NOVA Chemicals®

ESG REPORT

SHAPING A BETTER WORLD

2020

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Letter from Our CEO

In August 2020, I joined NOVA Chemicals following a 30-year career in the global energy sector. I saw opportunities to build on the company's rich history and strong foundations that include exciting technology, world-class assets, and remarkable talent. In my new role, I have seen our employees, customers, suppliers, and society at large work together to help shape a world where the plastic products vital to our lives are even better tomorrow than they are today.

In this 2020 Environmental, Social, and Governance (ESG) Report, I am delighted to share our performance on topics of vital importance to society and our company. Of particular emphasis is the progress we are making on a plastics circular economy, climate care, and inclusion and diversity across the organization. We continue to lean into our efforts in these priority areas. We are also reporting on a number of foundational ESG topics, because of the relevance of these topics to our company and our stakeholders.

The COVID-19-related challenges of 2020 were an unplanned rehearsal of the challenges to come that will require us to remain steadfast in our values while simultaneously transforming our business. In March 2020, we activated our Pandemic Advisory Team (PAT) to implement scientific, evidence-based control measures to protect the health and safety of all employees and contractors working at our sites. As a business sector deemed "essential" to society, we continued to operate with only site-critical staff and contractors, with additional health and safety protocols. We enriched our "Total Well-Being" resources to ensure that people, whether in critical on-site roles or working from home, had resources to aid with sleep, stress, mindfulness, and more. We also contributed more than $300,000 in direct and employee-matching donations to organizations such as local food banks, and donated materials like isopropyl alcohol and polyethylene to aid the production of hand sanitizers and COVID-19–related barrier protections.

Despite last year's unprecedented nature, we made significant advancements, including:

- Realizing our best process and personal safety record, with a total recordable injury rate of 0.26—a 50 percent improvement versus our preceding five-year trend
- Entering the post-consumer resin market to promote plastic circularity by signing agreements with both Merlin Plastics and Revolution
- Entering into a joint development agreement with Enerkem to explore ethylene production using non-recyclable and non-compostable municipal waste
- Selling a record 2.3 million tonnes of polyethylene in 2020
- Implementing an enterprise-wide Business Improvement Program to successfully position the organization for strong value creation in its ambitions

No doubt 2020 will stand out as a year of transformation both within our company and in the world. The past year demonstrated the speed of transformation that is possible with NOVA Chemicals' world-class team, and the pressing need to sustain this pace as we move ahead. Our organization has emerged better aligned, leaner, more efficient, and focused on our pivot to ESG related priorities.

We at NOVA Chemicals are proud of the materials we make and are committed to this industry and to the value that plastic products provide to us all. The years ahead will be exciting, full of opportunities to serve all stakeholders.

Sincerely,

Luis Sierra

President & Chief Executive Officer

About NOVA Chemicals

NOVA Chemicals develops and manufactures chemicals and plastic resins. Our company is headquartered in Calgary, Alberta, Canada, and has operations in Alberta and Ontario in Canada and Louisiana in the United States. NOVA Chemicals is wholly owned by Mubadala Investment Company of the Emirate of Abu Dhabi, United Arab Emirates.

Our customers use the chemicals and plastic resins we manufacture to make plastic products that contribute to keeping people healthy and safe. Used in applications ranging from packaging for food, water, and medical supplies to e-commerce and recreational equipment, plastic is and will continue to be a valuable material that enhances modern life. How we manufacture, use, recycle, and recover plastic is also part of what we do.

NOVA Chemicals' purpose is to help shape a world where the plastic products vital to our health and happiness are even better tomorrow than they are today.

Through our commitment to sustainability and Responsible Care® principles, our employees consistently work to ensure health, safety, security, and environmental stewardship throughout every facet of our operations.

Leadership Changes

Since the 2019 report, we have experienced several changes to our Leadership Team. To see the most current members of the Leadership Team and Board of Directors, visit our website. For details on our Board, see the Corporate Governance section of this report on page 43.

July 2020: Our Board of Directors appointed Luis Sierra as President and Chief Executive Officer, effective August 1, 2020.

February 2021: Ahmed Yahia Al Idrissi named Chairman of the Board.

Company Changes and Major Project Updates

April 2020: Completed the sale of our 50 percent ownership interest in Novealis Holdings LLC.

October 2020: Finalized the sale of our expandable styrenics business to a subsidiary of Alpek S.A.B. de C.V.

Late 2022: Startup expected for our project to expand the Corunna cracker and build a new Advanced SCLAIRTECH™ technology facility. Once completed, the region's polyethylene capacity will increase by more than 50 percent, providing greater supply reliability for customers in high performance applications.

NOVA CHEMICALS' CURRENT LOCATIONS

CANADA

ALBERTA
- Joffre Manufacturing Site
- Red Deer Executive Place Office
- Pipeline Office, Sherwood Park
- NOVA Chemicals Head Office, Calgary
- Centre for Performance Applications, Calgary
- Centre for Applied Research, Calgary

ONTARIO
- Corunna Manufacturing Site
- St. Clair River Manufacturing Site
- Moore Manufacturing Site
- Manufacturing East Corporate Centre, Sarnia

UNITED STATES

PENNSYLVANIA
- U.S. Commercial Center, Pittsburgh

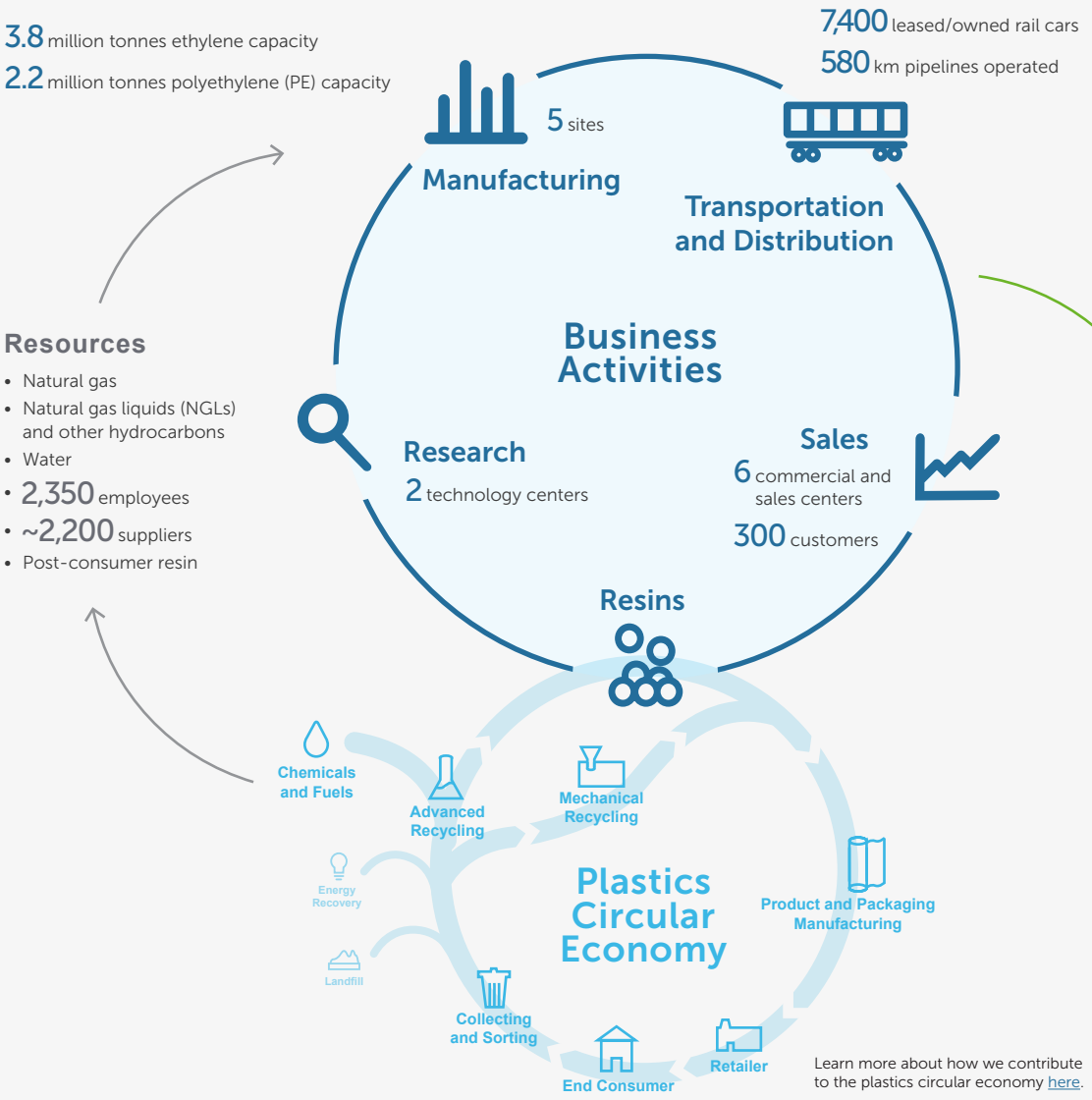
LOUISIANA
- Geismar Manufacturing Site

INTERNATIONAL

- Singapore Sales Office
- Fribourg-European Operating Center

How We Create Value

NOVA Chemicals develops and manufactures chemicals and plastic resins, with a focus on research and development to enable plastic products that are better tomorrow than they are today.



Learn more about how we contribute to the plastics circular economy here.

Value Created

In 2020, we generated $3.2 billion in revenue

For Employees

- Skills and opportunities for development
- Well-being
- Opportunity to make a difference
- $414 million paid in salaries and benefits

For Communities

- Safe operations
- Building and sustaining strong communities
- $688 million in capital expenditures
- $2.0 million invested in communities

For Industry Partners and Government

- Taking a leadership role in industry associations (the American Chemistry Council and the Chemistry Industry Association of Canada)
- Collaborating in policy development

For Society

- Enabling safer and better plastic resins
- Advancing a plastics circular economy
- Enabling plastic products that protect food and goods, and help protect human health

About This Report

Since NOVA Chemicals' first sustainability report in 2014, we have been reporting on our non-financial performance. This is our seventh annual sustainability report, now called our Environment, Social, and Governance (ESG) report.

This ESG report advances our disclosure and communications journey. Focused on the most relevant ESG topics, we demonstrate how we create value for the company, our suppliers, and customers, how we work to help solve global challenges, and how we care for people and the environment.

We continue to report in accordance with Global Reporting Initiative (GRI®) standards and align our reporting to the United Nations Sustainable Development Goals (SDGs) and the Sustainability Accounting Board (SASB®) Standards. By aligning with these frameworks and expanding our disclosures, we enhance comparability with our peers, and more clearly connect our ESG activities with company value creation.

Responsible Care®
Our commitment to sustainability.

OUR FOUNDATION IN RESPONSIBLE CARE®

NOVA Chemicals' Responsible Care® program and codes of practice are based on the Chemistry Industry Association of Canada's (CIAC) Responsible Care® Ethic & Principles for Sustainability, which guides how we manage issues relating to health and safety, environment, and social responsibility. The Responsible Care® initiative is recognized by the United Nations and has been adopted by the global chemical industry.

The Responsible Care® program is core to our sustainability and ESG efforts. These include broader sustainability topics that are crucial to meeting the expectations of our stakeholders, maintaining our leadership position in our industry, and delivering on our growth strategy.

Scope of This Report

- Unless otherwise noted, this report covers performance for the calendar year 2020, with historical data dating back to 2016
- We report environmental data based on operating control (i.e., we report 100 percent of the environmental impacts of our operated facilities regardless of ownership percentage). Using this principle, we do not report our portion of environmental impacts for non-operated joint ventures. In some instances, estimates are made based on best-available information and records at the time of writing
- To reflect the October divestiture of our expandable polystyrene (EPS) business unit, 2020 data from the EPS business is excluded from 2020 data in this report
- Data is based on permanent employees. When noted, safety data includes contractors
- Techniques for data measurements and calculations, if not industry standard, are stated with the data
- Unless noted, financial data is in U.S. dollars and environmental data is in metric units
- Senior management and relevant staff have reviewed key information and believe it is an accurate representation of our performance
- Third-party assurance, provided by GHD in 2020, is conducted for greenhouse gas (GHG) emissions data from our Canadian assets for regulatory purposes
- This report covers performance for NOVA Chemicals and the subsidiaries covered in our consolidated financial statements. The terms NOVA Chemicals, our, we, the company, and the corporation refer to NOVA Chemicals Corporation and its subsidiaries as a whole

Reporting Framework Alignment

We report on these topics with:

- GRI® Standards (Core level) page 66

We have begun to align our disclosures with the following standards:

- SASB page 68

Topics Covered in This Report

To determine content for this report, we conduct a biannual materiality assessment. Our most recent assessment took place in November 2020. During the process, we engaged subject matter experts and leaders across our business. Our resulting ESG Reporting Framework is categorized into the following three areas:

PRIORITY TOPICS

These topics are of global concern and interest to our value chain stakeholders. Priority topics are core to our business strategy and our business performance. We provide the most extensive disclosure on these topics.

