drive continual improvement throughout the organization. A portion of the CEO's compensation is linked to meeting the company's strategic goals related to Responsible Care performance.

The purpose of the Responsible Care and Operational Excellence function is to leverage the collective knowledge and experience of our Responsible Care and subject-matter experts. The combined function implements global standards and best practices, supporting learning and

development, identifying opportunities for improvement, being trusted advisors, and helping establish strategic priorities.

### Global integrated Management System

Our Global Integrated Management System (GIMS) guides us in implementing the CIAC Responsible Care Ethic and Principles for Sustainability. It also guides implementation of our [Health, Safety, Security, Environment, and Quality \(HSSEQ\) Policy](#) and the Responsible Care Codes for Operations, Stewardship, and Accountability.

The GIMS defines integrated requirements for all aspects of our operations, incorporating the latest management-system standards for Responsible Care management (CIAC), quality (ISO 9001:2015), environment (ISO 14001:2015), occupational health and safety (ISO 45001:2015), and process safety (Center for Chemical Process Safety). The requirements meet or exceed the latest standards for health, safety, environment, security, process safety, reliability, emergency preparedness, crisis management,

social responsibility, sustainability, product stewardship, and quality.

A global risk-based internal audit program reviews management practices to ensure compliance, assess performance, and drive continual improvement. The program includes ongoing in-region self-audits as well as global audits conducted by Methanex subject-matter experts. Third-party assessments provide external benchmarking and verify the integrity of our systems. We communicate regularly to the Board about the overall health of our integrated management system, and a third-party Responsible Care verification is conducted globally every three years.

### Stakeholder engagement

Our Manage Reputation Policy guides us to recognize and respond to stakeholder concerns about our operations and products and to provide information concerning any potential health or environmental risks to the appropriate authorities, employees, and stakeholders.

Community advisory panels (CAPs) composed of a cross-section of independent community representatives function in each of our manufacturing regions to promote communication between Methanex and our fence-line communities. The CAPs provide a valuable forum for open, two-way communications.





## Material sustainability topics

Material sustainability topics refer to topics that are of significant interest to our stakeholders or that have economic, environmental, or social impacts on Methanex, our stakeholders, or society at large. We identify our most significant material topics through an internal assessment process to identify those that are important to our key stakeholders and that influence Methanex's success in the long term.

The material sustainability topics highlighted in this report are below:

### Sustainable Energy and Methanol

- Methanol as marine fuel
- Methanol as vehicle fuel
- Methanol thermal applications
- Green methanol

### Environment

- CO<sub>2</sub> emissions from manufacturing
- CO<sub>2</sub> emissions from marine shipping
- Water management
- Waste management
- Spill prevention and response

### Workplace

- Health and safety
- Talent management

### Community

- Community dialogue and engagement
- Community investment and volunteering

### Product Stewardship

- Safe distribution and handling
- Methanol user safety

## Engaging our stakeholders

We are committed to having an open, honest, and proactive relationship with each community in which we operate. This includes:

- Being accountable and responsive to the public



- Having effective processes to identify and respond to community concerns
- Informing the community about risks associated with our operations

### Our key stakeholders include:

- Employees
- Customers and methanol end-users
- Shareholders
- Industry partners, suppliers, and contractors
- Community members and industry associations
- Government and regulatory agencies

### We engage with our stakeholders in a variety of ways:

- Customer surveys
- Shareholder engagement

- Stakeholder perception audits
- Product stewardship outreach efforts and public-policy engagement initiatives
- Community advisory panels (CAPs)
- Methanex Community Days (which help educate the public about methanol production)
- Employee surveys
- Collaboration with shipping partners such as the Methanol Group (a consortium of ship owners and ship-management companies) about the marine transportation of methanol
- Advocacy work relating to environmental policies, health and safety regulations, international trade, and taxation issues
- Industry associations (e.g., the Methanol Institute)





# Sustainable Energy and Methanol



**40%**  
of our fleet powered by methanol

Growth of M100 taxis in China  
reaches



**20,000**

Methanol-fueled furnaces installed  
in Jinzhong grows to

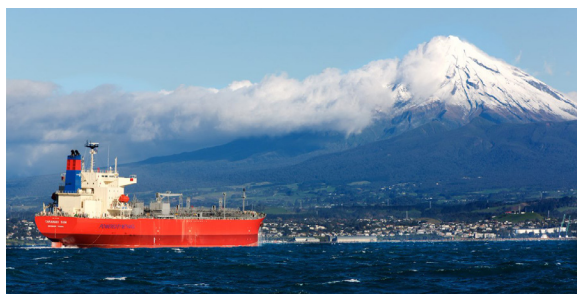


**27,000**



Global demand for clean energy and concern for improving the environment are driving methanol demand for energy applications. Methanol is a clean-burning and economically viable alternative-energy solution that can provide fuel diversity and reduce emissions like sulphur oxide (SO<sub>x</sub>) and nitrogen oxide (NO<sub>x</sub>).

It can be used as a source of energy or substituted for conventional transportation fuels and can be produced from renewable sources, which reduces its carbon footprint. As the global leader in the methanol industry, we are committed to developing these applications for the long term and to collaborating with our industry peers to build awareness of our product and share research and development.



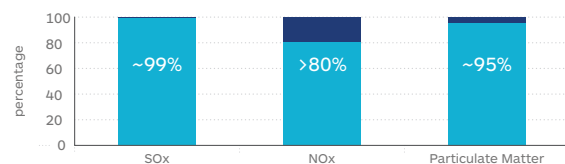
### METHANOL AS MARINE FUEL

Methanol has been proven to be an economically viable and cost-competitive marine fuel. It is available at most major ports worldwide. Methanol is one of the world's most widely traded commodities, and the shipping and chemical industries have a long history and experience in handling methanol safely. Methanol emits no sulphur, and its use significantly reduces NO<sub>x</sub> and particulate-matter emissions compared to traditional marine fuels.

As a leader in demonstrating methanol as an innovative and proven marine fuel, we invest in this sustainable technology for our Waterfront Shipping fleet and participate in numerous initiatives that demonstrate the viability and benefits of methanol as a low-emission marine fuel.

Methanol is helping the maritime industry meet new environmental regulations from the International Maritime Organization (IMO) that require ships to decrease emissions of sulphur oxide (SO<sub>x</sub>) and nitrogen oxide (NO<sub>x</sub>). Methanol significantly reduces emissions of SO<sub>x</sub> (~99%), NO<sub>x</sub> (>80%), and particulate matter (~95%) and can contribute to lower CO<sub>2</sub> emissions in the maritime sector compared to heavy fuel oil.

#### EMISSION REDUCTIONS WHEN COMPARED TO HEAVY FUEL OIL



Source: International Maritime Organization, MAN Energy Solutions, Stena Lines

### Methanol dual-fuel vessels

We partner with engine manufacturers (MAN Diesel and Wartsila), Stena Line, and our ship owners (Mitsui O.S.K. Lines, NYK Bulkship Asia, Iino Kaiun Kaisha, KSS Line, Marinvest, and Westfal-Larsen) to develop methanol dual-fuel vessels. Waterfront Shipping, a wholly owned subsidiary of Methanex, runs a fleet of methanol-fueled ships.

### In 2019 we welcomed four new second-generation low-emission methanol/dual-fuel vessels to our Waterfront Shipping fleet.

The additional vessels bring the company's methanol-fueled fleet to 11, making up approximately 40% of its overall fleet. Since launching in 2016, Waterfront Shipping's methanol fleet has accumulated over 75,000 hours of operating time on methanol and has received accolades from the marine industry for its use of methanol as an alternative fuel. When used instead of heavy fuel oil as a marine fuel, methanol significantly reduces emissions of sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), and particulate matter.

The 49,000 dead-weight-tonne vessels can run on both methanol and conventional marine fuels and are compliant with new International Maritime Organization (IMO) sulphur emissions regulations. In addition, the second-generation vessels will have the ability to meet stringent IMO Tier III NO<sub>x</sub> emissions limits without aftertreatment. This will be accomplished through a technology developed in conjunction with MAN Energy Solutions (the vessels' engine manufacturer) that involves blending methanol with water.

Tier III NO<sub>x</sub> regulations are already in effect for new vessels entering the coast of North America and will apply in northern Europe to vessels constructed after 2020. China, too, has implemented regulations to lower NO<sub>x</sub> emissions for marine vessels in its inland and coastal waters.



### Supporting methanol seminars in emerging marine markets

In February, over 200 industry leaders within India's maritime industry met in Mumbai for a Methanex-supported seminar focused on promoting methanol as a marine fuel. Methanol is gaining traction in India, supported by the government's push for the adoption of methanol fuels. The seminar, led by Sea Commerce Consulting, formed part of a series of methanol seminars throughout 2019 in Dubai, Greece, Brazil, Indonesia, and Singapore. The seminars demonstrate the rapidly growing interest in methanol as a clean-burning marine fuel within the global shipping industry.



Paul Hexter, president of Waterfront Shipping, speaks at the Methanol as Marine Fuel Seminar in Greece

### Marine fuel initiatives

In recent years, Methanex has supported a number of initiatives globally to promote methanol as a marine fuel. One of these projects includes the EU-funded LeanShips, a four-year project aimed at exploring solutions for new and existing marine vessels to become more efficient and less polluting.

As part of the project, LeanShips analyzed methanol as an alternative fuel for use in high-speed diesel engines for smaller vessels and concluded that compared to other alternative fuels, methanol best met the three criteria established for an ideal marine fuel: sustainable, scalable, and storable.

#### Partnering with methanol demonstration projects in Europe and China

Findings from the LeanShips project build upon data gathered by other projects that are focused on exploring methanol for the small-engine market. SUMMETH and GreenPilot (two Sweden-based projects), Green Maritime Methanol in the Netherlands, and a fishing vessel pilot in China are among the projects supporting the commercialization of methanol as a marine fuel in the smaller vessel market. Methanex is a partner in the fishing vessel pilot in China and is also working closely with partners on the Fastwater project in Europe to demonstrate methanol engine technology in various vessel types.