- Plastics circular economy
- Climate care
- Inclusion and diversity

FOUNDATIONAL TOPICS

These topics reflect social or environmental expectations of our employees, owner, and other stakeholders. We provide supporting disclosure on these topics.

- Air emissions
- Water
- Waste
- Product safety
- Employee and contractor safety
- Process safety
- Transportation safety
- Ethics
- Responsible supply chain

REPORTING TOPICS

We report on these topics with relevant qualitative discussion and data.

- Physical impacts on climate
- Employee health and wellness
- Community and indigenous relations
- Economic impact
- Public policy
- Corporate governance
- Cybersecurity

How Our ESG Activities Create Value

We believe that sustainability and Responsible Care® standards must be at the core of everything we do. This commitment to environment, social, and governance matters aligns with our purpose of shaping a world where the products vital to our lives are better tomorrow than they are today. By addressing our most relevant ESG topics, we can create value for our company, our suppliers, and our customers. These efforts to care for people and the environment also contribute to solutions for specific global challenges, as embedded in the United Nations Sustainable Development Goals (SDGs).

	HOW IT CONTRIBUTES TO COMPANY VALUE CREATION Activities related to Priority or Foundational Topics support company value creation in the following ways:	HOW IT CONTRIBUTES TO SOCIETY Contributes to the following SDGs:
PRIORITY TOPICS		
Plastics Circular Economy	• Generates value for the organization with new product opportunities and mitigation of risks • Helps us retain our current customers and attract new ones	
Climate Care	• Helps to mitigate carbon-related financial risks, enabling us to remain competitive in the transition to a low-carbon global economy	
Inclusion and Diversity	• Supports the achievement of NOVA Chemicals' long-term goals and aspirations • Provides a leadership platform to become the most actively sought-after partner in our industry	
FOUNDATIONAL TOPICS		
Air Emissions **Water** **Waste** **Employee and Contractor Safety** **Process Safety** **Product Safety** **Transportation Safety** **Ethics** **Responsible Supply Chain**	**Working towards improved ESG performance helps us:** • Protect the safety of employees, contractors, and assets • Meet or exceed performance compliance requirements • Maintain the trust of our employees, customers, and suppliers • Build and maintain trust with regulators and stakeholders • Maintain social license and enable the execution of our growth plans • Protect our reputation	

ENVIRONMENT

We aim to be innovators and leaders in the plastics circular economy, and we will continue to take action to support the transition to a low-carbon economy. In our operations, we are committed to promoting sustainable practices and to proactively and responsibly managing our operational impacts to air, water, land, and biodiversity.

IN THIS SECTION

Plastics Circular Economy

Our bold vision is to enable a circular economy that recaptures value to help create a world free of plastic pollution. We are developing innovative new solutions and products that help retain the value of plastics in the economy through reuse, recycling, and recovery.

WHY IS IT IMPORTANT FOR US TO CONTRIBUTE TO A PLASTICS CIRCULAR ECONOMY?

A plastics circular economy transforms the lifecycle of plastic, helping to eliminate plastic waste and minimize new resource use. It also contributes to the long-term success of our business, the viability of our industry, and a thriving society.

The North American plastic industry is committed to 100 percent of plastic packaging being recyclable or recoverable by 2030 and reused, recycled, or recovered by 2040. NOVA Chemicals supports these industry goals.

Management Approach: How We Contribute to a Plastics Circular Economy

In a plastics circular economy, materials are recycled or recovered so they can be used again and again. Our role in the plastics value chain provides us with the opportunity to drive sustainability projects in collaboration with our customers, brand owners, and others and to participate in global efforts to eliminate plastic waste. To help address some of the biggest obstacles to achieving a circular economy, we focus on the following activities.

DEVELOPING PRODUCTS THAT ENABLE CIRCULARITY: We offer a portfolio of seven innovative polyethylene (PE) resins that are designed to help retain their key physical performance properties when reprocessed multiple times through mechanical recycling. This enables their reuse in applications such as stretch films, stand-up pouches, multi-pack collation shrink, and heavy-duty sacks. These resins are also designed to be used with a high percentage of recyclate (recycled material) in performance films because they compensate for the often-degraded physical performance of recycled content. Through studies at our innovation centers, we have demonstrated that when plastics such as PE stretch film are manufactured with our ready-to-recycle resins, they can be reprocessed into similar products several times over. Ultimately, they can be converted into durable plastic products, such as synthetic lumber for furniture or fencing.

MECHANICAL AND ADVANCED RECYCLING

Mechanical recycling is the most mature form of plastics recycling and is the most common method used globally. Post-use plastic is physically processed back into resins that are used to make new products. A major challenge to the scaling of mechanical recycling of plastics is the limited availability of properly sorted recycled plastics necessary to create new products with the desired properties.

Advanced recycling addresses the hard-to-recycle segments of plastic waste through technologies such as gasification or pyrolysis, converting plastic waste to feedstocks for plastic production again. Advanced recycling technologies are developing quickly and reaching commercial scale.

ADVANCING MORE CIRCULAR APPLICATIONS: Our teams of experts work with our customers to improve the recyclability of product applications and create end markets for post-use plastics. They do this by focusing on the following areas:

Source reduction: We can reduce plastics' environmental impacts by helping customers create packaging that uses less plastic to provide required physical performance properties. Our BONFIRE® Film Development Platform is a web-based suite of tools that enable packaging designers to virtually build complex, multilayer film structures and evaluate them based on their predicted performance properties. Customers can design "downgauged" packaging, reducing the material required per unit while meeting the same performance requirements.

Design for recyclability: We can amplify our impact on the plastics circular economy by designing for circularity upfront. We help customers replace non-recyclable packaging with recyclable packaging made primarily with polyethylene (PE). For example, our new biaxially oriented polyethylene (BOPE) resin technology enables fully recyclable packaging for an expanded range of products without sacrificing performance. Our BONFIRE® platform frequently plays a role in the design for recyclability process, helping customers create recyclable packaging that replaces mixed-material structures.

PCR incorporation: With our portfolio of recycled polyethylene (PE) resins and our technical expertise, we offer comprehensive solutions for companies looking to incorporate post-consumer resin (PCR) into their products. The dedicated circular economy team at our innovation centers supports product and application development.

INCREASING PCR SUPPLY AND USES: Many of the world's leading consumer brands have pledged to increase the amount of post-consumer resin (PCR) content in plastic packaging. We have entered the PCR business to help meet this increasing global demand and to support our customers and brand owners with PCR for use in everyday product and packaging solutions.

PROGRESSING ADVANCED RECYCLING: We are researching technologies and improvements for advanced recycling of plastic waste to create new, value-added feedstocks for resin production. We innovate and partner with companies that have made strides in advanced recycling.

COLLABORATING FOR A WORLD FREE OF PLASTIC WASTE: We are committed to working with others in the global community to proactively prevent plastic pollution and support cleanup efforts. We invest in projects with global reach that strengthen our positive impact as global citizens. Through our investments, we aim to contribute to one or more of these pillars:

- Innovation to advance and bring to scale new technologies that make recycling and recovering plastics easier and that create value from all post-use plastics
- Infrastructure development to collect and manage plastic waste and increase recycling in areas of greatest need
- Education and engagement of governments, businesses, and communities to mobilize action
- Cleanup to help stop plastic waste at its source, focusing on cities and major rivers that carry significant amounts of plastic waste to the ocean

In 2020, we focused our investments in two major programs: the Alliance to End Plastic Waste (AEPW) and Project STOP. AEPW has 78 member companies, project partners, allies, and supporters with targeted funding of $1.5 billion directed to ending plastic waste in the environment. As a strategic partner with Project STOP since 2018, we have pledged nearly $2 million over three years. We also provided guidance and expertise to support ongoing strategy updates and decision-making as a member of Project STOP's steering committee. We also invest in other regional organizations or fund internal projects toward similar goals, such as the Great Lakes Plastic Cleanup initiative (GLPC).

2020 Activities

EXPANDING OPTIONS FOR RECYCLABLE PACKAGING THROUGH NEW RESIN TECHNOLOGY: In 2020, we developed a high-density resin technology for the BOPE market. High-density biaxially oriented polyethylene (BOPE-HD) enables the manufacture of all-polyethylene, recyclable, multilayer film structures that have significantly improved physical performance compared to traditional blown-and-cast film structures. The technology is ideal for use in food packaging, heavy-duty sacks, e-commerce, and other demanding applications. Developments like BOPE-HD are critical to achieving industry commitments to make all plastic packaging reusable, recyclable, or recoverable. We are working with the world's leading stretching line manufacturer to accelerate the development and commercialization of this technology.

COLLABORATING FOR A STRONGER PCR SUPPLY CHAIN: Finding technical solutions to improve the quality and consistency of PCR will help to advance a circular economy. We have announced two collaborations to be able to offer PCR to our customers, with commercial quantities beginning in 2021.

Our long-term agreement with Merlin Plastics Supply Inc. (Merlin) helps to increase the supply of high-quality PCR for consumer packaging. NOVA Chemicals' role is to provide financing for a multimillion-dollar project to accelerate

Merlin's expansion into PCR for food contact applications. In turn, this will secure a reliable high-density polyethylene PCR supply to offer to our customers for use in everyday products and packaging, including applications that come in contact with food.

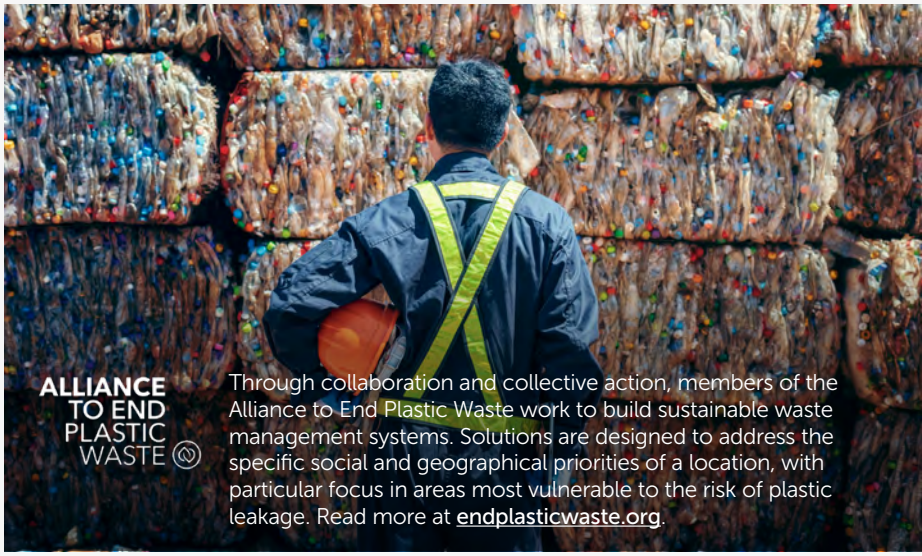
We also announced an agreement to sell recycled linear/low density polyethylene produced by Revolution. The agreement gives us access to three different types of PCR, including a closed-loop product from agricultural film. Ideal end-use markets for this material include e-commerce packaging, collation shrink, stretch films, heavy-duty sacks, and trash bags.

PROGRESSING ADVANCED RECYCLING TO TRANSFORM WASTE TO ETHYLENE: We entered into a joint development agreement with Enerkem, the first company in the world to produce renewable methanol and ethanol from non-recyclable, non-compostable municipal solid waste at full commercial scale. Working with Enerkem, we are researching advanced recycling technology to transform hard-to-recycle municipal waste, including plastics and other items such as household waste and construction materials, into ethylene, a basic building block of plastics, at full commercial scale. Ethylene produced through advanced recycling and converted back to recycled content polyethylene (PE) would help meet consumer brand goals for recycled content in packaging.

AMPLIFYING OUR EFFORTS THROUGH COLLABORATION: We continue our partnerships with the Alliance to End Plastic Waste (AEPW) and Project STOP. Since 2019, AEPW has funded and approved over 30 major projects, supporting communities to build sustainable waste management systems that fit their needs. Project STOP has brought waste management services to 133,500 people in three Indonesian cities and built five material recovery units.

In 2020, NOVA Chemicals became the lead corporate sponsor of the Great Lakes Plastic Cleanup. The initiative aims to combine innovative capture and cleanup technologies to remove plastics from the Great Lakes with messaging to communities and consumers about the importance of reducing, reusing, and recycling material waste.

We are also the technical sponsor of Toward Circularity, an expansion of the Pet Sustainability Coalition's Flex Forward® pet food packaging recycling pilot. The objectives of Toward Circularity are to investigate ways to decrease the current landfill rate (99 percent) of plastic pet food and treat bags by incorporating the material back into new products, and to provide end-of-life solutions for consumers, retailers, and packaging manufacturers.



Through collaboration and collective action, members of the Alliance to End Plastic Waste work to build sustainable waste management systems. Solutions are designed to address the specific social and geographical priorities of a location, with particular focus in areas most vulnerable to the risk of plastic leakage. Read more at endplasticwaste.org.

We are collaborating throughout the value chain to incorporate post-consumer resin (PCR) in film applications like collation shrink, mulch bags, and e-commerce packaging.

Promoting a Plastics Circular Economy

We are building our expertise and developing new products and solutions that contribute to plastics being reused, recycled, and recovered as many times as possible.

ADVANCED RECYCLING

Working with Enerkem to research advanced recycling technology that could transform hard-to-recycle municipal waste into ethylene, a basic building block of plastics.

PCR SUPPLY

Working with Merlin Plastics and Revolution to build our PCR offerings to customers.

READY-TO-RECYCLE RESINS

We offer seven PE resins that retain or improve their key physical performance when re-purposed multiple times through mechanical recycling.

PCR INCORPORATION

We continue to help our customers develop film-based and rigid applications with ever-increasing levels of PCR content.

DESIGN FOR RECYCLABILITY

In 2020, we developed a high-density resin technology for the biaxially oriented polyethylene (BOPE) market. BOPE-HD can be used to help manufacture fully recyclable PE structures (with a single material) without sacrificing stiffness and print clarity.

PLASTICS COLLECTION

We continue to support collection of hard-to-recycle items in our communities and promote collection and recycling actions at our sites and office locations.

SUPPORT FOR POLICY SOLUTIONS

We support policy solutions that advance plastic circularity and are working with governments and industry groups to establish pragmatic policy.

Greenhouse Gas Emissions

At NOVA Chemicals, we recognize that the production of petrochemicals and plastics is energy intensive, and we are committed to playing a role in decarbonization by reducing our greenhouse gas (GHG) emissions. GHG emissions are primarily composed of carbon dioxide, methane, and nitrous oxide.

WHY IS IT IMPORTANT FOR US TO MANAGE OUR GHG EMISSIONS?

By reducing GHG emissions from our operations, we can mitigate our contributions to climate change, realize energy-efficiency savings, and reduce our compliance costs.

How We Generate GHG Emissions

Our operations generate GHG emissions in the following ways:

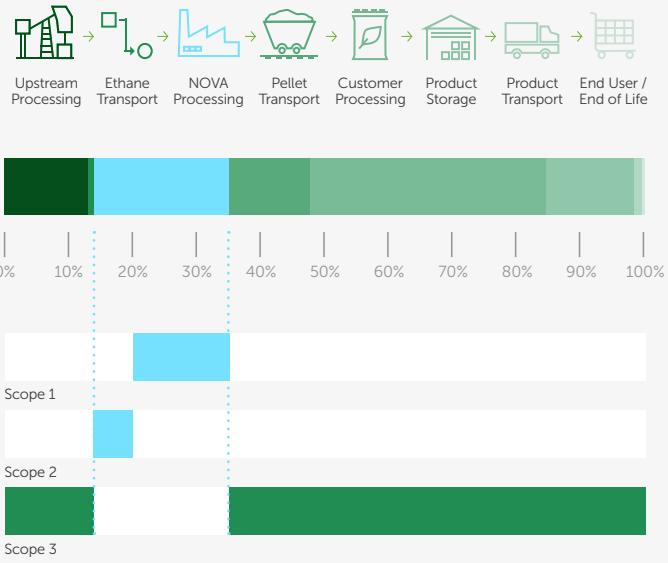
SCOPE 1: The large majority (95 percent) of our Scope 1 GHG emissions are a result of the ethylene manufacturing process. Ethylene is one of the most important raw materials in the petrochemical industry, as it is a building block for many other chemical products. We produce ethylene by processing light hydrocarbons derived from natural gas. Ethylene is the foundation for our main product, polyethylene (PE).

SCOPE 2: For our manufacturing processes, we use a large amount of electricity from natural gas–fired cogeneration, which produces both power and steam for our operations. Cogeneration is very reliable and more efficient than stand-alone power generation. We also require electricity to power our manufacturing and research facilities, as well as our offices around the world.

SCOPE 3: We have begun to quantify our Scope 3 emissions, and our 2020 Scope 3 emissions are included in this report. The main contributor is customer processing of our products, but upstream natural gas production and other downstream activities also contribute to the overall emissions footprint. We are continuing to develop our understanding of the Scope 3 emissions for all our products, so we can identify opportunities to influence and manage them in the future.

GHG Emissions Across the PE Value Chain

Based on a representative product lifecycle assessment conducted in 2020



Management Approach: How We Manage GHG Emissions

We have identified opportunities to reduce our GHG emissions. We are also enhancing our governance approach and improving our methods for measuring and reporting on progress. Our success will depend on our ability to be adaptable and agile as new technologies and opportunities to reduce our emissions emerge. Our current and future activities to reduce Scope 1 and Scope 2 emissions include:

OPERATIONAL IMPROVEMENTS: We look for opportunities to make equipment upgrades and process improvements that increase our efficiency and lead to lower GHG emissions. In 2019, we completed a project to improve the efficiency of a refrigeration compressor at our Joffre, Alberta, site that reduced our use of steam from the plant boilers and cogeneration plant, lowering our GHG emissions by 75,000 tonnes annually.

COGENERATION: In Alberta and Ontario, we obtain electricity produced from cogeneration facilities that use natural gas to generate electricity and steam, resulting in lower GHG emissions compared to stand-alone electricity and steam production. Cogeneration also provides a reliable electricity supply that is important to maintaining the stable operation of our production facilities.

RENEWABLE POWER: To further reduce our Scope 2 emissions, we will evaluate opportunities to increase our exposure to renewable power sources.

FLARING REDUCTIONS: To upgrade our manufacturing technology, conduct repairs, and perform maintenance, we occasionally shut down production, which necessitates hyrocarbon flaring. We work to minimize flaring in the safe shutdown and subsequent startup of production processes. While flaring typically represents less than 5% of our total GHG emissions, we pursue other relevant flare reduction opportunities through continuous improvement processes

FUGITIVE EMISSIONS PROGRAM: While our fugitive emissions of methane are a small contribution (less than 1 percent) to our total GHG emissions, the oil and gas industry has been focused on reducing the release of methane, because it has a much higher global warming potential than carbon dioxide (CO_2). At all our facilities, we have leak detection and repair (LDAR) programs to control all hydrocarbon leaks, including methane. Our LDAR program includes maintaining a detailed inventory of all potential leak sources from valves, flanges, and connections at our facilities, monitoring each component, and then repairing any identified leaks.

2020 Activities

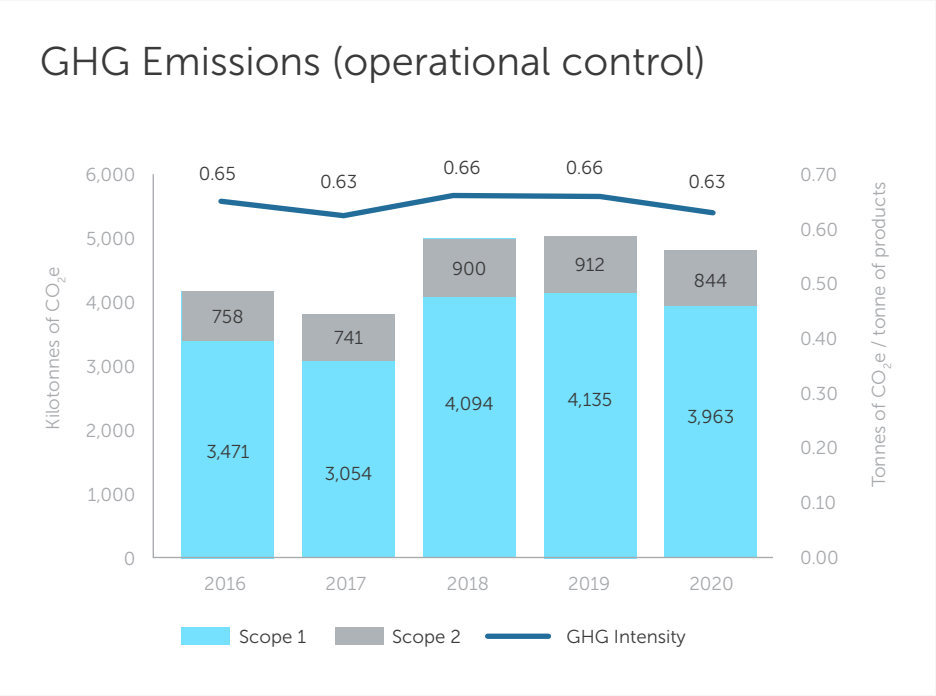
In 2020, we engaged in the following GHG reduction activities:

REDUCED CORUNNA FLARE LOSSES: At our Corunna, Ontario, site, we identified new ways to control flares with advance process controls, and we made flaring performance visible in our daily operations review meetings and scorecards. Through these improvements, we reduced flaring volumes and related GHG emissions by about 17 percent from 2019 levels.

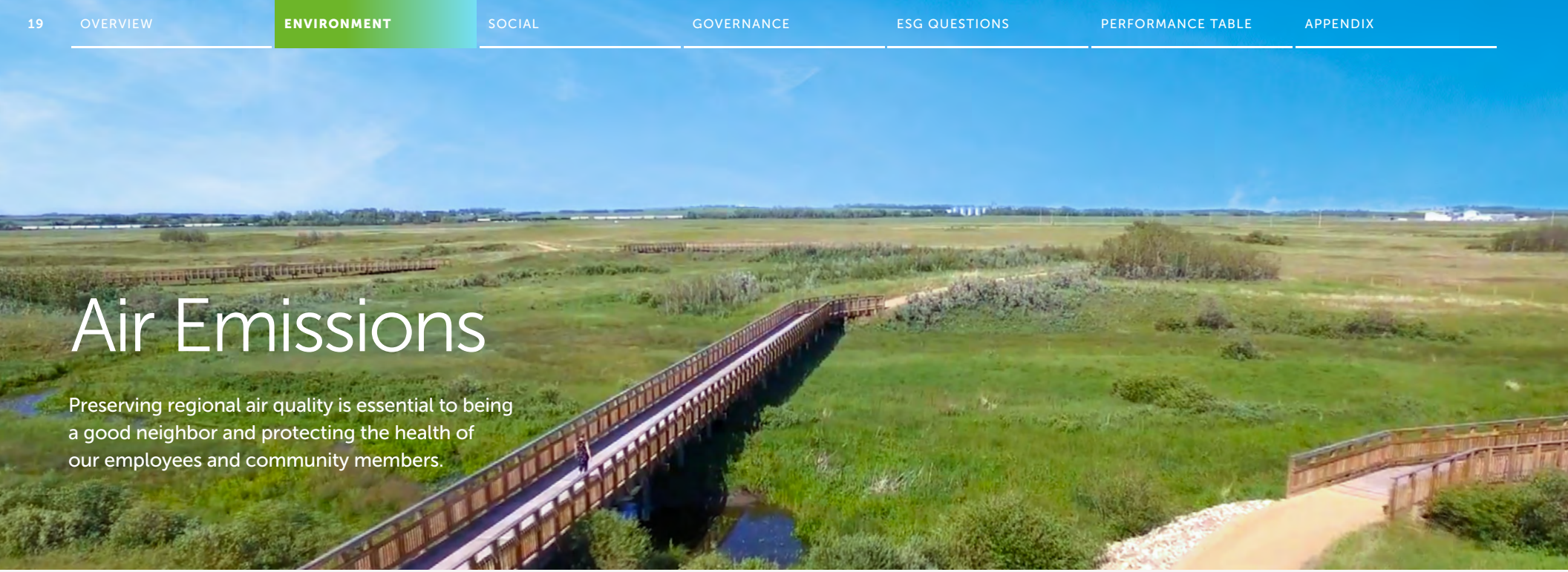
BEGAN FLARE REDUCTION PROJECT IN JOFFRE: In 2020, we started a process optimization project at one of our Joffre, Alberta, polyethylene (PE) plants, which is expected to reduce flaring and associated emissions. By implementing several process improvements, we project annual emissions reductions of 24,000 tonnes of carbon dioxide (CO_2), 100 tonnes of volatile organic compounds (VOCs), and 10 tonnes of oxides of nitrogen (NOx), with an associated reduction in our GHG compliance costs. We will also realize cost savings related to the recovery and reuse of hydrocarbons back into the production process. Construction began in spring 2021 with project completion expected by year-end.