### METHANOL AS VEHICLE FUEL

Around the world, methanol has emerged as a clean, sustainable transportation fuel alternative for the future, whether used in a blended application with gasoline or on its own as a substitute for diesel or gasoline.

With support from the Methanol Institute, the global trade association for the methanol industry, we are actively involved in the development of regulations, standards, and pilot projects for methanol as vehicle fuel. We also participate in national and international initiatives to promote methanol as a clean-burning fuel and advocate for its safe handling.

#### Growth of M100 (100% methanol) as vehicle fuel in China

In China, increasingly stringent air-quality standards are supporting the adoption of methanol as a clean-burning vehicle fuel. Methanex has been working with automobile manufacturer Geely and other partners in China to support the growth of M100 (100% methanol) for vehicles in this country. By the end of 2019, around 20,000 M100 taxis were on the roads in China.

Following the completion in 2017 of the M100 national vehicle pilot program by China's Ministry of Industry and Information Technology (MIIT), last year saw eight ministries in China jointly publish a document endorsing the nationwide development and introduction of methanol vehicles. *Guidelines to Promote Methanol Vehicles in Some Parts of China* promotes the development of methanol-fueled vehicles, M100 filling stations, and relevant standards. As the first document of its kind published by the government in China, this endorsement will enable the growth of M100 in more regions and for more vehicle types in China.



#### Responsible Care safety training in China

In China, Methanex and automobile manufacturer Geely delivered a Responsible Care seminar to over 50 registered trainers in 2019. The aim of the seminar was to empower trainers to deliver safety training to 138 communities in the city of Xi'an, Shaanxi province. The training included information on the benefits of methanol and advice on best practices when handling the fuel.

There are currently over 8,000 M100 taxis in operation in Xi'an, representing approximately 70% of the city's taxis. These taxis are serviced by over 30 filling stations that sell M100, a figure that is expected to rise as demand for the fuel grows.

By August 2019, approximately 600 M100 taxis were in operation in the city of Baoji, Shaanxi province, accounting for 40% of taxis operating in the city. In Guizhou province, the capital city of Guiyang introduced more M100 taxis in 2019, bringing the total there to over 10,000.

Methanex will continue to work with Geely and other partners to support the sharing of Responsible Care practices while the use of M100 expands across China.

#### The world's first M100 heavy-duty truck launched by Geely

In April 2019, Chinese automobile manufacturer Geely launched the world's first heavy-duty truck that can run on M100. M100 truck emissions are significantly lower than diesel truck emissions and outperform China's stringent air-quality emissions standards. At a launch event in the company's Nanchong production facility in Sichuan province, 200 government officials, distributors, suppliers, partners, and members of the media marked this landmark event for the heavy-duty truck industry.

Methanex will continue to work closely with Geely to support the commercialization of methanol as a vehicle fuel for heavy- and light-duty vehicles.



#### Worldwide Fuel Charter accepts methanol use

The International Organization of Motor Vehicle Manufacturers' Worldwide Fuel Charter (WWFC) Committee works on behalf of automobile and engine manufacturers and aims to harmonize fuel quality specifications worldwide. Following significant advocacy efforts by the Methanol Institute and its members (including Methanex), the Committee updated its charter in 2019 to sanction the use of methanol in gasoline blends and to permit methanol blending "where specified by applicable standards." This update to the Charter demonstrates growing acceptance and endorsement of methanol by leading automobile-industry bodies and reflects increased worldwide interest in fuel blending.

Learn more [here](#).



## METHANOL THERMAL APPLICATIONS

Over the last few years, methanol has been increasingly replacing coal as a clean-burning fuel to power industrial boilers and furnaces used for heat generation. To ensure the safe and sustainable development of this market, we are involved in demonstration projects involving industrial boilers in China and in the development of technical and safety standards in this country.

### In 2019, Methanex supported the Jinzhong government in promoting methanol as a fuel for boilers.

Driven by environmental concerns, in January the Jinzhong government of Shaanxi province announced a three-year plan to establish methanol-fueled boilers and furnaces to replace coal burning during the winter season. By the end of 2019, 27,000 methanol furnaces had been installed in Jinzhong, and 300,000 are slated to be installed by 2022. In addition, 1,000 methanol-fueled boilers will be established in the region. The project—the first of its kind in China—is estimated to deliver around 2,500 new jobs for the local area.

As a leader in Responsible Care, Methanex was invited by Jinzhong's government to deliver a seminar in June on the safe handling of methanol as boiler fuel. Methanex has hosted several Responsible Care seminars in China, and this was the third focused on the boiler industry. At the seminar, the updated *Safe Handling Guidebook of Methanol Based Fuel for Boilers*, which we developed in partnership with industry associations and stakeholders, was distributed to support the transition away from coal.



### World's first methanol-fueled kiln

In 2019, Methanex supported the pilot launch of a methanol-fueled kiln in China's Dehua county in Fujian province. The purpose of the pilot was to explore the environmental benefits of replacing natural gas with cleaner-burning methanol to fuel kilns in the region. The kiln was converted

from a 57-meter-long natural gas-fueled kiln (also known as a *tunnel kiln*) and is being used to produce ceramic mugs. As the world's first methanol-fueled tunnel kiln, this is a major milestone in the development of methanol as a power source.

In the coming year, data on the quality of the ceramics, financials, and emissions will be collected from the pilot and used for further analysis.

## GREEN METHANOL

Increased focus on climate change has led companies to seek ways to align with lower greenhouse gas (GHG) emission policies and reduction targets and governments to incentivize the use of renewable fuels.

"Green methanol" (which includes biomethanol and renewable methanol) can be produced from many renewable sources: municipal waste, industrial waste, biomass, and carbon dioxide (CO<sub>2</sub>). Because of its lower carbon intensity, green methanol is a low-carbon fuel that can play a role in future energy applications to help society meet GHG emissions targets.

Methanex's approach is to grow the use of green methanol and increase its availability through commercial offtake and sales agreements, advocacy to raise awareness of the benefits of methanol, and investments to spur the growth of green methanol production. We advocate for and support the recognition of green methanol as low-carbon fuel in renewable energy policies, such as the Canadian Clean Fuel Standards and the European Renewable Energy Directive II (RED II).

### Biomethanol and renewable methanol

**Biomethanol** is produced from bio sources, such as wood residues and municipal solid waste, biogas (which can be sourced from landfills), or organic matter, such as plant waste and animal manure.

**Renewable methanol** is produced from renewable electricity (e.g., solar, wind, hydro, geothermal), which is converted into hydrogen via electrolysis of water. The hydrogen is catalytically reacted with captured CO<sub>2</sub> that can be sourced from industrial emissions to produce methanol.

## Investing in green methanol

Methanex is a key shareholder (with board representation) in [Carbon Recycling International](#) (CRI), which operates a plant in Iceland that converts renewable electricity and recycled CO<sub>2</sub> emissions into renewable methanol marketed in Europe as Vulcanol. Vulcanol is certified by the International Sustainability and Carbon Certification system (ISCC) as an advanced, renewable, ultra-low-carbon transport fuel with at least 90% lower CO<sub>2</sub> emissions than conventional fuels.

Methanex and CRI strive to collaborate on projects based on CRI's emissions-to-liquid technology by leveraging Methanex's operational experience and global reach and CRI's unique expertise in the production of renewable methanol. Methanex also supports CRI in its development of health, safety, and environmental management systems to enable the company's continued sustainable growth.

More information about renewable methanol is available from the [Methanol Institute](#).

### Methanex awarded Chemical and Ingredient Award for green biodiesel

In France, we supply CRI's renewable methanol Vulcanol to Avril Group, a producer of a green biodiesel, for use in production of their biodiesel product Oleo100.

Vulcanol, which is produced from renewable hydrogen and captured waste CO<sub>2</sub>, helps reduce the carbon intensity of Oleo100.

In their fifth Supplier's Day event, themed "Sustainability Makes the Difference," Avril Group recognized Methanex's contribution to Oleo100 with their Chemical and Ingredient award. Methanex is proud to be a part of both projects and their contribution of green products to the energy sector.







# Environment



**33%**

reduced CO<sub>2</sub> emissions  
intensity (manufacturing)



**17%**

reduced CO<sub>2</sub> emissions  
intensity (marine)



**32%**

waste recycled



**0**

significant spills



We take a multi-pronged approach to minimizing our environmental impact. We make efficient use of natural resources, such as natural gas, energy, and water. We monitor and minimize the waste and emissions we generate, and we maintain a comprehensive spill-prevention program.



## CO<sub>2</sub> EMISSIONS FROM MANUFACTURING

Our operations generate emissions when fuel is consumed during the methanol production process. Multiple factors determine the intensity of the emissions, including: the age and reliability of the plant (and the resulting impact on efficiency), type of reforming technology, fuel composition, age of catalyst, heat integration, and source of power. As a result, our overall emission rates can vary from year to year.

One of the most significant ways we can minimize our emissions is by maintaining the reliability of our production facilities and the efficiency of their production processes. This way, we reduce energy use as well as emissions of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and particulate matter. All new plants are built to high standards for energy efficiency.

Natural-gas combustion represents our main source of CO<sub>2</sub> emissions. We rigorously monitor and optimize our natural-gas efficiency to account for changing conditions in the reforming and conversion stages of production. Gas efficiency is monitored daily by measuring the quality and amount of natural gas used to produce a tonne of methanol. If the rate of efficiency drops, we investigate the cause and make corrections to improve gas efficiency. We also monitor catalyst evaluation reports on a routine basis and adjust operating parameters to ensure optimal gas conversion to methanol.