REFINED OUR FLARING MANAGEMENT IN GEISMAR: In 2019 and 2020, our Geismar, Louisiana, site improved its flaring management plan by accounting for different operating conditions including routine operation, startup/shutdown, planned/unplanned maintenance, turnarounds, and temporary events. By implementing robust operating procedures and policies, we believe we can minimize flare events and increase cost savings.

Our Performance



In the last five years, our absolute emissions have increased by 14 percent primarily due to the acquisition and addition of the Geismar, Louisiana, facility. Our GHG intensity fell 3 percent during that same time period.



Air Emissions

Preserving regional air quality is essential to being a good neighbor and protecting the health of our employees and community members.

WHY IS IT IMPORTANT FOR US TO MANAGE OUR AIR EMISSIONS?

Regional air quality is a concern of our employees, community members, and regulators, and air emissions are being increasingly regulated with levels limited in specific airsheds.

Management Approach: How We Manage Air Emissions

Air quality is measured by the concentration of air pollutants, which include but are not limited to oxides of nitrogen (NOx), sulfur dioxide (SO_2), volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and particulate matter (PM). In most cases, air emissions are regional issues, so we manage them at the facility level by optimizing our operational performance in the following ways.

TAILORING TECHNOLOGIES TO OPERATIONAL NEEDS: Our facilities incorporate a variety of approaches to reduce air emissions, which can include:

- Conversion of facility feedstock and fuel supplies to cleaner natural gas liquids alternatives
- Use of low-NOx burners to reduce NOx at the combustion stage
- Use of selective catalytic reduction technology, which reduces the levels of NOx from exhaust gas by having it react with a catalyst
- Implementation of leak detection and repair programs that reduce VOC leaks, including ethylene
- Strategies to reduce flaring that address VOCs and other associated air emissions
- Use of thermal oxidizers that use high temperature to reduce HAPs and VOCs

PLANNING FOR MAJOR FACILITY IMPROVEMENTS: Incremental and step-change improvements in air emissions reductions are most practical and cost-effective when they are part of major projects, such as the revamp at our Corunna, Ontario, site and the furnace refurbishment at our Joffre, Alberta, site. We have identified additional opportunities for emission reductions that can be implemented with similar projects in the future.

ADAPTING TO REGULATIONS: We operate in accordance with air emissions regulations in the regions where we operate. The Multi-Sector Air Pollutants Regulations apply to our Canadian sites, and require investments to reduce the rate of NOx emissions from some of our boilers and heaters by 2026.

2020 Activities

In 2020, we continued to see air quality improvements from projects we completed in previous years. These included:

JOFFRE, ALBERTA: We completed the replacement of eight furnaces at this site. Improvements to upgrade and modernize the furnaces and burners have reduced NOx emissions from each furnace by about 30 percent, for a total reduction of approximately 200 tonnes of NOx per year. We expect that our proposed polyethylene (PE) facility flaring-reduction project at Joffre will reduce VOC emissions by about 100 tonnes annually.

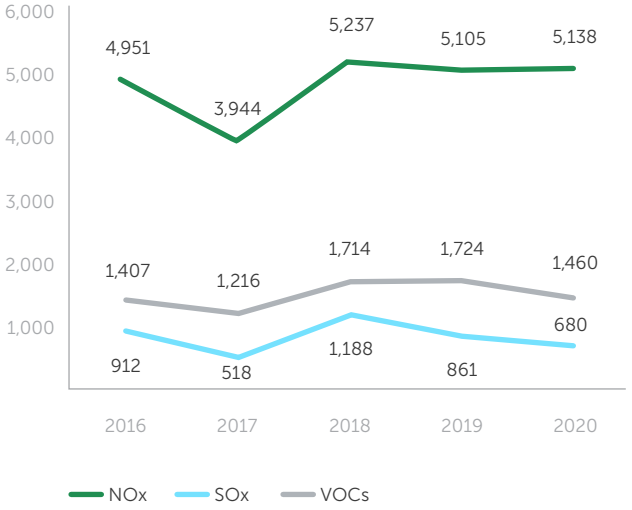
MOORE, ONTARIO: In 2020, we saw a reduction in VOC emissions from 2018 levels at the Moore, Ontario, plant resulting from the recent Regenerative Thermal Oxidizer project. The project was designed to oxidize off-gases created during the polyethylene (PE) manufacturing process, and has successfully reduced atmospheric emissions of ethylene and other VOCs.

GEISMAR, LOUISIANA: Our Geismar site incorporates Selective Catalytic Reduction to reduce NOx emissions.

Our Performance

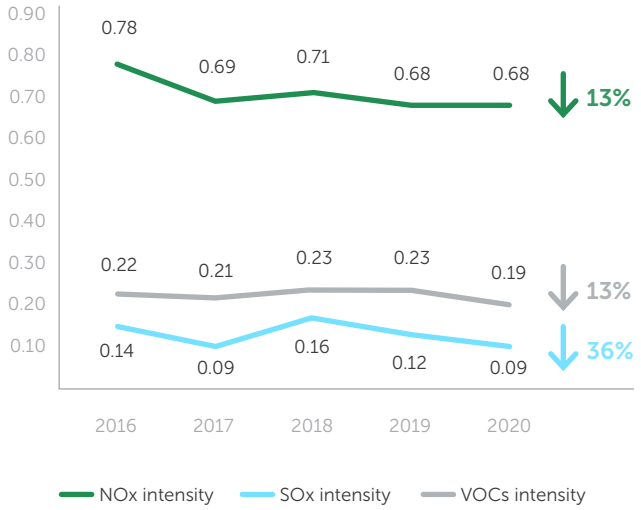
Air Emissions

(tonnes)

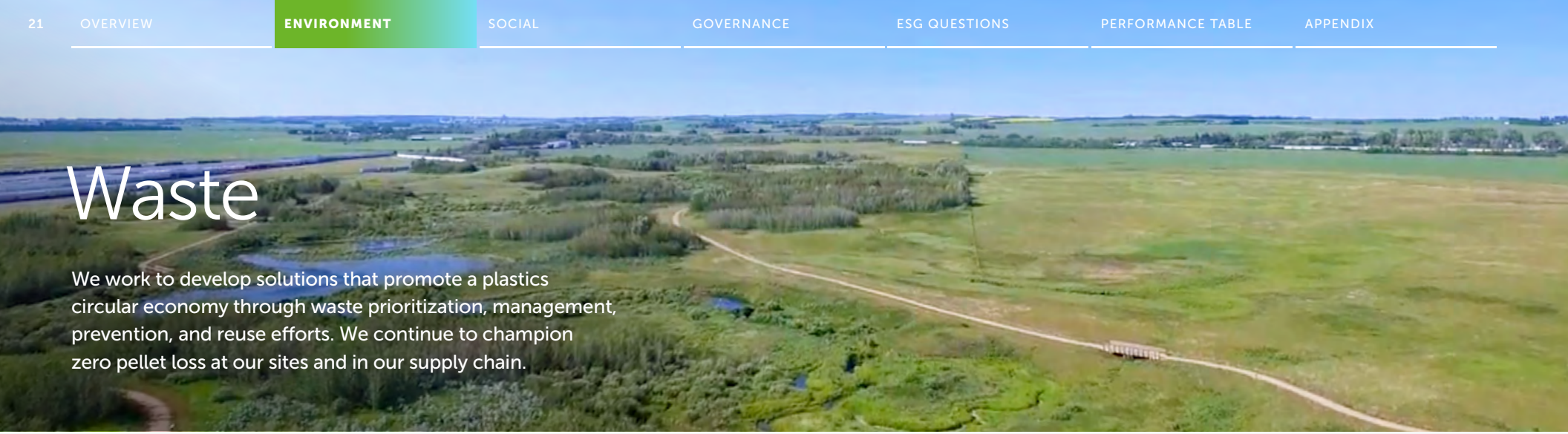


Air Emissions Intensity

(kg/tonne of product)



Over the last five years, our NOx and VOC emissions have increased slightly due to the acquisition of the Geismar, Louisiana, facility. As we have optimized our plants, the intensity rates for each air emission have improved.



Waste

We work to develop solutions that promote a plastics circular economy through waste prioritization, management, prevention, and reuse efforts. We continue to champion zero pellet loss at our sites and in our supply chain.

WHY IS IT IMPORTANT FOR US TO MANAGE OUR WASTE?

Focusing on waste elimination helps improve the efficiency of our facilities and reduces the costs and risks associated with waste handling, transportation, and disposal.

How We Manage Operational Waste

Our manufacturing process generates a variety of wastes. We occasionally produce scrap polyethylene (PE), which is fully recyclable and is used by other companies to create final plastic products. Our largest waste category is unusable by-products from manufacturing, including thick mixtures of solids and liquids (sludge), which contain chemical compounds that must be separated or treated before they can be safely disposed of.

WASTE HIERARCHY: We developed a waste management hierarchy (based on work by the U.S. Environmental Protection Agency) as a tool to rank our options for managing waste. Our goal is to move as many waste streams, and as much volume as possible, toward the top of the waste hierarchy (prevent, reuse, and recycle) and away from disposal of any kind.

WASTE PRIORITIZATION: To develop reduction strategies, we prioritize waste streams based on risks and opportunities. For example, volume is not the only consideration when prioritizing waste. We also include factors such as hazardous versus non-hazardous characteristics, transportation distance from our site to final disposal, the current disposal method, and the potential for reuse, recycling, or energy recovery.

WASTE PREVENTION: We are continually finding ways to recycle the scrap PE we produce to prevent it from becoming waste. Over 99 percent of our scrap PE is recycled.

WASTE REUSE: We look for opportunities to find value-added uses for some of our waste streams. For example, spent alumina from our St. Clair River site in Corunna, Ontario, is used as an additive for cement. Some of our sites generate phosphate sludge (a recyclable waste stream) as a by-product. Our Joffre, Alberta, site has been sending a significant portion of the sludge it generates to be used as a fertilizer in a soil enhancement program.

WASTE (TONNES) 2020

Non-hazardous waste	20,410
Non-hazardous waste reused	12,370
Hazardous waste	2,820
Hazardous waste recycled	120

Lime sludge, a recyclable waste stream generated as a by-product at some of our sites, is the largest component of our non-hazardous waste stream. Our Joffre, Alberta, site sends a significant portion of the sludge to be used as fertilizer in a soil enhancement program for agriculture.

Hazardous waste must be treated to ensure no harm to the environment. Our hazardous waste is mostly organic material containing a small amount of contamination. These contaminants can be difficult to remove or separate, making recycling challenging. For this reason, we often incinerate or chemically treat this waste to eliminate the hazard.

Championing Zero Pellet Loss

As a Responsible Care® company and resin producer, NOVA Chemicals shares the view that plastic does not belong in the environment. Keeping plastic products out of the environment, starting with preventing pellet loss, is a top priority. We have pledged support to Operation Clean Sweep® (OCS) blue, a campaign to prevent plastic pellets, powder, and flake loss at plastic-handling facilities.

2020 Activities

OCS BEST PRACTICES: As part of our commitment to OCS blue, we identified a list of best practices and established internal metrics. We endeavor to align our operational practices at all sites with these best practices, and will track and record our performance improvement over time.

A CIRCULAR APPROACH TO OPERATIONAL WASTE: We continued waste optimization programs at many of our sites, and were able to divert more than 16,000 tonnes through the following programs:

2020 IMPACT	ACTIVITY
7,569 tonnes of scrap PE recycled	All scrap polyethylene (PE) is sent to a processor of post-industrial plastics, where the resin is turned into recycled pellets for manufacturing.
53 tonnes of PE diverted from landfills	At some of our sites, we generate PE waste (composed of lumps and strands) during production changeovers. A plastics company safely processes and recycles the lumps and strands from our St. Clair River and Moore sites in Ontario.
1,348 tonnes of spent alumina diverted from landfill	We use alumina (aluminum oxide) in our operations. Although we reuse the alumina, it loses its properties over time. Since 2018, we have sent spent alumina to an industrial company to be used in making cement. Alumina has rapid hardening properties, and enhances cement for marine construction, sewer infrastructure, and structural concrete applications.
7,209 tonnes of phosphate sludge diverted from landfill	Some of our sites generate phosphate sludge (a recyclable waste stream) as a by-product. In 2020, our Joffre, Alberta, site sent 100 percent of the sludge it generated to be used as a fertilizer in a soil-enhancement program. This accounted for 63 percent of the site waste volume for the year.

SUCCESSFUL DECOMMISSIONING

In 2020, we completed the five-year decommissioning, remediation, and demolition process of the former AES facility, a coal-fired cogeneration plant that until 2015 provided the former NOVA-owned Beaver Valley site with steam for production. The 10-acre facility has been remediated and restored to vacant land suitable for future development as a sustainable brownfield.

The nearly 80-year-old AES facility required significant remediation and demolition work due to its age and the heavily reinforced concrete used in its construction, the existence of an adjoining coal storage yard, and tie-ins to adjacent manufacturing facilities.

Since 2015, the project has involved approximatedly:

- 80,000 total work hours
- 90 tonnes of asbestos removed
- 7,000 tonnes of scrap metal removed
- 400 tonnes of recyclable metal removed
- 29,000 tonnes of concrete removed
- 2,300 truckloads of materials removed
- This project met our Goal ZERO expectations

Water

Water plays an important role in our manufacturing processes. To protect this valuable resource, we reuse water when feasible, test and treat water returned to the environment, and are increasing our understanding of our operations and risk management options in water-scarce regions.

WHY IS IT IMPORTANT FOR US TO MANAGE OUR WATER USE?

Water is an important shared resource for NOVA Chemicals and the communities we serve. By minimizing water use and preserving water quality, we ensure the availability of this shared resource for years to come.

How We Manage Water Use and Quality

We require water in our manufacturing processes, especially for cooling and generating steam. We withdraw the water we require for our industrial processes from the St. Clair, Red Deer, and Mississippi rivers.

WATER REUSE: When possible, our manufacturing sites reuse water multiple times. Many of our sites capture and use precipitation for manufacturing processes. At our Joffre, Alberta, site, we have four stormwater retention ponds that allow us to use surface runoff from precipitation captured within the facility fence line. Water from these retention ponds is softened and clarified before being reused in our operations, and accounts for around 5 percent of annual site water use.

MINIMIZING WATER USE: Our internal project design and review processes consider how we use water at our facilities. Efforts to reduce water use at our innovation sites over the last four years have resulted in a 52 percent reduction in water intake at the Centre for Performance Applications in Calgary, Alberta, and a 30 percent reduction at the Centre for Applied Research, also in Calgary, from 2016 to 2019. These initiatives include low-maintenance landscaping and elimination of once-through cooling systems.

WATER AND GREENHOUSE GAS EMISSIONS: Since much of the water we use is related to cooling, we have also recognized that initiatives to improve our energy efficiency and reduce the heat load on our facilities will also benefit water efficiency and greenhouse gas (GHG) emissions reductions. In 2019, for example, we completed a project on a compressor in Joffre that reduced water use by around 9,500 cubic meters per year due to steam system optimization, while also reducing GHG emissions by about 75,000 tonnes per year.

WATER TESTING AND TREATMENT: Most of the water we use is returned to the environment, often through evaporation from cooling towers. Before being returned to surface water bodies, it goes through testing and treatment in alignment with regulatory requirements and environmental standards.

UNDERSTANDING WATER AVAILABILITY: Water availability varies across the different regions in which our manufacturing facilities operate. This can create challenges in how we prioritize water use and conservation. We recognize the need to further understand water scarcity and advance our efforts related to water use. We are committed to developing water scarcity plans for all our sites by 2025.

2020 Activities

At the corporate level, we focused on understanding and formalizing our approach to water. We formed a corporate-wide Water Aspect Team to focus on water management, including: conserving, recycling, or reusing; avoiding unnecessary costs; reviewing and mitigating water risks; and taking actions to minimize water-related environmental impacts. We consolidated water data, created a water risk register, and identified a list of water optimization projects. We began two water optimization projects in 2020 aimed at improving water treatment capability and mitigating risks of releases to the environment. We will report more on their progress in our 2021 report.

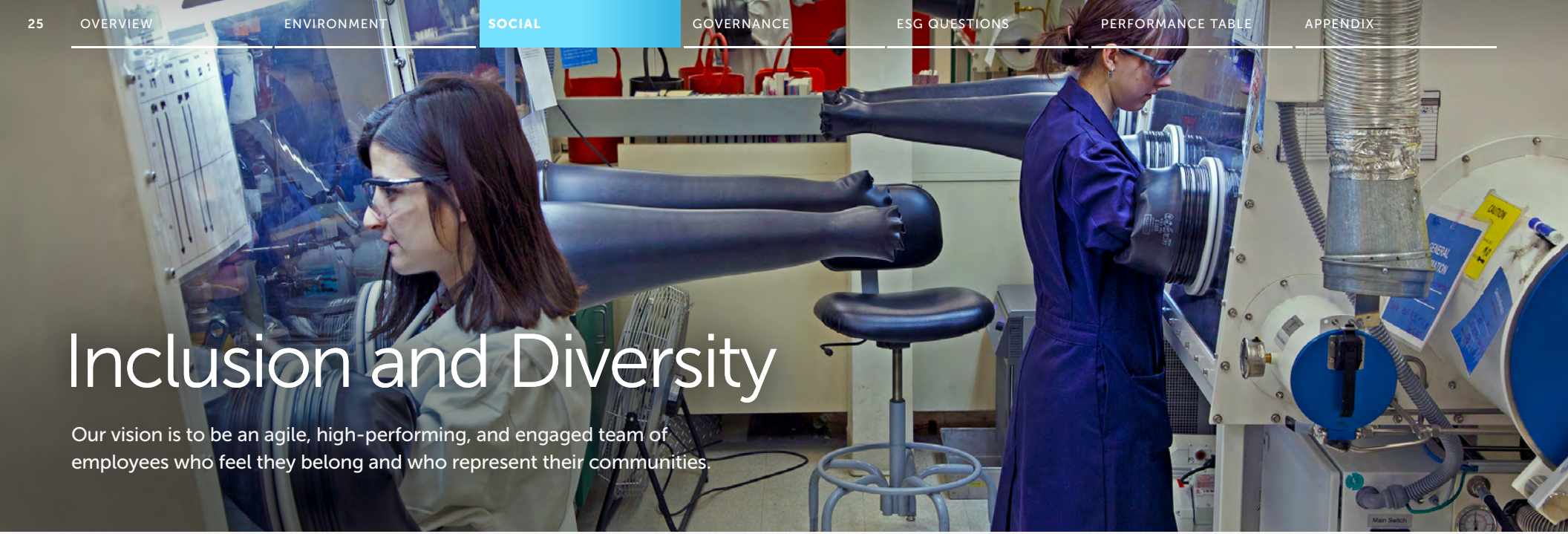
WATER (m^3)	2020
Water withdrawal	40,850,000
Water discharges	21,270,000

Most of the water we withdraw is used for cooling and generating steam. A significant amount is returned to the watershed through evaporation from our cooling towers and water retention ponds.

SOCIAL

At NOVA Chemicals, we are working towards a more inclusive working environment, and continue to advance the development and well-being of our people. We have a responsibility to ensure the safety of our employees, contractors and visitors, customers who handle and use our products, and communities near our operations and transportation routes. Through our growth plans and community investment efforts, we seek to create a positive impact in the communities where we live and work.

IN THIS SECTION



Inclusion and Diversity

Our vision is to be an agile, high-performing, and engaged team of employees who feel they belong and who represent their communities.

WHY IS IT IMPORTANT FOR US TO FOSTER INCLUSION AND DIVERSITY?

In addition to being the right thing to do, promoting an inclusive and diverse workplace can help NOVA Chemicals be a more desirable place to work, help attract and retain top talent, and improve overall company performance.

Management Approach: How We Foster Inclusion and Diversity

NOVA Chemicals is committed to building an inclusive and equitable culture and achieving diverse representation in our workforce. In 2020, we developed five strategic pillars that will guide our future work.

	PILLARS	FOCUS AREAS
1	**Building an inclusive culture:** We promote a caring and inclusive environment where leaders foster openness and belonging, so that every employee can bring their full selves to work.	• Communicate change story across the organization • Train leaders on basics of inclusion using proven neuroscience approach • Transparently communicate recruiting and promotion standards, emphasizing meritocracy
2	**Attracting and retaining diverse talent:** We work to develop a robust talent pipeline and inclusive hiring and promotion practices to ensure that NOVA Chemicals is highly sought-after, and that employees feel valued and are treated fairly in compensation and progression.	• Review language in job descriptions • Audit promotion process • Establish clear development planning • Develop partnerships with diverse talent pools
3	**Differentiating the employee experience:** We develop and implement policies, programs, and flexible benefits that serve the needs of diverse groups.	• Assess and diversify policies that enable flexibility • Educate leaders and employees on existing policies
4	**Developing robust inclusion and diversity governance:** We formalize inclusion and diversity roles and responsibilities, establish accountability structures, and regularly measure against progress.	• Form Inclusion & Diversity Council • Develop and track quantifiable measurements of inclusion and diversity
5	**Engaging with the community and external partners:** We strive to establish ourselves as a recognized champion of change across our supply chain and in the broader community.	• Identify external partners • Explore diversifying supply chain

We also have policies and procedures in place to support a respectful workplace. The Business Conduct Policy (our code of conduct) outlines our responsibilities and expectations for workplace behavior. Questions or concerns can be raised through NOVA Chemicals' Ethics Line, a 24-hour confidential and anonymous helpline, and EthicsPoint®, our online reporting system. Ethics Line is managed by a third-party vendor and is available to all employees, contractors, and external parties. Alternatively, employees and contractors can contact the Anti-Harassment Line managed by our human resources team.

2020 Activities

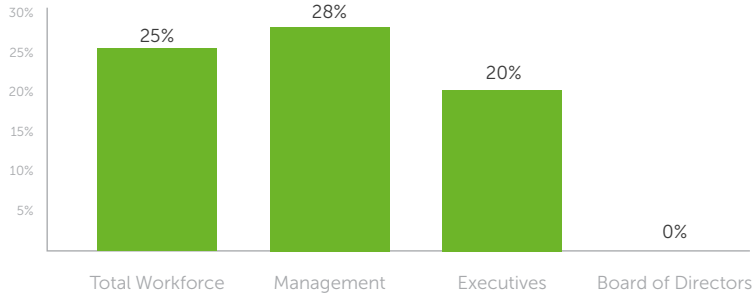
2020 was a foundational year for our diversity and inclusion journey. In January 2021, 78 percent of our employees responded to an inclusion survey. The survey had the following goals:

UNDERSTANDING OUR DIVERSITY BASELINE: In our survey, our employees were invited to self-disclose their gender, sexuality, disability, and ethnicity. Based on the data, we benchmarked the diversity of our workforce to our North American peers and to North American society. Criteria for comparison included female employees, women on the executive team, and ethnic diversity of employees. Results showed that our representation in diversity is in line with peers at the executive level, but is lagging when comparing our overall employee base to the selected North American benchmark.