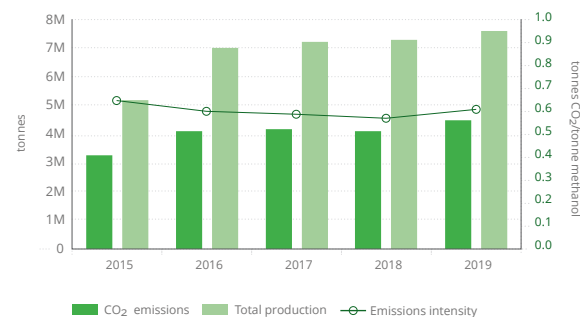
At our Medicine Hat facility, CO<sub>2</sub> captured from a neighbouring industrial facility is injected into the reactor to improve production efficiency, converting the waste CO<sub>2</sub>

into methanol. (Carbon dioxide is a synthesis gas required to make methanol and is normally produced from our natural gas feedstock.)

Our efficiency measures simultaneously reduce CO<sub>2</sub> emissions, conserve natural resources, and enable us to address environmental regulations and concerns about climate change.

In 2019, Methanex generated 4,485,902 tonnes of CO<sub>2</sub> emissions (on an equity share of the plants) from methanol production. CO<sub>2</sub> emissions intensity increased by 4% from 0.57 tonnes CO<sub>2</sub>/tonne of methanol in 2018 to 0.59 tonnes CO<sub>2</sub>/tonne of methanol in 2019. The increase in CO<sub>2</sub> emissions intensity is primarily due to increased production in Chile following the 2018 start-up of Chile 4, a refurbished older plant. We also made good progress on our debottlenecking project at our Geismar 1 and 2 facilities, which will enable us to increase our annual production capacity and improve efficiency.

CO<sub>2</sub> EMISSIONS FROM METHANOL PRODUCTION (SCOPE 1)



**The longer-term trend for our CO<sub>2</sub> emissions intensity indicates a sustained decrease, with an overall decrease of 33% from 1994 to 2019.** In earlier years, the decrease was due to removing some of our older plants from active service, followed in subsequent years by the addition of newer plants to our asset mix. As Methanex pursues growth opportunities and further plant optimization measures, we expect to further improve CO<sub>2</sub> emissions intensity from our manufacturing.

## CO<sub>2</sub> EMISSIONS FROM MARINE SHIPPING

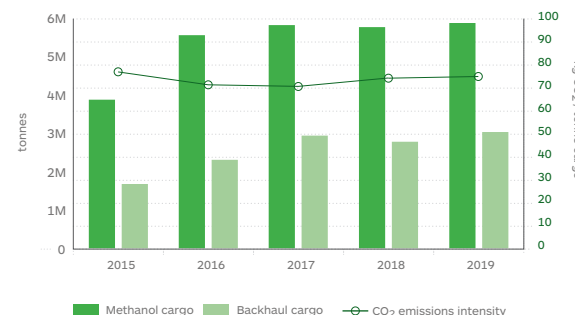
When we ship methanol (via Waterfront Shipping) to our customers worldwide, the vessels' consumption of fuel generates emissions. As part of our ongoing commitment to safe, responsible, and reliable transport of our product, we regularly replace older vessels with newer, more fuel-efficient vessels. Waterfront's fleet includes 11 dual-fuel vessels that have greater energy efficiency features than ships that run on traditional marine fuels.

Another way that we maximize the efficiency of our fleet of vessels is by arranging suitable cargo for the ships to carry on their return voyage ("backhaul") after delivering methanol to its intended destination, rather than returning empty. By carrying cargo during both legs of the voyage and using fuel as efficiently as possible, we keep fuel usage and CO<sub>2</sub> emissions per tonne of cargo to a minimum. The backhaul cargo is usually a clean petroleum product, such as gasoline or diesel.

**Our CO<sub>2</sub> intensity from marine shipping remained steady in 2019.** The volume of backhaul cargo transported by our fleet increased by 15%. Normally an increase in volume would decrease CO<sub>2</sub> intensity, but during the past year an overall increase in long-haul voyages kept CO<sub>2</sub> intensity rates relatively steady (increasing minimally from 74.7 to 75.1 kg CO<sub>2</sub>/tonne of cargo).

Since 2002, when we began tracking emissions intensity, Waterfront Shipping's CO<sub>2</sub> emissions intensity has decreased by 17%. Overall, the emissions intensity from our marine activities is trending in a positive direction.

CO<sub>2</sub> EMISSIONS FROM MARINE SHIPPING (SCOPE 1)



## NO<sub>x</sub> AND SO<sub>x</sub> EMISSIONS

We generate NO<sub>x</sub> and SO<sub>x</sub> emissions when fuel is consumed during the methanol production process and when we ship methanol to our customers worldwide.

Our primary source of NO<sub>x</sub> emissions in manufacturing is from the steam methane reformer, an essential part of the methanol production process. NO<sub>x</sub> is formed by combustion in the reformer, and the exhaust gas is released through the flue-gas stack of the reformer.

SO<sub>x</sub> emissions are dependent on the hydrogen sulfide content of natural gas consumed during methanol production. Natural gas used by Methanex contains very little hydrogen sulfide, so our SO<sub>x</sub> emissions are considered low.

We have two methods of reducing NO<sub>x</sub> emissions to meet regulatory requirements that address air quality issues:

- Low-NO<sub>x</sub> burners, which prevent the formation of NO<sub>x</sub> in the reformer and reduce NO<sub>x</sub> by more than 50%
- Selective catalytic reduction (SCR) units, a scrubber system that removes 99% of NO<sub>x</sub> from the exhaust gas of the reformer unit

View our NO<sub>x</sub> and SO<sub>x</sub> emissions in the Summary of Responsible Care and Sustainability Indicators, p. 26.

## VOC EMISSIONS

When methanol is in storage or being transferred, some of the vapours (volatile organic compounds, or VOCs) may be released to atmosphere and form ground-level ozone. To manage VOCs, we use vapour-recovery systems on storage tanks and in loading areas when there are air-quality issues or applicable regulatory requirements. Leak detection and repair programs further enable us to minimize the emission of methanol vapours throughout the plant.

View our VOC emissions in the Summary of Responsible Care and Sustainability Indicators, p. 26.



## WATER STEWARDSHIP

Water is a feedstock resource for manufacturing methanol. It is essential for production processes such as natural gas reforming, steam generation to drive compressors, heat transfer, and cooling processes.

Depending on the location, our plants use either fresh water or sea water. 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.



Throughout our plants, we conserve water by recovering waste steam and water, which are then reused in the production process. We are driven by our Water Stewardship Standard to identify and evaluate feasible opportunities to conserve water. This is particularly important in regions where there may be water shortages. We also conduct regular groundwater monitoring to ensure that groundwater is not contaminated by our production activities. In accordance with regulations, all wastewater from our operations is treated and analyzed before being discharged.

Four of our sites use freshwater sources to produce methanol. In 2019, we consumed 14,297,518 m<sup>3</sup> of fresh water to produce 5,187,472 tonnes of methanol. (This figure excludes ~22% returned to the source as treated effluent, 2% more than 2018.) Our 2019 water consumption intensity of 2.75 m<sup>3</sup> water/tonne of methanol was 3% higher than in 2018.

Conserving water throughout the production process improves the efficiency of our operations and maximizes the amount of water returned to the environment, which reduces the impact on surface water flows.

### Water Stewardship Standard

Our Water Stewardship Standard guides the use of water in the manufacture of methanol. The standard focuses on:

- Monitoring water risks and addressing impacts to communities, production, and suppliers
- Conserving water by minimizing, reusing, and recycling, and by closely monitoring water use associated with energy consumption
- Protecting water sources by reducing wastewater and contaminants of concern
- Monitoring data specific to water use, water quality, and effluent discharge
- Collaborating with local communities to invest in water stewardship initiatives

### Clean effluent reused for irrigation of community gardens in New Damietta, Egypt

In 2018, we reported that construction was underway to pump clean effluent to water community gardens. The irrigation project is the result of an agreement made between Methanex Egypt and the Egyptian Environmental Affairs Agency to deliver a lasting and creative solution to the use of our clean effluent water. We are now pumping about 1,500 m<sup>3</sup> of water per day and helping the community conserve river water by using clean plant effluent for the community gardens.

The city of New Damietta plans to increase the capacity of its irrigation network to take even more water from the plant.



*A community park in New Damietta that has benefitted from clean effluent water from our plant*

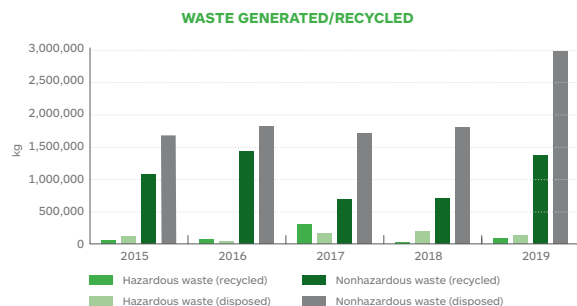


## WASTE MANAGEMENT

We use natural resources and materials efficiently and recycle or reuse waste where possible to minimize what is sent to landfills. Our methanol production process is inherently clean because the raw material is natural gas, which is all consumed. Any waste generated from other activities is stored appropriately and disposed through qualified waste-management companies.

Each Methanex location monitors the volume of waste that is generated and diverted from disposal to recycling/reclamation facilities. Over the last few years, we've been steadily decreasing the volume of hazardous waste we generate while recycling as much hazardous waste as possible. We also track data about the waste we generate so we can identify opportunities to reduce it through recycling, reusing, or reducing at source.

All of our facilities have recycling programs in place for paper, cardboard, beverage bottles, and petroleum products. Typically, 30–35% of the waste we generate in manufacturing can be recycled. The majority of recyclable material is generated during turnaround projects and includes spent catalysts, steel from machinery, piping, and wood. In 2019, we recycled 32% of the total waste generated.



We generate the largest quantity of waste during major maintenance, plant refurbishments, and servicing work. This waste includes construction-related materials such as scrap metal, wood waste, piping and vessel insulation, cardboard, and other packaging waste and containers. In 2019, there were more major maintenance projects than usual, which increased the total waste we generated.