UNDERSTANDING OUR INCLUSION BASELINE: We also assessed our inclusion practices to help us understand our employees' perceptions of inclusion at work and to identify areas for growth. The results of this exercise informed our five strategic pillars outlined on page 25.

SUPPORTING EMPLOYEE NETWORKS: We support employee participation in two informal development networks: the internal NOVA Network (TNN), and the external Ellevate Network®. Active since 2017, TNN is a volunteer network that provides development and interactive opportunities for our employees, and offers self-development events led by internal and external speakers. Ellevate Network® is a global networking and development community program for professional women. This web-based community provides tailored content and events by industry, job function, and affinities, and covers topics such as negotiation, successful leadership, and conflict resolution.

Women at Various Levels (2020)

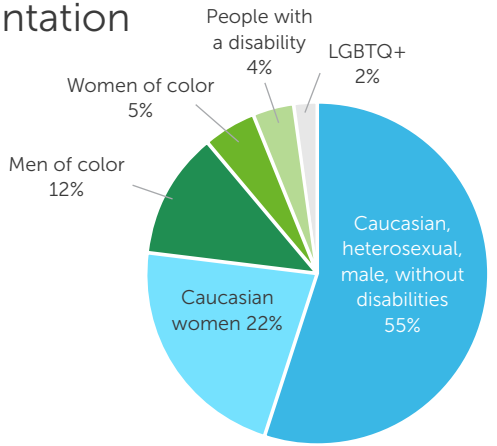


We will continue fostering a more inclusive workplace and working towards improving the gender diversity of our workforce at all levels.

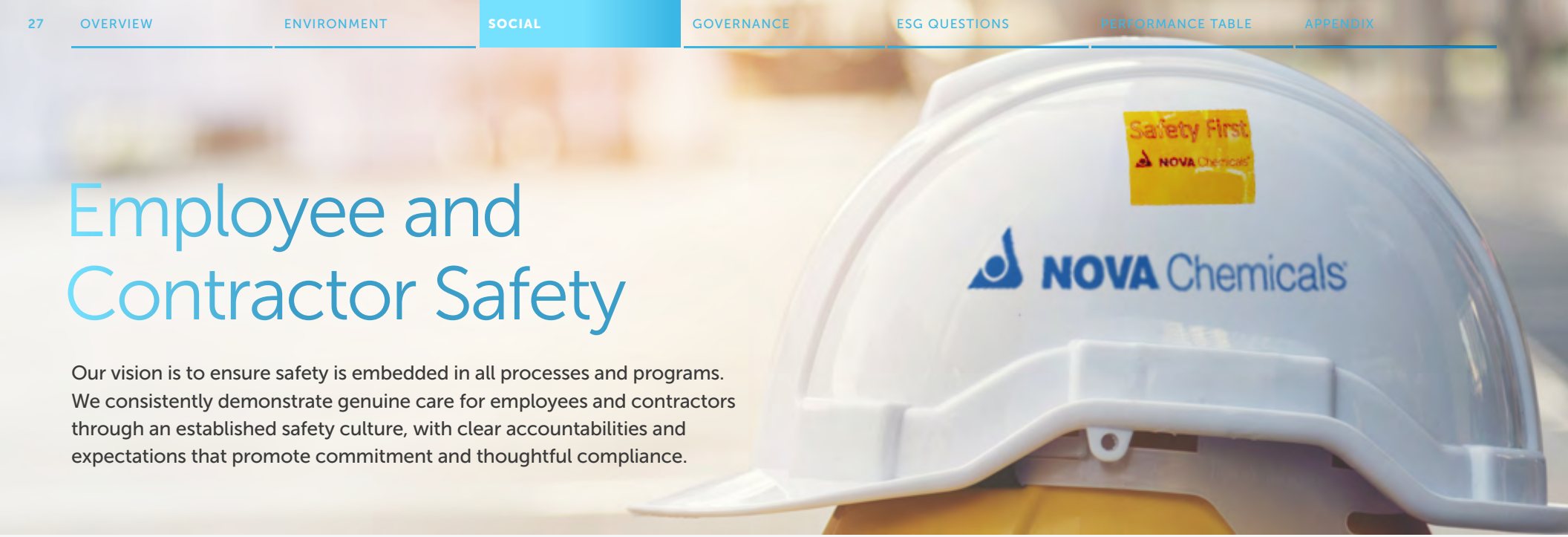
Snapshot: Diversity of Our Workforce Today

Diversity Representation

(Based on 2021 survey)



We acknowledge that all individuals live at the intersection of many different aspects of diversity. Based on the survey we conducted in January 2021, more than half of our workforce is male, Caucasian, and without disabilities.



Employee and Contractor Safety

Our vision is to ensure safety is embedded in all processes and programs. We consistently demonstrate genuine care for employees and contractors through an established safety culture, with clear accountabilities and expectations that promote commitment and thoughtful compliance.

WHY IS IT IMPORTANT TO ENSURE EMPLOYEE AND CONTRACTOR SAFETY?

Our employees and contractors make essential contributions to our company every day. It is critical that we create an environment that is free of illness and injuries, so that everyone stays safe.

Management Approach: How We Manage Employee and Contractor Safety

We are committed to Goal ZERO (zero injuries or incidents), and believe that all work-related illnesses and injuries can be prevented. In addition to our robust safety management system, we foster a culture in which all workers feel responsible for maintaining the safety of their colleagues. This includes:

PROMOTING VISIBLE SAFETY LEADERSHIP: Visible Safety Leadership (VSL) is a standardized approach to guiding leader engagement with project and manufacturing personnel in the field. VSL gives leaders the tools to have purposeful dialogues with field employees, capture observations and learnings, and ultimately enhance safety performance and practices.

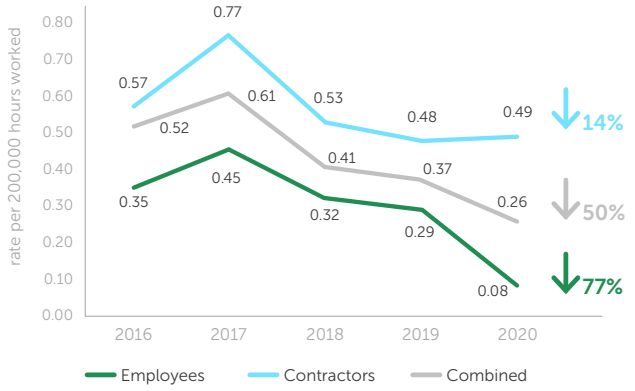
REINFORCING LIFE-SAVING RULES: We review past performance to identify trends and mitigate future risks, focusing on our highest-risk opportunities. We reinforce this work through our six Life-Saving Rules. The rules serve as concise reminders for situations where failure to comply has the highest risk potential for serious injury, death, or catastrophic events. The first three rules highlight requirements that apply in a variety of situations: always work with a valid work permit, ensure you are fit for work, and never disable safety-critical equipment. The other three rules outline requirements for specific hazardous situations: obtain authorization before entering a confined space, verify zero-energy state when working with energized equipment, and protect yourself when working from heights. These rules support our existing procedures to conduct work in these situations, and training on the rules is mandatory for employees. Consistent adherence is key to achieving Goal ZERO.

WORKING WITH SAFE CONTRACTORS: Our occupational safety programs are designed to protect employees and contractors. Contractors perform a significant amount of our work, and Goal ZERO is only achievable with their active participation. NOVA Chemicals uses a prequalification process for all contractors that focuses on each contractor's written health and safety programs and its environmental, health, and safety performance statistics. All contractors review the company's expectations, and are expected to participate in training and orientation prior to working on site. We also use a 360-degree evaluation process to assess our contractors' performance and identify areas of continuous improvement within our own systems.

ENCOURAGING SAFE BEHAVIORS:

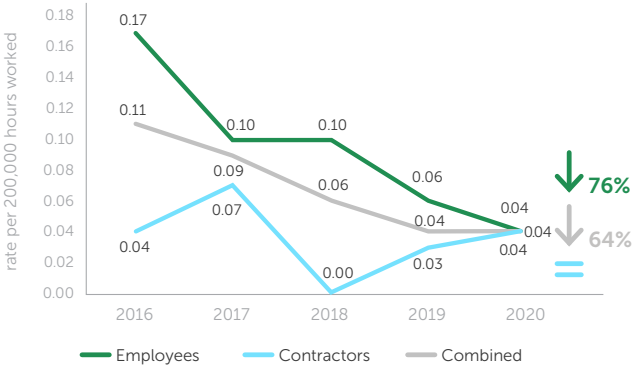
- **Safety interactions:** By observing both safe and at-risk behaviors, we can provide reinforcement or coaching in the form of quality, respectful, and non-disciplinary dialogue that addresses safety. These safety interactions encourage a Responsible Care® mindset, and play a key role in achieving Goal ZERO. In 2020, our employees performed over 55,000 safety interactions in the workplace or while working from home.
- **Safety awareness:** We conduct regular "Toolbox Talks"—informal, job-specific safety meetings. We also host an annual Safety Day event at all locations to help employees and contractors learn about safety hazards and incident prevention.
- **Hazard recognition:** Spotting and correcting hazards is an important component of a safe workplace. To engage employees in identifying workplace hazards, we provide hazard-recognition training and learning opportunities. This includes safety tools and processes such as our "Am I Ready?" philosophy, which challenges employees to consider whether they have the right training and equipment, are responsive to changing conditions, and are in the right mental and physical state to undertake the work.
- **Learnings sharing:** Our Risk Alert process is how we rapidly share information about an incident across the company to help prevent similar events. The process includes a "call to action" that initiates immediate mitigation activities.
- **NOVA's Nature Awards:** These annual awards recognize individuals and projects within the organization that exemplify the values, practices, and habits (including safety) that will allow us to achieve our strategic goals.

Recordable Injury Rates



In 2020, our Total Recordable Injury Rate was 0.26. This represents our best-ever performance and a 50 percent reduction compared to 2016.

Lost-Time Injury Rates



In the last five years, we have been able to reduce our lost-time injury rates by 64 percent.

OUR VALUES

BE RESPONSIBLE

We conduct ourselves with honesty and integrity, and take accountability for our actions.

BE PASSIONATE

We are motivated and energized to help shape a world that's even better tomorrow than it is today.

INNOVATE

We fuel our success with everyday curiosity, imagination, and creativity.

COLLABORATE

We proactively reach across boundaries to partner with each other as well as our customers, suppliers, and communities.

2020 Activities

STANDARDIZED PROCEDURES: In 2020, we continued standardizing procedures to support a consistent approach to the Life-Saving Rules, to help protect employees and contractors performing work in high-risk situations.

SAFETY INTERACTIONS AT HOME: Each of our employees has a yearly target for safety interactions. In 2020, with many employees working from home, we extended these activities to include observations or interventions at home with friends, family, and neighbors. In 2020, 98 percent of employees reached their safety interaction target.

FIELD ENGAGEMENT ACTIVITY GUIDE: In 2020, we developed our Guide for Visible Safety Leadership, which includes modules on common safety topics (such as Working at Heights) for our manufacturing and project sites. Each module helps leaders prepare for field visits, and clarifies objectives for observing, learning, and engaging with field staff on each topic.

Our Performance

ADDITIONAL SAFETY METRICS (COUNT)	2016	2017	2018	2019	2020
Vehicle incidents	43	60	36	61	35
Near hits (near misses)	502	563	551	544	627
Safety interactions	62,924	65,662	67,260	65,129	55,763

Vehicle incidents: *We have reduced driving-related incidents by 19 percent since 2016. (This does not include rail or powered mobile equipment.) Employees and contractors are required to have a valid driver's license if operating a vehicle. Employees must also complete virtual Safe Driving training, and refresher training is also available.*

Near hits: *A near hit is an unplanned event that did not result in undesirable consequences but had the potential to do so. We encourage near-hit reporting because it is a proactive, leading indicator that enables us to identify and address a hazardous situation before an incident occurs.*

Safety interactions: *These are peer interactions about safe or at-risk behaviors. We encourage employees to speak up when they see both positive or at-risk behaviors, as part of a Responsible Care® mindset.*

Key Elements of Our Safety Program

These are some of the elements of our safety programs that contribute to our Goal ZERO.

Visible Safety Leadership

Leaders use our Visible Safety Leadership tools to have purposeful dialogues with field employees, capture observations and learnings, and ultimately enhance safety performance and practices.

Life-Saving Rules

The rules serve as concise reminders for situations where failure to comply has the highest risk potential for serious injury or death. The rules are:

1. *Always work with a valid work permit.*
2. *Ensure you are fit for work.*
3. *Never disable safety critical equipment.*
4. *Obtain authorization before entering a confined space.*
5. *Verify zero energy state when working with energized equipment.*
6. *Protect yourself when working from heights.*

Safety Interactions

55,000 interactions recorded in 2020

Safety interactions are quality, respectful dialogue that addresses safe and at-risk behaviors. They encourage a Responsible Care® mindset and play a key role in achieving Goal ZERO.

Hazard Recognition

We provide hazard recognition training and learning opportunities. This includes safety tools and processes such as our Am I Ready? philosophy, which challenges employees to consider if they have the right training and equipment, are responsive to changing conditions, and are in the right mental and physical state to undertake the work.

Safety Awareness

To help employees and contractors learn about safety hazards and incident prevention, we conduct regular Toolbox Talks (informal, job-specific safety meetings) and host an annual Safety Day event at all locations.

NOVA's Nature Awards

These annual awards recognize individuals and projects within the organization that exemplify the values, practices, and habits (including safety) that will allow us to achieve our strategic goals.

Our COVID-19 Response

In this challenging year, we continued to take action to protect the health and safety of our employees, fulfill our role in the plastics value chain, and support the needs of our communities.

Health and Safety of Employees and Contractors

In March 2020, as the COVID-19 pandemic spread to multiple countries worldwide, we activated our multi-functional Pandemic Advisory Team (PAT). The PAT's internal and external subject-matter experts worked closely with our sites to develop and implement strategic, evidence-based control measures to protect the health and safety of all employees and contractors working at our sites and living in our communities.

We initially banned employee travel, mandated work-from-home where appropriate, and cancelled physical participation in meetings, events, and conferences. We also modified our business practices in the following ways:

PROTECTING CRITICAL WORKERS: Our manufacturing operations have been designated as essential to support society's needs during the pandemic. Throughout 2020, we continued production, allowing only site-critical staff and contractors on site, and put additional COVID-19 safety protocols in place. To protect workers, site safety managers implemented engineering and administrative controls such as physical barriers and visual floor markers to support distancing, daily "Toolbox Talks," staggered lunch breaks, and disinfection of high-touch areas. Critical employees were banned from carpooling and expected to maintain social distance or wear task-appropriate personal protective equipment (PPE), increase frequency of hand washing, and avoid sharing hand tools or computer accessories. We also adjusted construction work on our Ontario growth projects, implementing rigorous health screening and protocols that allow ongoing construction activities to proceed in a safe manner.

SUPPORTING ALL EMPLOYEES: In 2020, we focused on providing resources to support our employees' physical and mental well-being during COVID-19, whether they were in critical roles at manufacturing sites or working from home. We encouraged employees to access the resources in our "Total Well-Being" program, which includes sleep guides, stress assessments, and recommended reading on how to cope with stress.

All employees had access to virtual, interactive mindfulness sessions over a 12-week period that focused on boosting resiliency through uncertainty, managing anxiety and stress, and staying positive.

We also built a COVID-19 microsite on our company intranet, where employees and contractors can access the latest information about the pandemic's impact on working at NOVA Chemicals, frequently asked questions, and additional resources. The microsite includes continuously updated information about the spread of COVID-19, symptoms to watch for, and measures to prevent infection, as well as resources for setting up an ergonomic workstation at home and information on how to access on-site occupational-health professionals.

We continue to collaborate with public-health and government organizations in the jurisdictions in which we operate, as well as our industry peers. We also consistently monitor emerging trends and issues, and adapt our guidance and practices as needed to support safe, reliable, and competitive operations.

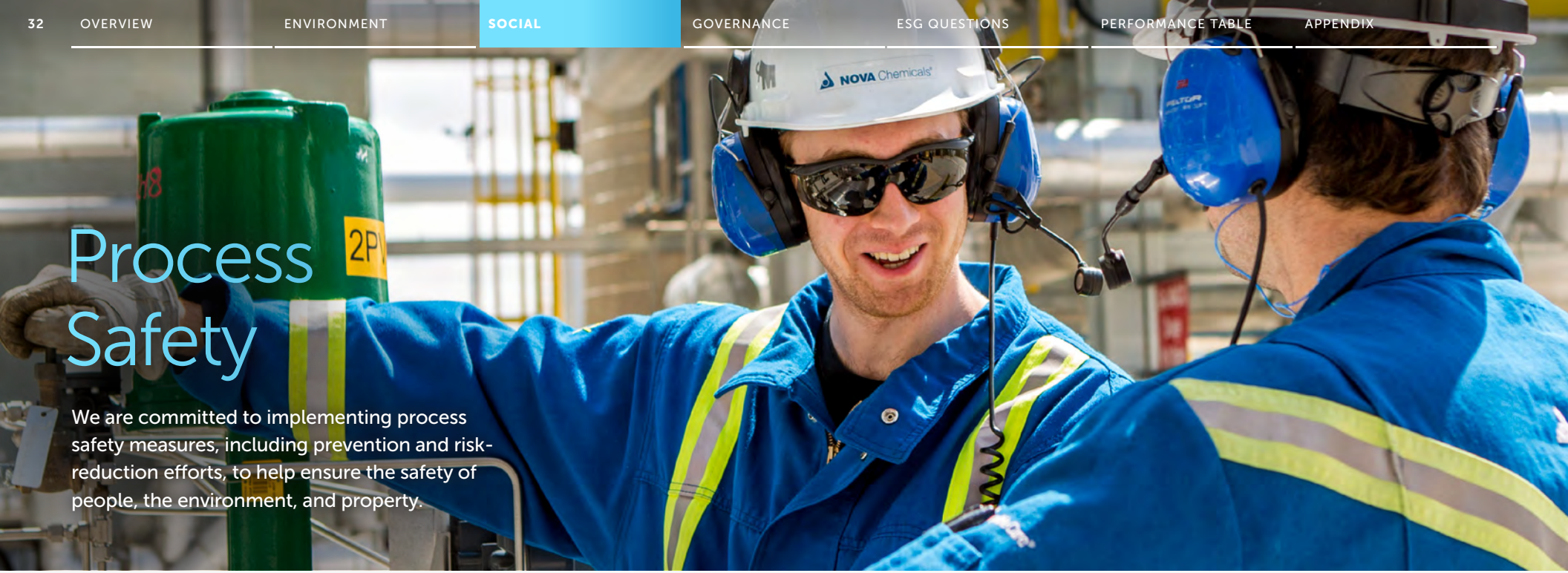
Support for Our Communities

In 2020, NOVA Chemicals and our employees donated more than $300,000 through direct and employee-matching donations to support organizations in the communities where we operate. In addition to financial contributions, we donated essential materials to help organizations manufacture much-needed medical supplies, including isopropyl alcohol to make hand sanitizer, polyethylene (PE) to make face masks, and more. See page 41 for details.

Plastics have played an indispensable role in the global pandemic response, from the use of PPE to prevent transmission of the virus to the continued use of single-use medical equipment for safe treatment of those receiving medical care. The COVID-19 pandemic also accelerated e-commerce demand and new sustainable packaging solutions.

We helped others in our communities with more than $300,000 in company and employee-matching donations, which included a donation of $125,000 to food banks across our regions.

Photo Credit: Greater Pittsburgh Community Food Bank



Process Safety

We are committed to implementing process safety measures, including prevention and risk-reduction efforts, to help ensure the safety of people, the environment, and property.

WHY IS IT IMPORTANT FOR US TO MANAGE PROCESS SAFETY?

As a petrochemical company, we manage many materials, some of which are hazardous. It is imperative that we focus on process safety to prevent incidents (such as explosions, fires, and toxic releases) resulting from the accidental release of these materials.

Thoughtful Compliance is reflected in NOVA's Nature, with an emphasis on being responsible and taking accountability for our actions.

Management Approach: How We Manage Process Safety

To prevent process safety incidents that could harm people, property, or the environment, our management process includes:

"LAYERS OF PROTECTION" MANAGEMENT: "Layers of protection" refers to the engineering, operating, and maintenance management model we follow to prevent process safety incidents. This model is based on the concept of multiple lines of defense to address safety risks in layers. We start by designing facilities with inherent safety features and protective technologies. We also apply safety management systems and processes—such as hazard analysis, asset integrity management, and change management—while operating those facilities. The layers of protection extend to include employee safety awareness and an organizational safety culture.

PROCESS HAZARD ASSESSMENT: We actively monitor more than 60,000 potential hazard scenarios as part of our ongoing five-year Process Hazard and Risk Assessment Program. We assess the risk, frequency, and severity of these scenarios by using industry-leading methodologies consistent with those published by the Center for Chemical Process Safety.

A CULTURE OF THOUGHTFUL COMPLIANCE: Thoughtful Compliance refers to a state of mind in which employees and contractors maintain a sense of vulnerability, and question when things are not as they should be. To consistently and successfully manage the potential hazards associated with our operations, we need to be "thoughtful" about the hazards that we manage and "compliant" with our programs and practices that are designed to keep us safe. By recognizing when things are not as they should be, we can seek help and correct abnormal situations before incidents can occur. To promote a Thoughtful Compliance mindset, we engage in a number of activities focused on improving our safety culture, such as revisiting past incidents, sharing internal and external incident learnings, encouraging our staff to identify hazardous situations, conducting safety moments at the start of our meetings, requiring safety interactions, creating space for safety conversations, and engaging leadership in conversations.

2020 Case Study

In 2020, our commitment to Thoughtful Compliance and safety protocols helped our Geismar, Louisiana, site avoid a potential incident.

In February, a delivery truck arrived at the Geismar site with an 11,000-liter chemical shipment. As part of the receiving process, the technicians conducted a routine analysis to confirm the shipment contents.

When the lab results did not match the transportation paperwork, the product sample was re-analyzed and verified by a witness. The Operations Team was then notified while a second sample was obtained and analyzed by the lab.

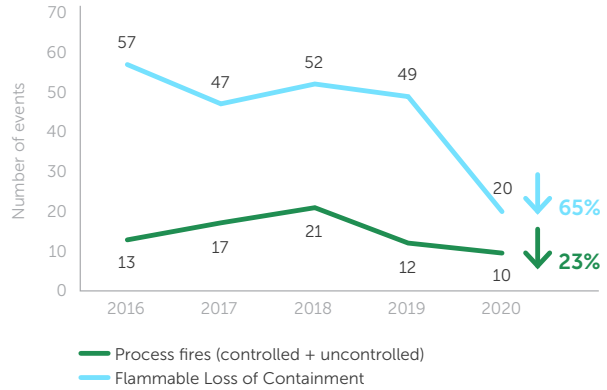
The delivery was refused when the second sample and analysis showed once more that the incoming material was different than its transportation paperwork. Later, a new product shipment was accurately confirmed at delivery and received by the site. The incident learning revealed that an incorrect tanker was connected at the supplier dispatch yard on the prior shipment.

By following safety protocols, taking the time to question the situation, and being thoughtful about the decision to stop work, the team prevented a potential incident and maintained safe operations for people and the environment.

WE USE OUR POSITION TO INFLUENCE OTHERS:

- NOVA Chemicals currently chairs the Planning Committee for the Technical Steering Team at the Center for Chemical Process Safety, a global organization with approximately 220 corporate members dedicated to the development of industry-leading practices relative to process safety management.
- We presented on process safety culture at the 2020 Global Congress on Process Safety.