Approximately 93% of the total waste produced in 2019 was nonhazardous. This waste was disposed to landfill in

accordance with local requirements and included materials such as insulation, spent filtering resins, asphalt, and sludge.

## SPILL PREVENTION AND RESPONSE

Of the potential hazardous spills that can happen at a manufacturing site, the most significant are spills of methanol, petroleum products from machinery (e.g., fuel, lubricating oils), and water-treatment chemicals.

When compared to other hydrocarbon products such as gasoline and diesel fuel (and many of their constituent elements, such as benzene), methanol is safer and more environmentally benign. Since methanol occurs naturally in the environment and is readily biodegradable, methanol spills are unlikely to accumulate in the groundwater, surface water, air (as vapour), or soil. However, a large release of methanol has the potential to adversely impact the immediate environment, depending on the nature and quantity of the release.

To prevent spills, we proactively conduct plant maintenance and inspections, train our team members on environmental management, and implement process-safety management (PSM) programs. The primary goal of PSM is to prevent the loss of primary containment of substances that are harmful to human health, safety, and the environment. If spills occur, we clean up, monitor, and analyze them to identify and resolve the root causes. In addition, in the event of a large spill, we have crisis and emergency-response teams in place to mitigate any health, safety, and environmental impacts.



**When a minor spill event occurs, we view it as an opportunity for improvement.** We review the controls in place, share lessons learned from previous incidents

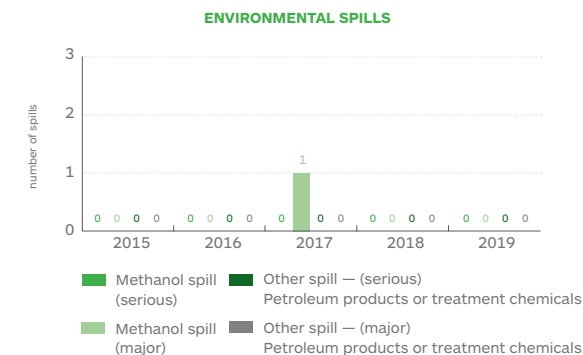
with all of our manufacturing sites, and take appropriate preventive actions to address the hazards that could potentially lead to more significant spills.



A key aspect of our spill preparedness and response program is ensuring that local response organizations are prepared to handle a methanol-related transportation incident. In both Canada and the U.S., we follow comprehensive voluntary chemical industry standards that support transportation hazard management. As part of our commitment to stewardship best practices, we are meeting the intent of these standards in the other regions and countries where we do business.

We also work closely with our community advisory panels (see the Community Chapter) to address community concerns about potential methanol incidents.

In 2019, for the second year in a row, we had zero significant spills to the environment.







# Workplace



**28%**

below injury  
frequency target



**1.3**

million additional labour  
hours worked



**77**

global travel/work  
assignments



**26%**

improvement in Learning &  
Development rating



The safety and well-being of our team members, contractors, and the communities in which we do business are our top priorities. Our talent-management programs provide team members with the knowledge and tools they need to be successful and opportunities to maximize their potential. An engaged One Team workforce and culture are key components of our competitive advantage.



## HEALTH AND SAFETY

We firmly believe that all work-related injuries and illnesses are preventable. Our primary goal is a zero-harm workplace. We have a comprehensive Global Integrated Management System that meets or exceeds external management-system standards for Responsible Care management (CIAC), occupational health and safety (ISO 45001:2015), process safety (Center for Chemical Process Safety), environment (ISO 14001:2015), and quality (ISO 9001:2015).

We have comprehensive health and safety programs to protect the safety of our team members and contractors in every area of our global operations.

### Occupational health and safety

Our occupational health and safety programs focus on the safe execution of all work at all locations. They include identification and management of job-specific hazards, worker competency and training, work-permitting systems, job supervision, compliance monitoring, and contractor management. Our Critical Activities, Rules, and Expectations

(CARE) Standard identifies the activities that present the greatest risk to workers (employees and contractors alike) and the actions required to work safely and avoid significant injury.

Our Contractor Health, Safety, Security, Environment, and Quality Management Standard defines how we work with these valued partners at our work sites. It includes processes for their pre-qualification, onboarding, job planning, supervision, and risk management, helping them safely work in compliance with our standards.

### In 2019, Methanex achieved one of the best annual occupational safety performances in our history.

In 2019, employee and contractor injury frequency and severity rates\* fell significantly, affirming the hard work we've put into reversing concerning trends the previous two years. It was a year of intensive work projects with site turnarounds (see sidebar), significant maintenance outages, and major projects occurring at five of our manufacturing sites. Achieving one of our best annual safety performance rates in this context is an important reminder that our goal of zero harm is achievable—and that we are on the right course.

While we celebrate our safety performance achievements amid a busy year, we are mindful that we have not yet reached our goal of zero injuries. We experienced 10 recordable injuries overall, of which eight involved lost time or restricted-work\* measures. One of the injured was a Methanex team member, while nine were contractors. Four of the injuries were associated with turnaround work.

Turnarounds present unique challenges to safety management as they involve large numbers of workers and contractor groups working on sizable projects in compressed time frames. To address this challenge, we've focused our work in the areas of turnaround safety, leadership presence, contractor and employee engagement, hazard awareness, and learning approaches.

The launch of a global Hazard Awareness Campaign emerged from our commitment to building a culture of continuous improvement. Using a train-the-trainer approach, we educated over 250 people on hazard awareness and mitigation, and we will continue to deliver training in 2020, continuing last year's improvements and fully engaging contractors with our safety culture.

\* Recordable injury frequency rate (RIFR) is the number of recordable injuries per 200,000 labour hours of work. Recordable injuries are fatalities or incidents that require medical attention or result in restricted work or lost time. Recordable injury severity rate (RISR) describes the number of lost time days and restricted-work days per 200,000 labour hours of work.

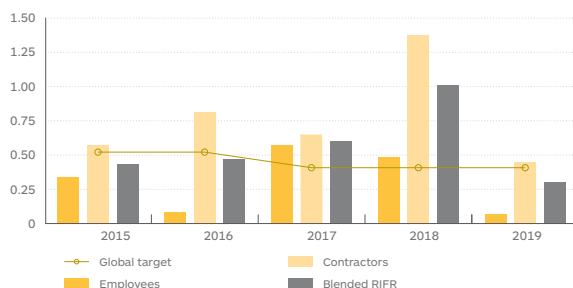
### A successful year for plant turnaround safety

2019 was a busy year for Methanex's manufacturing plants with three turnarounds (major plant maintenance projects), a major outage, and completion of phase one of a refurbishment in Chile.

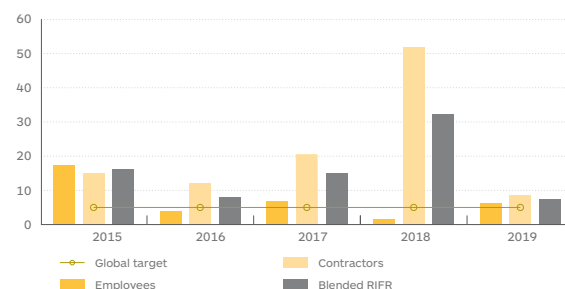
Methanex Geismar's first plant turnaround saw a total of 330,000 safe man-hours worked with no recordable injuries. To ensure that all contractors working on site were committed to our safety culture, a number of initiatives and Methanex best practices were delivered by the plant's Turnaround and Responsible Care teams:

- **Principals meeting.** Contractor and company principal roles established a commitment to safety first at senior management levels.
- **Safety stand up.** All employees and contractors attended two safety presentations from workers in the industry who experienced serious injuries on the job and now share with others about the importance of continuous safety awareness.
- **Daily newsletter.** Circulated for the duration of the turnaround, the *Turnaround Times* provided regular updates on work hazards and safety practices.

5-YEAR GLOBAL RECORDABLE INJURY FREQUENCY RATE (RIFR)



5-YEAR GLOBAL RECORDABLE INJURY SEVERITY RATE (RISR)



## Process safety

Our global process-safety management (PSM) program is devoted to safely containing hazardous materials within the plant systems. We use the Center for Chemical Process Safety's (CCPS) Guidelines for Risk Based Process Safety to benchmark best practices with our peer companies and to guide the development of our global and regional programs. An Executive Process Safety Steering Committee (EPSSC) supports senior leadership in prioritizing and addressing critical issues at our sites.

At a regional level, we are proud of the work being done to raise awareness in this area. In 2019, we held a process-safety management workshop in Egypt, which was attended by over 350 leaders and executives of the country's oil, gas, and petrochemicals industry.

The workshop was delivered under the banner "Modernizing Process Safety Management: Sharing the Vision" and held in partnership with EChem, our joint venture partner in Egypt and a subsidiary of the Egyptian Ministry of Petroleum. The

### Delivering process-safety management changes in Waitara Valley

The Waitara Valley plant turnaround, completed in 2019, was an opportunity to make several process-safety improvements at the same time.

The improvements included installation of sensors and gas isolation valves to mitigate the impacts of a significant earthquake, upgrades to safety shutdown systems, and relocation of the site's control room to a refurbished administrative building in a safer location on the outskirts of the plant. The relocation also provided opportunity to increase natural light for control room employees and provide them with adaptable workstations for improved ergonomics.

These projects are vital to keeping the plant safe, meeting regulations, and promoting reliable plant operations into the future.



purpose of the workshop was to demonstrate how process-safety management encompasses everything we do, from safe design of new facilities to conversations on the plant floor about safe operations.

During the event, Methanex's Director of Process Safety Management delivered a keynote speech sharing lessons from a process-safety incident that took place at our Damietta plant last year. A high-pressure steam header in the convection section of a reformer ruptured (a result of original equipment design and fabrication techniques), causing significant damage to the surrounding equipment. This incident has prompted us to take a deeper look at how we address potential safety risks in our manufacturing process. We will be building on the lessons shared during the workshop in Egypt and continuing to foster dialogue about process safety in the industry.

## Safety culture

Programs that focus on safe behaviours, accountability, and the interface between people and the work environment are key to building the culture of safety that we commit to as an organization. Through our Switch On to Responsible Care safety culture program, we encourage people to identify and commit to their own personal reasons for working safely and to adopt the motto, *make sure every worker goes home safely, every day*.

Switch On to Responsible Care continues to be an important driving force in our safety culture. Most employees have received training, and 40 more employees (in Medicine Hat and Egypt) attended workshops in 2019. We continue to reach more and more contractors and continue to focus on core Switch On concepts, behaviours, and conversations across the business.

Responsible Care leadership programs promote visible and effective leadership from management, but also focus on

### Delivering improved health and safety across the organization

To help prevent musculoskeletal injuries for workers in all types of roles, we have enhanced our ergonomic assessment program and conducted our first company-wide ergonomics discomfort survey. Ergonomics professionals now work with all global Methanex sites to make sure workers have appropriately configured workstations and take regular breaks from desk work.

inspiring each person to take individual responsibility for safe behaviours.

## TALENT MANAGEMENT

Our people are critical to our success in every area of our business. We provide rich learning experiences and development opportunities to develop and sustain a talented, thriving workforce to deliver our business strategy.

Our workplace programs are built on the three pillars of our Employee Value Proposition: talented team, powerful impact, bright future. To deliver on this proposition, we focus on building leadership capacity and implementing effective talent-development programs to support and develop new and existing employees.

Find out more about our Employee Value Proposition [here](#).

## Leadership development

We focus on building leadership capacity and implementing effective talent-development programs to support and develop new and existing employees and to successfully deliver on our strategy. The Global Leadership Suite is an integrated set of signature leadership-development programs customized for leaders at all levels of the organization. It consists of the Executive Leadership Program, the Courageous Leadership Program, the Centre for Creative Leadership Global Leadership Forum, Methanex Leadership Essentials, and the High-IMPACT Coaching Program. In addition to completing a formal learning program, participants build a network of high-performing peers to enable future growth and collaboration.

## Executive Leadership Program

Following a successful launch in 2014, the latest installment of our Executive Leadership Program examined opportunities for senior leaders to explore the specific and complex challenges of leading a global organization. The centerpiece of the program consisted of three action-learning projects: Defining Methanol Market Leadership, Diversity and Inclusion, and Talent Management and the Needs of the Next Generation.

Methanex will continue to invest in our leadership programs as they have provided participants with a reinforcement of Methanex's values and culture, a global and strategic context to decision-making, and a platform to enhance leadership skills.



## On-the-job learning and development opportunities

Our Global Mobility Program offers team members the opportunity to undertake temporary or permanent positions at another global Methanex location or business function.

In 2019, 77 of our team members traveled to work in Methanex locations around the globe, supporting business needs, building networks, and gaining experience at the same time. This figure remains consistent with our global mobility numbers in 2018 and includes both short- and long-term assignments and support for plant projects, maintenance turnarounds, and other business initiatives.

The benefits of the program are numerous. Team members gain expertise in a new setting while learning about operations in another region and culture. Host teams experience greater diversity and fresh ideas. Knowledge and culture are enhanced, and the organization is enriched by the growth that occurs on all sides.

## Diversity program

Our [Methanex Diversity Policy](#) identifies three key diversity attributes—experiential, demographic, and personal—that enhance and improve our organization by creating a balance of skills, experience, perspective, and knowledge. The policy recognizes the importance of diversity for organizational effectiveness, and our talent-management programs foster diversity in our teams.

## Graduates in Training

Our Graduate in Training Program is a two-year development program designed to foster leadership and professional growth among recent engineering graduates in the areas of technical, commercial, environmental, and interpersonal skills. Through the program, graduates have the opportunity to work on cross-functional engineering projects, providing them with broad exposure to many areas of the business.

**Our latest graduate program was launched in Egypt last year.** The program builds on the Graduate in Training Program by focusing on developing a talent pool of recent university graduates to support Egypt's next turnaround. Out of 3,000 applicants, 40 recent graduates (eight of whom were female) were selected from several universities in Egypt and from a diverse range of backgrounds and educational disciplines. Upon completion of the three-year program, the graduates may continue to develop their talents at Methanex in permanent roles or apply their skills within the wider Egyptian job market.

Through the program, graduates have the opportunity to work in manufacturing and non-manufacturing functions and gain exposure to several areas of the business. Among the benefits of the program are its contribution to building a future talent pool and its investment in the development of a diverse workforce.

The program begins with a 10-week onboarding program, during which the graduates develop their technical knowledge and are introduced to several areas of the business. This is followed by a six-month placement for graduates to shadow a mentor and gain hands-on experience within a specific function. The final phase of the program prepares the graduates for future plant projects by assigning them operational tasks.

During their time with Methanex Egypt, the graduates will also become familiar with the company's culture and core values, including its commitment to Responsible Care and a culture of safety.

### Meet one of Methanex Egypt's young graduates

Salma Gowida joined Methanex Egypt in September 2019 as a Maintenance Planning Graduate. Her day-to-day role includes daily planning meetings, site visits for job plan preparations, risk assessment meetings, and classroom training in maintenance topics.

"A graduate program in a company like Methanex is a great chance to receive a hands-on level of mentoring that I wouldn't find in a normal job. At Methanex, people fully understand the value of cooperation and teamwork; this encourages me to ask more questions and creates an environment of continuous learning.

"The structured training program provides the opportunity to study for further professional qualifications through on-the-job training. This means I won't only get the chance to put the skills I have already learned through my degree into practice; I can also develop and channel them with further qualifications to build a long-term career."



## Employee engagement

We periodically conduct Global Employee and Culture Surveys to check in with our team members, review the feedback received, and take action to strengthen our culture and improve our workplaces.

**93% of employees responded to our 2019 Global Employee Pulse Check survey.** The survey asked Methanex employees to reflect on how we're doing with respect to the key components of our culture: Core Values, One Team, Responsible Care, and Learning and Development. We wanted to celebrate areas where there has been positive movement and check in on other feedback since the 2016 and 2018 surveys.

The feedback was very positive globally and reinforced that our employees have a strong belief in the company's commitment to Responsible Care and to continual improvement, learning, and striving for excellence.

We were especially pleased that in the area of Learning and Development we scored notably higher than previous years, an area that we were working to improve. In part, these efforts were spent promoting learning and development opportunities beyond formal training, such as project assignments, mentoring, and coaching opportunities.

We will continue to chart our progress through regular check-ins and surveys.







# Community



22

community advisory  
panel meetings



12,620

hours volunteering  
in communities



304

community organizations  
supported



We believe our business must have a positive impact on people's lives. Our goal is to build and support healthy communities that are great places to live and work.



As a leader in Responsible Care, we are committed to people and to the places where we live, work, and play. We strive to be a respected neighbour and valued corporate citizen by creating positive and sustainable impacts in the communities and regions where we have a significant presence.

A strong commitment to giving back to our communities aligns with our core values and culture; supports employee attraction, engagement, and retention; and builds positive relationships with key stakeholders.

## COMMUNITY DIALOGUE AND ENGAGEMENT

Communities have the right to understand both the benefits and risks of our business. Our community-relations efforts support our growth and operations by enabling us to build and maintain our social license to operate. We are guided by the Responsible Care Ethic and Principles for Sustainability and the Chemistry Industry Association of Canada (CIAC) Responsible Care Codes of Practice. Our community policies and Community Dialogue Standard align with the Accountability Code of Practice and set out communication and engagement goals and actions for building positive relationships in our communities.

We consistently work to understand community interests, communicate information about our product and our business activities, and address community concerns. We contribute to local economies through our tax payments and business activities—employing people, directly and indirectly, and purchasing goods and services from local suppliers.

Community advisory panels (CAPs) in our manufacturing locations encourage communication and transparency

between the company and the community. We hold CAP meetings three to five times per year to share information about plant operations and seek input on our community programs. Other community dialogue channels include stakeholder associations, open-house days, community projects, seminars, community surveys, public meetings, conferences, and grievance-response mechanisms.

**In 2019, we engaged with community members on topics that are important to them.** Discussion topics varied from site to site depending on the material topics of interest to the local community and CAP in our regions.

In 2019, we held 22 CAP meetings. Generally, across all our global locations, there was strong alignment with Methanex's values and programs for protecting the environment, supporting education initiatives, and driving employment in the community.

Here are some highlights:

In **Medicine Hat**, we introduced a formal process for tracking community questions and concerns. CAP meeting topics included Methanex's responsibilities in regard to climate change as well as risk mitigation processes. We also conducted a stakeholder perception survey with government and community stakeholders, including CAP members (see sidebar, p. 20).

We partnered with the **Trinidad** CAP to deliver public education and outreach on natural disaster preparedness. We shared with community members how to plan for and respond to threats such as storms, floods, and earthquakes and partnered with the CAP to sponsor a STEM Robotics Workshop (see sidebar).

Methanex **Egypt** was visited by Global Affairs Canada (the Canadian government's international trade branch) and representatives from the Canadian Embassy in Cairo and the International Labour Organization (ILO). The visit showcased how our work with the ILO's Decent Jobs for Egypt's Young People program promotes sustainable development, entrepreneurship, and employment opportunities within the community.

The **Geismar** CAP heard presentations on River Parishes Community College's workforce training activities, CRISIS

(Capital Region Industry for Sustainable Infrastructure Solutions), and TRI (Toxic Release Inventory), an Environmental Protection Agency (EPA) database that tracks industrial management of toxic chemicals.

In **Chile**, we participated in an ASIQUIM (Industrial Chemical Association) Responsible Care program at the University of Magallanes and a career program at INACAP Technological University. Our team also ran a campaign to promote safe winter driving in our communities.

Our **Taranaki** team covered a variety of topics at their CAP meetings, including safety, community engagement and giving, energy efficiency partnerships, and inspection and risk mitigation at our Waitara Valley plant site.



Medicine Hat CAP members

## Encouraging teens to pursue STEM careers

Methanex in Trinidad was proud to sponsor a Science, Technology, Engineering, and Math (STEM) Robotics Workshop in partnership with the Trinidad CAP and Smart Kids Educational Club.

The one-day workshop was attended by 94 local teens and introduced the students to STEM applications and career opportunities in the STEM field. The group also participated in interactive sessions on programming and robotics.

Education is a focus area of Methanex's social responsibility programs, and we're grateful to all of our Trinidad employees who volunteered their time to help plan and deliver this workshop.



STEM students working with a robotics model

### Engaging the Taranaki community with the help of our CAP

Community Open House Days are a Methanex tradition of engaging with the public and demonstrating the work we are doing. In 2019, our Community Open Day in Motunui was staged with the help of 50 Methanex team members and CAP members.

Around 350 visitors enjoyed children's activities, displays of plant processes, and information booths at the event. Representatives from Ngati Rahiri hapu and East Taranaki Environment Trust ran information stalls, and past and present pictures of the local lands gave perspective on the natural habitat surrounding the Motunui plant.



A young visitor at Motunui's Community Open Day

### Community awareness and emergency response

The safety and well-being of our communities, employees, and contractors is our number-one priority.

Our global transportation emergency-response standards are based on the CIAC Transportation Emergency Assistance Plan (TEAP III), which enables us to work with qualified local emergency responders, emergency-response service providers, and other agencies to effectively respond to potential emergency situations.

We share our emergency-response plan information with the community for transportation incidents that may occur. This includes information about effective road, rail, pipeline, and marine emergency preparedness and response. We also share information about potential health and environmental hazards related to our product and operations.

Training, drills, and exercises are a regular part of our emergency-response programs in all regions. After each drill or exercise, we evaluate what we did well and what we can do better, then incorporate these lessons learned into emergency-response plans, which are in place to guide us in the event of a real emergency.



Here are some highlights from 2019:

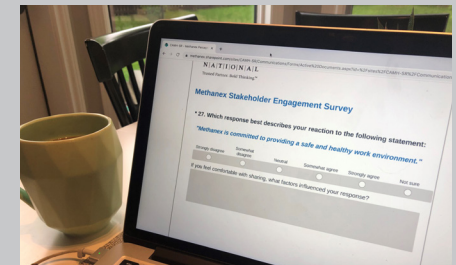
Methanex in **Medicine Hat** and Canadian Pacific (CP) Rail hosted a TransCAER event (pictured above) to educate individuals about products moving through their communities via rail and truck. With a focus on firefighting tactics for rail emergencies, the event was attended by first responders, government officials, and representatives from other regional Responsible Care companies.

In **Geismar**, Methanex participated in a Community Awareness and Emergency Response (CAER) Day. This was an opportunity for our industrial partners to showcase emergency-response, safety, and security capabilities and readiness strategies and to network with local suppliers.

In **Europe**, during routine maintenance and inspection of our methanol pipeline in the UK, Methanex engaged further with local authorities and emergency services teams to conduct an emergency-preparedness review. The team also worked with local partners to verify and enhance the pipeline emergency plan.

### Capturing feedback in the Medicine Hat community

In Medicine Hat, we worked with a third-party consultant to assess our stakeholder outreach and social responsibility efforts, specifically to learn about key stakeholders' understanding of our operation and any needs, concerns, and questions they have. The outcomes of the assessment were positive: Methanex is perceived to be a visible presence in the local community, and most respondents agreed that they associate the company with our core principle of Responsible Care. The survey also raised some areas for improvement: we can do better at sharing information about our social responsibility investments, our environmental footprint, and our involvement in developing effective public policy. The feedback will be used to refine our community outreach, social responsibility, and communications to stakeholders.





## COMMUNITY INVESTMENT AND VOLUNTEERING

Through our social responsibility investment programs, our company and team members give back to their local communities in ways that align with our core values, culture, and business strategy. We do this to support and build healthy communities that are great places to live and work. We regularly provide financial contributions and volunteer time to support community programs, services, and events. Every year, team members give thousands of hours of volunteer time—as teams and as individuals—to create positive impacts in local regions.

We have three areas of focus for our global community investment and volunteering efforts:

**Partnership with Employees** – We believe we do our best when we work together as One Team to impact both our company and our local communities. To support our team members and the community causes they care about, we match employee donations and support their volunteer efforts both on and off business hours.

**Responsible Care** – In alignment with Responsible Care principles, we provide funding and volunteer help to support programs that focus on health and wellness, safety, environmental protection, and the unique community needs of each region where we do business.

**Education** – We support efforts that contribute to regional education initiatives and help us develop a skilled workforce, to improve productivity and drive business growth. This includes scholarships, co-op opportunities, and summer employment for students who are pursuing studies in engineering, environmental studies, marketing, public affairs, and international business. We also provide funding for academic research aligned with our business areas.

**In 2019, we invested USD \$1.67 million and contributed 12,620<sup>1</sup> hours to support communities around the world, benefiting 304 organizations.** Each of our global teams made investments and generously volunteered their time to help meet needs and support valuable projects in their communities. Highlights from each of the regions can be found on the community section of our website [here](#).

<sup>1</sup>Total hours include time spent managing the volunteer activities as well as participation, in accordance with London Benchmark Guideline (LBG).

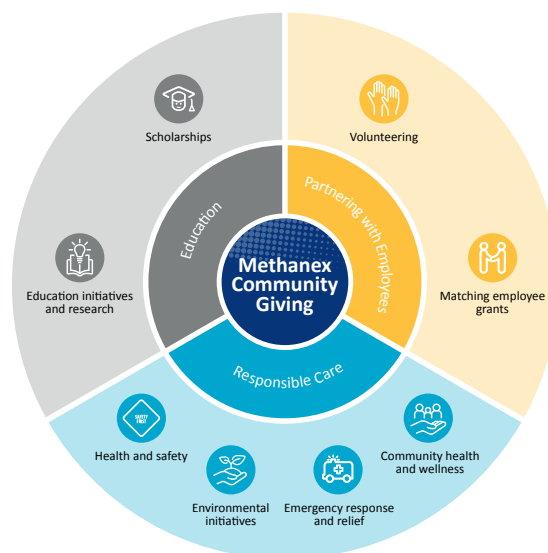
### Promoting workplace health and safety

In 2019, our team in Medicine Hat continued its partnership with Minerva Canada, a nonprofit organization dedicated to health and safety education. This was a continuation of our work in 2018 to develop a teaching module on risk communication in partnership with Minerva Canada and graduate students at the University of Alberta.

Last year, we supported the development of four six-hour e-learning courses, delivered by University of Fredericton, that focused on the fundamentals of workplace health and safety and included hazard analysis and risk management and designing for safety, ergonomics, and human factors. Two of the modules were rolled out in 2019; the remaining two are under development.

The online program is now available to any university or college to incorporate in their programs. Minerva anticipates that over 20,000 students will have access to the courses in 2020.

We are proud to be partnering in this ambitious initiative that addresses health and safety gaps in the curriculum of engineering students and helps meet our commitment to keep people safe.



### Methanex awarded Humane Entrepreneurship Award from International Council for Small Business (ICSB)



This award honours Methanex's newly formed two-year partnership with the International Labour Organization (ILO) in Egypt for our contributions to their Decent Jobs for Egypt's Young People initiative and the enrichment of enterprise culture in Damietta. The program addresses one of Egypt's most pressing challenges—youth employment and underemployment—and is the focal point for our social responsibility efforts in Egypt. Methanex Egypt is funding this initiative with a \$1,000,000 donation.

The ICSB Humane Entrepreneurship Award is given to organizations that successfully attain business excellence while also making a positive impact on their communities. Award winners must harmonize economic growth, social inclusion, and environmental protection and meet at least one of the 17 UN Sustainable Development Goals. The award ceremony was part of the ICSB's celebration of Micro, Small, and Medium-sized Enterprises (MSME) Day and took place at the UN headquarters in New York.

The program is being executed through four main programs: Start & Improve Your Business, GET Ahead for Women in Enterprise, Job Search Clubs, and Innovation and Entrepreneurship Curriculum for students of vocational high schools in Damietta.





# Product Stewardship



**100%**

ship safety visits and  
training completed



**2,603**

people at methanol  
safety seminars



**798**

organizations educated on  
methanol safety



Our comprehensive approach to product stewardship safeguards the public, the environment, and our communities in every country where we do business. We promote the proper use and safe handling of methanol while implementing environmental stewardship and social responsibility across our supply chain.



## MARINE SAFETY

Waterfront Shipping takes precautions to minimize risk to people, the environment, and the communities wherever we operate. We work with our contractors, ship owners, and their ship-management companies to follow industry best practices and comply with all applicable regulations.

Our Responsible Care programs for shipping go above and beyond regulatory requirements. These activities include:

- Annual on-board vessel safety visits of safety-management and people practices (including morale, motivation, leadership, and culture)
- Chemical Distribution Institute's Marine (CDI-Marine) annual inspections of all ocean-going vessels and audits of all contracted barge operations transporting methanol via inland rivers
- Customized methanol safety, competency, and mental-health training for Waterfront Shipping fleet crews
- Training on nitrogen safety, to mitigate asphyxiation risk (nitrogen is used to remove the risk of fire and explosion in the tanks)
- Encouragement of energy-efficient practices
- Best practice sharing within the fleet and the industry through the Methanol Group

Results of the Safety Visit Program are used to produce a fleet safety rating. This rating provides a benchmark for safety practices and supports the ship-management companies in their efforts to continually improve their safety and environmental systems.

Find out more about Waterfront Shipping's fleet statistics [here](#).

## Advancing safety for our Waterfront Shipping fleet

	Planned	Completed
Vessel safety visits	28	30
Annual Chemical Distribution Institute CDI-Marine inspections	28	31
Methanol and nitrogen safety training sessions	112	118

In 2019, we made further improvements to our Responsible Care practices in marine safety and exceeded our program delivery targets.

To support the ship-management companies in applying lessons learned from incidents, our inspection questionnaire was expanded to go into more depth on procedures and risk controls for barricading and monitoring of tank and enclosed-space openings, a hazard on all vessels. Enhanced requirements for Speak-up/Stop-work procedures, work permitting systems, and safety meetings further advanced our work to strengthen safety culture on board the vessels. As a continuation of a program launched in 2018, senior officers in our fleet received training in mental health awareness, and occupational safety training for ship crews was enhanced through a new safety video project (see sidebar).

As our marine safety inspection program grows in scope and rigour, we are pleased that the vessel safety ratings remain high and continue to support our ship-management companies in continual improvement of safety programs and performance.



## Engaging the hearts and minds of our ship crews

In 2019, our team at Port Taranaki in New Zealand worked with visiting ships crews to produce a new safety video.

The 10-minute video features footage of our Mari Jone and Taranaki Sun ships and demonstrates the importance of safety, product stewardship, and accountability for vessels and crew members.

On arrival into port and before any loading operations are carried out, incoming crew are shown the video to facilitate conversation and increase awareness of safety.

View the video [here](#).



## TERMINAL SAFETY

We request that our contracted terminals (which are used to store our methanol) undergo the Chemical Distribution Institute's Terminal (CDI-Terminal) inspections by a third-party inspector every three years. In some cases, they are requested to do a self-assessment that addresses essential elements and best practices in the areas of safety, environmental protection, social responsibility, and sustainability for chemical storage and transfer. Currently, all of our contracted terminals participate in the CDI-Terminal inspection program.

After an inspection is performed, we work with the terminals to prioritize and follow up on areas needing improvement. We also encourage delivery locations that are not contracted by Methanex to participate in CDI-Terminal inspections.

## Closing safety gaps; optimizing safety measures

In 2019, we worked in collaboration with Methanex global terminals on a variety of activities to find solutions that will close safety gaps and optimize the effectiveness of safety measures.

In Dallas, we hosted a Responsible Care seminar at a terminal that experienced a safety incident in 2019. Discussion topics included the safe handling of methanol, ISO certification, and maintaining terminal safety processes.

In Latin America, we delivered our first workshop on safe terminal operations with the participation of Empresa Nacional del Petróleo (ENAP, Chile's state-owned petroleum company), local authorities and emergency responders, logistics service providers, and surveyors. Methanex Latin America also delivered its 11<sup>th</sup> annual firefighting training camp and methanol safety seminar which, for the first time, took place in Brazil. Representatives from the area's biodiesel and resin industries, marine terminals, and local emergency responders learned safety best practices with a focus on methanol handling.

#### Building global bridges for emergency-response training

Responsible Care seminars held in 2019 in China and Korea served to bridge terminal safety practices in Asia and North America. Methanex Medicine Hat's Emergency Services Advisor, Jason Linton, worked with Methanex Asia's Logistics and Responsible Care team to deliver a series of workshops and seminars for local customers and terminal representatives in China and South Korea to share best safety and emergency-response practices with colleagues in Asia.

Information included best storage-tank fire practices, National Fire Protection Association standards, and market technology that can aid in emergency response. Jason also visited two local fire brigades and six terminals, observing fire drill exercises and providing feedback to the emergency teams there.

The sharing of knowledge and best practices from one location to another helps us continue to evolve as a learning organization. Developing the relationship between our North America manufacturing sites and Asia distribution sites demonstrates how a One Team approach to learning strengthens our global reliability.



### ROAD AND RAIL SAFETY

Two key initiatives of product stewardship under the Responsible Care Ethic and Principles for Sustainability are the Transportation Emergency Assistance Program (TEAP) and Transportation Community Awareness and Emergency Response program (TRANSCAER).

Methanex has incorporated these programs into internal standards and programs that are applied globally across our organization. The TEAP and TRANSCAER programs focus on training and community awareness about the safe handling of methanol for key stakeholders and emergency responders; risk assessments along the routes our product travels; and assurance that the modes of storage and transportation of methanol (and products used for its manufacture) are safe.

All tank cars in our railcar fleet undergo mandatory regulatory inspections every 10 years to verify that all equipment meets legislated standards. Our North America Railcar Preventative Maintenance program complements and exceeds this protocol by requiring Methanex inspections every five years. We are recognized annually by railroads for our safety stewardship practices.

#### Our road safety program

Our road safety program includes many different activities, including the following:

- Audits and assessments of our land-based carriers on a three- to five-year cycle using regional protocols that meet Methanex standards (in North America, the CDI-Terminal program; in Europe, the Safety and Quality Assessment for Sustainability [SQAS]; in China, the Road Transport Safety Assessment System [CRSAS]; and in Chile, Asociación Gremial de Industriales Químicos [ASIQUIM]).
- Truck methanol-handling safety seminars and workshops.
- Truck company qualification and selection program.
- Transportation-route risk assessments for motor carrier routes from producing locations, as well as assessments of newly proposed routes.
- A road "spot test" program to assess the performance of truck drivers. Our fleet-management standard sets stringent preventative maintenance requirements for our railcars, incorporating best practices and lessons learned from past incidents. In many cases, these requirements exceed those of industry.

### Another "grand slam" for shipping in North America

In 2019, our North American team was proud to receive Safe Shipper rail awards from Canadian Pacific, BNSF, Union Pacific, Norfolk Southern, and Canadian National rail lines. These awards qualify us once again for the Grand Slam Award from the American Railroad Association. Methanex is one of just a handful of companies that have won this prestigious award multiple times over the past 10 years.

Our preventative maintenance program for North America reported 100% compliance in 2019, and we also progressed our goal to achieve a full transition of our railcar fleet to the safer standards required by Transport Canada and the U.S. Department of Transportation two years prior to the regulatory deadline of 2025.



#### Partnering across the supply chain

Over 70 methanol safe handling sessions were held in 2019 in our regions around the globe, reaching over 2,500 people. These sessions are designed to demonstrate the safe transportation of methanol and to test that our emergency-response networks are capable of safely and efficiently responding to any potential land-transportation incident involving methanol. Examples of these activities in each of our regions are described below.

Methanex **Latin America** successfully completed an audit of 32 companies and 120 trucks at our main storage terminals in Brazil. These trucks made over 40,000 deliveries (600,000 tonnes) of our product. The average audit score was 99.6%. Our work with distribution partners extends beyond audits to provide guidance for implementing effective best practices for safe product handling and emergency response.

In **Europe**, we worked with each of our contracted logistics partners to assess their quality, safety, security, and



environmental performance using a third-party assessment program, Safety and Quality Assessment for Sustainability (SQAS), to verify that standards are being met. Working within the SQAS framework, we supported our partners in developing individual improvement plans in the areas of health, safety, and environment performance.

In **China**, we delivered training on the China Road Safety Assessment System to three of our distributors. Our distributors and their downstream stakeholders participated in fire drills led by terminal staff and fire brigades to enhance their emergency preparedness programs, and a distribution forum focused on methanol road-transport safety was attended by over 100 distributors, customers, and trucking companies.

In **North America**, an audit of a new transloading facility provided the opportunity for Methanex to coordinate emergency-response procedures with a neighboring chemical company and local fire department. The outcome was the delivery of safety improvements for both our supply-chain partner and the local community, including a robust emergency-response communications plan and local emergency resource-sharing agreement.



## INDUSTRY COLLABORATION AND RESPONSIBLE CARE ADVOCACY

We provide Responsible Care seminars for our supply-chain partners, customers, terminals, surveyors, distributors, carriers, and emergency services, as well as local and/or regional authorities. Our objective is to share Responsible Care practices and initiatives, health and safety best practices, and lessons we've learned, focusing on the methanol supply chain and dangerous goods in general. We host over 50 seminars and workshops every year, engaging an average of 300 organizations and over 2,000 individuals, and we continue to expand this program's reach as our business expands into new application markets and engages new business partners.

To help customers train their own employees, share information with downstream customers and distributors,

and interact with their communities, we conduct site visits to review methanol safety standards and provide technical information on methanol on our website. This information is available in multiple languages and includes material safety data sheets, a safe handling guide and video, and other educational materials.

## Recognition for our Responsible Care work in China

Methanex Asia Pacific was awarded the RC Merit Award at the 2019 Association of International Chemical Manufacturers (AICM) Responsible Care conference, the second consecutive year we received this award for our work in China. At a panel discussion following the award ceremony, members of our Asia Pacific team shared best practices in transportation safety, and the Vice Minister of China's Ministry of Industry and Information Technology spoke in recognition of the contributions made by all AICM members in driving positive change in the communities in which we operate.

In May, Methanex Asia Pacific, in partnership with AICM, co-hosted an Open-to-Public Day, a community event showcasing the petrochemical industry's commitment to safety and sustainability. Over 400 local community members, customers, and government representatives attended the event (pictured below), and for Methanex Asia Pacific it was an opportunity to share Methanex's Responsible Care practices and expand our collaborative learning community.



## Continued collaboration with the Methanol Institute

A new video on best practices for methanol handling was released in 2019 through a collaborative effort with the Methanol Institute.

The video provides critical safety information for all stages of methanol production, storage, distribution, and use for both facility personnel and anyone who may come in contact with methanol, including distributors, consumers, first responders, and the general public.

Sharing safety best practices with stakeholders throughout our supply chain is an important part of Methanex's product stewardship program, and we are proud to have participated in this important piece of work.



Watch the video [here](#).

## Biodiesel initiatives in South America

In recent years, Methanex has worked closely on developing the biodiesel market in Brazil with producers, distributors, and government agencies like ANP (National Petroleum Association). In 2019 we sponsored Brazil's Biodiesel BR Conference, the largest congress of its kind in the region, and presented on safe methanol-handling practices.

Methanex's leadership position as the world's largest producer and supplier of methanol allows us to grow in developing markets in Latin America, including the biodiesel market. Biodiesel is one of the only methanol applications growing today in Latin America, with a total demand of approximately 800,000 tonnes per year.

As a Responsible Care ambassador in Latin America, we are involved in inspection of facilities of biodiesel, resin, and distribution companies in northern and central Brazil, Peru, and Colombia, which brings more opportunity to develop relationships and share methanol safety practices.



*Fernando Reinecke, Manager, Logistics & Customer Service for Methanex Latin America, speaks about methanol safety at the 2019 Biodiesel Congress in Brazil*

## ENVIRONMENT

CARBON DIOXIDE (CO<sub>2</sub>) EMISSIONS

	2015	2016	2017	2018	2019
CO <sub>2</sub> emissions manufacturing (scope 1) <sup>1</sup>	3,245,947 t	4,118,285 t	4,171,421 t	4,093,573 t	4,485,902 t
CO <sub>2</sub> emissions manufacturing (scope 2) <sup>2</sup>	131,370 t	177,372 t	204,597 t	206,596 t	227,825 t
CO <sub>2</sub> emissions intensity manufacturing (scope 1) (tonne of CO <sub>2</sub> /tonne of methanol)	0.63	0.59	0.58	0.57	0.59
CO <sub>2</sub> emissions marine transportation (scope 1)	428,914 t	567,579 t	619,834 t	625,314 t	678,154 t
CO <sub>2</sub> emissions intensity marine transportation (kg of CO <sub>2</sub> /tonne of cargo shipped)	77.6	72.6	71.1	74.7	75.1
NO <sub>x</sub> emissions (manufacturing) <sup>3</sup>	-	-	6,834 t	6,922 t	7,051 t
NO <sub>x</sub> emissions intensity (manufacturing) <sup>3</sup> (kg of NO <sub>x</sub> /tonne of methanol)	-	-	0.82	0.82	0.82
SO <sub>x</sub> emissions (manufacturing) <sup>4</sup>	-	-	49 t	47 t	40 t
VOC emissions (manufacturing) <sup>5</sup>	-	-	3,054 t	3,227 t	2237 t

## ENERGY

Total energy use (excluding electricity)	222,201,248 GJ	292,556,200 GJ	315,532,499 GJ	318,852,561 GJ	329,066,971 GJ
Total electricity use	277,437 MW.hr	411,800 MW.hr	452,546 MW.hr	463,873 MW.hr	454,493 MW.hr
Electricity self-generated – nonrenewable	20%	20%	26%	30%	28%
Electricity self-generated – renewable	0%	0%	0%	0%	0%
Electricity purchased – nonrenewable	65%	65%	61%	61%	60%
Electricity purchased – renewable	15%	14%	13%	9%	12%

## WATER

Total fresh water consumed	9,969,751 m <sup>3</sup>	12,624,989 m <sup>3</sup>	14,848,502 m <sup>3</sup>	14,737,143 m <sup>3</sup>	14,297,518 m <sup>3</sup>
Freshwater consumption intensity (m <sup>3</sup> /tonne of methanol)	2.92	2.38	2.68	2.68	2.75
Effluent discharged (freshwater use)	3,105,424 m <sup>3</sup>	4,176,699 m <sup>3</sup>	4,061,522 m <sup>3</sup>	3,768,304 m <sup>3</sup>	3,917,035 m <sup>3</sup>

## WASTE

Total weight of hazardous waste – disposed	140,920 kg	48,646 kg	179,307 kg	362,176 kg	262,806 kg
Total weight of hazardous waste – recycled	16,088 kg	59,595 kg	330,752 kg	10,201 kg	79,197 kg
Total weight of nonhazardous waste – disposed	1,670,064 kg	1,809,966 kg	1,735,240 kg	1,802,879 kg	2,973,973 kg
Total weight of nonhazardous waste – recycled	1,065,124 kg	1,464,681 kg	673,980 kg	709,712 kg	1,452,523 kg
Waste recycled (% of total waste disposed)	37%	45%	34%	25%	32%

## SIGNIFICANT SPILLS

Methanol spill (serious)	0	0	0	0	0
Methanol spill (major)	0	0	1	0	0
Other spill – petroleum products or treatment chemicals (serious)	0	0	0	0	0
Other spill – petroleum products or treatment chemicals (major)	0	0	0	0	0

## COMPLIANCE

Fines (USD)	0	0	0	0	0
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## PRODUCTION

Methanol (total tonnes)	5,800,325 t	7,822,306 t	8,343,996 t	8,401,087 t	8,579,766 t
Methanol (equity share, tonnes)	5,193,000 t	7,017,000 t	7,187,000 t	7,211,000 t	7,589,000 t

<sup>1</sup> Scope 1 CO<sub>2</sub> emissions are direct emissions on an equity share basis.<sup>2</sup> Scope 2 CO<sub>2</sub> emissions are indirect emissions, on an equity share basis, from the generation of purchased energy.<sup>3</sup> Nitrogen oxide (NO<sub>x</sub>) emissions<sup>4</sup> Sulphur oxide (SO<sub>x</sub>) emissions<sup>5</sup> Volatile organic carbon (VOC) emissions



## WORKPLACE

	2015	2016	2017	2018	2019
<b>INJURY STATISTICS</b>					
Recordable injury frequency rate (RIFR) <sup>6</sup>	0.46	0.47	0.64	1.03	0.29
Recordable injury severity rate (RISR) <sup>7</sup>	16.46	8.50	15.34	30.1	8.18
Number of fatalities (employees)	0	0	0	0	0
Number of fatalities (contractors)	0	0	0	0	0
<b>GLOBAL EMPLOYEE STATISTICS</b>					
Total number of employees	1295	1275	1357	1426	1544
Asia Pacific	3%	4%	4%	5%	5%
Chile	9%	10%	12%	12%	14%
Dallas	3%	3%	3%	3%	3%
Egypt	12%	11%	12%	11%	11%
Europe	3%	3%	2%	3%	2%
Geismar	13%	13%	12%	13%	13%
<b>GLOBAL EMPLOYEE STATISTICS CONTINUED</b>					
Medicine Hat	10%	10%	10%	10%	10%
New Zealand	22%	22%	22%	21%	19%
Trinidad	15%	15%	13%	13%	13%
Vancouver	10%	10%	9%	10%	10%
<b>LENGTH OF EMPLOYEE SERVICE</b>					
< 1 yr	11%	9%	14%	13%	17%
1–2 yrs	25%	24%	16%	18%	19%
3–5 yrs	21%	23%	26%	25%	19%
6–10 yrs	25%	21%	21%	21%	21%
11–15 yrs	5%	10%	9%	8%	9%
16–20 yrs	5%	6%	6%	8%	7%
21–25 yrs	2%	2%	2%	3%	4%
26+ years	5%	5%	5%	5%	5%
<b>EMPLOYEE GENERATION<sup>8</sup></b>					
Traditionalist (1945 or prior)	0%	0%	0%	0%	0%
Boomers (1946–1965)	22%	19%	19%	17%	15%
Generation X (1966–1980)	48%	48%	44%	43%	41%
Millennials (1981 or after)	30%	34%	36%	39%	42%
Generation Z (1996 - later)	0%	0%	1%	1%	2%
<b>EMPLOYEE GENDER</b>					
Female	26%	27%	27%	28%	29%
Male	74%	73%	73%	72%	71%
Females in senior management	2	2	2	1	1
Females on the Board of Directors	4	3	3	4	4

<sup>6</sup> Recordable injury frequency rate (RIFR) describes the ratio of fatalities, lost time, restricted work or medical treatment cases per 200,000 labour hours of work.

<sup>7</sup> Recordable injury severity rate (RISR) describes the ratio of number of lost time and restricted work days per 200,000 labour hours of work.

<sup>8</sup> Due to rounding, figures for Employee Generation reflect employee counts that >=1% within the category

		2015	2016	2017	2018	2019
COMMUNITY	Community investment	-	USD \$1.00 m	USD \$1.27 m	USD \$1.47 m	USD \$1.67 m
	Community volunteering	-	-	13,069 hr	12,474 hr	12,620 hr
	Beneficiaries (organizations receiving our support)	-	235	369	302	304
	Community advisory panel (CAP) meetings	29	23	23	23	22
	Value of time contributed by employees	-	-	-	-	USD \$222,670
	Program management costs	-	-	-	-	USD \$80,145
PRODUCT STEWARDSHIP	Marine vessel safety visits	18	23	25	25	30
	Marine vessel inspections (CDI-Marine)	18	28	28	25	31
	Marine safety training sessions	70	117	100	100	118
	Terminal inspections (CDI-Terminal, TPSA, follow-ups)	24	30	36	28	32
	Responsible Care seminars held	50	49	75	80	75
	Responsible Care seminar attendees	> 1,500	1,340	1,100	2739	2603
	Organizations reached	922	300	300	747	798





# Thank you

Thank you for reading our 2019 Responsible Care and Sustainability Report.

Past reports are also available on our website [here](#).

Your questions, comments, and feedback are valuable to us, and can be sent via the Methanex website [here](#).

## Resources

For more information on Methanex's reports and supporting documents, please see:

- [Policies and Guiding Documents](#)
- [Annual Report](#)
- [GRI Content Index](#)



If you have any questions or comments about this report or our Responsible Care and sustainability activities, please contact us.

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Methanex is the world's largest producer and supplier of methanol to major international markets in North America, Asia Pacific, Europe, and South America. Headquartered in Vancouver, Canada, Methanex currently operates production sites in Canada, Chile, Egypt, New Zealand, the United States, and Trinidad and Tobago. The company's global operations are supported by an extensive global supply chain of terminals, storage facilities, and the world's largest dedicated fleet of methanol ocean tankers. To learn more, visit us at [www.methanex.com](http://www.methanex.com)



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