Process Safety Events

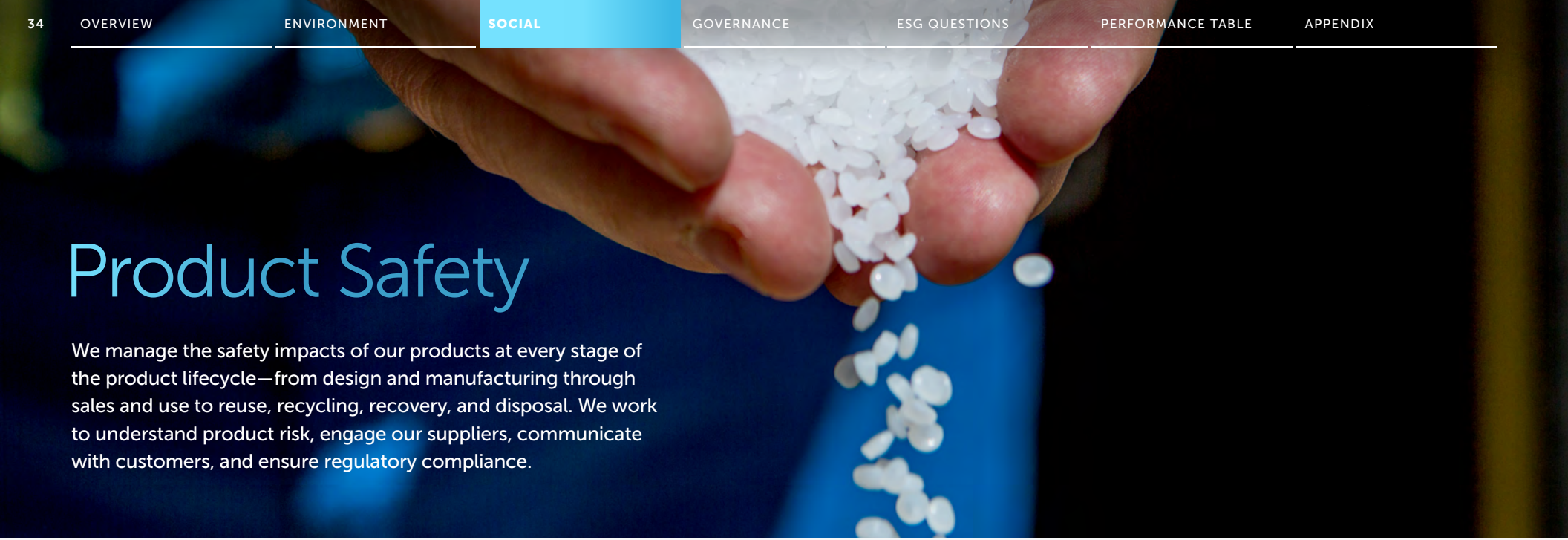


In the last five years, we have reduced our flammable loss of containment (FLOC) events by 65 percent. FLOC events are incidents that involve an unanticipated leak or spill of flammable material. We focus on preventing FLOC events because they precede process fires.

Our Performance

PROCESS SAFETY INCIDENTS COUNT (PSIC)	UNITS	2016	2017	2018	2019	2020
Tier 1	Incidents	4	8	6	8	1
Tier 2	Incidents	6	15	8	10	8
Process Safety Total Incident Rate (PSTIR)	Incidents/200,000 hours worked	0.09	0.15	0.13	0.18	0.03
Process Safety Incident Severity Rate (PSISR)	Severity weighted rate of incidents/200,000 hours worked	0.19	0.47	0.39	0.49	0.09

To manage process safety performance, we use layers of protection management, hazard risk assessment, and a culture of Thoughtful Compliance.



Product Safety

We manage the safety impacts of our products at every stage of the product lifecycle—from design and manufacturing through sales and use to reuse, recycling, recovery, and disposal. We work to understand product risk, engage our suppliers, communicate with customers, and ensure regulatory compliance.

WHY IS IT IMPORTANT FOR US TO MANAGE PRODUCT SAFETY?

It is our responsibility to help protect public health and the environment and to promote the safe handling and use of our products.

100%

of products that contain Category 1 and 2 Health and Environmental Hazardous Substances according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) have undergone hazard assessments.

Management Approach: How We Manage Product Safety

Our product safety program is designed to understand and communicate the safety impacts of our products, address product regulations, and manage risks. This program includes:

UNDERSTANDING PRODUCT RISK: We test our products to ensure safety and suitability for various customer applications. Potential lifecycle hazards of our products are handled through our Product Risk Characterization and Management program, which prioritizes our products by risk, and takes action to mitigate unreasonable risk. We also work with customers to promote safe handling and use of our products.

WORKING WITH SUPPLIERS: We focus on selecting best-in-class suppliers and regularly audit supplied products to ensure they meet our rigorous technical property criteria. We engage external partners through our Responsible Care® Outreach program to promote Responsible Care® values such as safety and environmental stewardship. Suppliers of ingredients that remain in our products as sold are required to provide us with detailed regulatory and hazard information on their components, so we can understand and manage potential impacts.

PROVIDING SAFETY INFORMATION TO CUSTOMERS AND THE PUBLIC: We provide customers and the public with safety information in the following ways:

- We create, maintain, and distribute Safety Data Sheets (SDS) and labels to communicate the hazards of NOVA Chemicals' commercial and non-commercial products and safe handling methods by employees and customers.
- We create risk profiles and background information documents for our customers to help promote safe handling and Responsible Care® values.
- We provide product information on our website and host webinars for customers on safe handling of our products. We also work actively with trade associations (for example, as a member of the Chemistry Industry Association of Canada and the American Chemistry Council) to conduct public education and outreach.
- We have a robust process to review and manage any allegations that our products or processes may adversely affect people or the environment.

MAINTAINING REGULATORY COMPLIANCE: We seek to maintain continual compliance with regulations for product manufacture, sale, and use. NOVA Chemicals maintains subscriptions to comprehensive regulatory databases, and participates in trade associations that provide insights into industry best practices and upcoming regulatory developments. When required, we employ expert consultants to assist us in monitoring the expanding realm of global chemical and product regulations. We also employ tracking systems to prevent the inadvertent sale of non-compliant products.

2020 Activities

UNDERTOOK POST-CONSUMER RESIN (PCR) TESTING: To support the development of a circular economy, we developed protocols and processes to test and assess PCR-containing resins for their suitability in various applications. We share the results of our PCR research with peers in our industry.

UPDATED MEDICAL USE POLICY: Our polyethylene (PE) resins are generally suitable for use in drug packaging and certain types of medical devices. In many cases, they provide performance advantages. However, there are still risks associated with the use of polyethylene (PE) in some end-uses. In 2020, there was increased demand for plastics for medical applications. In response, we updated our procedure to determine which medical applications NOVA Chemicals will knowingly supply and recommend resins for. The procedure is to be followed by employees working with customers interested in polyethylene (PE) resins for pharmaceutical or medical device applications.

EXPANDED AUTOMATED HAZARD COMMUNICATIONS: To ensure timely access to the most accurate product safety information, we expanded automatic distribution of safety data sheets (SDS) beyond our U.S. and Canadian customers to include Mexico, China, Brazil, and Latin America. These customers now automatically receive an SDS when they purchase a product for the first time, or when there has been a relevant change to a product they have already purchased. When required by law, an SDS is sent to customers at other times and frequency levels.

CHEMICALS OF CONCERN

We work in an evolving field and want to ensure we make informed, up-to-date decisions about product safety and use, based on science and evidence. We closely monitor various information sources and follow product reviews by regulatory agencies, including toxicology and environmental impact studies, chemical hazard classification reviews, substances of very high concern bulletins, government chemical risk assessment reports, and both regional and global environmental impact reports.

We work to better understand the potential impacts, and phase out if needed, chemicals of concern.

In addition, we are part of a consortium that is working with the U.S. Environmental Protection Agency on its risk evaluation of 1,3-Butadiene.

Transportation Safety

We focus on safely transporting raw materials and feedstocks, intermediate chemicals, and finished products to their destinations without release of product to the environment. We have comprehensive planning, screening, assessment, and audit plans to align with industry regulations and best practices.

WHY IS IT IMPORTANT FOR US TO MANAGE TRANSPORTATION SAFETY?

Safe transportation practices help prevent product spills and incidents that could negatively impact the safety of people and/or the integrity of the environment.

Management Approach: How We Manage Transportation Safety

We use pipelines, rail, trucks, and marine vessels to transport raw materials and feedstocks, intermediate chemicals (such as butadiene and propylene), and finished products to customers. Since we depend largely on third parties to transport our products, many of our activities are dedicated to ensuring we work with safe carriers. This work includes:

ACTIVITIES FOR ALL MODES OF TRANSPORT

- **Transportation security:** All our operating facilities have Facility Security Management Programs, which include measures to prevent dangerous goods from being stolen or interfered with while being handled, transported, or imported. We are members of U.S. Customs and Border Protection's Customs Trade Partnership Against Terrorism (CTPAT®) and the Canada Border Services Agency's Partners in Protection programs, and meet security requirements for cross-border trade in both countries. In 2020, we implemented a new Transportation Security Plan for rail, road, and marine modes of transport at our Canadian locations.
- **Incident reporting:** We measure and monitor transportation incidents at all our facilities, as well as transportation incidents that involve our products at vendor and customer facilities. Through our supplier outreach program, we engage suppliers and carriers to ensure they effectively report incidents and incorporate corrective actions.
- **Transportation emergency management:** Several of the inputs and intermediate chemicals we transport are subject to an Emergency Response Assistance Plan (ERAP), a Canadian regulatory requirement for certain dangerous goods.

- Approved by Transport Canada, our ERAP incorporates industry standards and best practices, and is maintained to account for any new chemicals we transport. Our NOVA Chemicals Logistics Emergency Response Team (NOVAlert) of technical advisors is supported by emergency response contractors stationed along major transportation corridors where our products and raw materials are shipped. We also work with Transportation Community Awareness and Emergency Response (TRANSCAER℠), a program to ensure communities are informed about products being moved through their area and to communicate the measures in place to ensure safe transportation.
- **Pellet loss prevention:** We are the first Canadian resin company to pledge support to Operation Clean Sweep® (OCS) blue, a campaign to prevent plastic pellet loss at facilities and during transportation. We also encourage our customers to take the OCS blue pledge.

ACTIVITIES FOR SPECIFIC MODES OF TRANSPORT

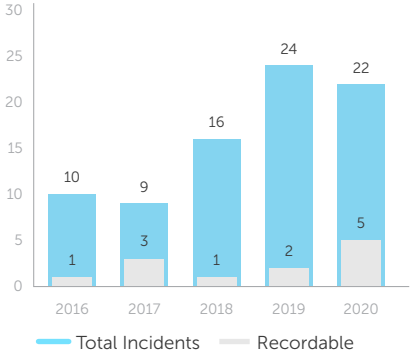
- **Screening and onboarding of trucking carriers:** It is our preference to work with carriers who are Responsible Care® companies. We currently work with 24 carriers, 25 percent of which are Responsible Care® partners. To further ensure safe practices, we screen carriers through third-party screening by industry-leading vendors, audits, and self-assessments regarding safety aspects such as handling, routing, and security. When onboarding new carriers, we discuss and mutually agree on expectations.
- **Assessments and audits of trucking carriers:** All carriers are assessed and audited, with the exclusion of carriers for one-time shipments. Through our Responsible Care® Outreach Program, we determine frequency of assessments. All carriers are assigned a risk level of low, medium, or high, which determines their review frequency between one and five years.
- **Railcar securing and maintenance:** To prevent non-accidental releases (NARs), we have strict processes in place to secure our railcars (RideTight® fluid-sealing management program), as well as a tank car maintenance program that exceeds regulatory requirements. We also provide a railcar inspection training program for all rail tank car loading and unloading personnel to ensure proper implementation of these processes.
- **Pipeline integrity:** We maintain a rigorous pipeline integrity program for the approximately 600 km (372 miles) of pipelines we operate. Our program includes right-of-way inspections, flyovers, in-line inspections, and integrity or verification digs.

2020 Activities

In 2020, in response to new Canadian legislation, we implemented an internal Transportation Security Plan to address transportation security risks for rail, road, and marine transport. These include risks related to a range of activities—including prevention, mitigation, and preparedness—as well as response and recovery from threats or security concerns. The plan includes the protection of both tangible (physical, human, structural, critical, and environmental) and intangible (reputation, brand, and information) assets, and includes measures to prevent dangerous goods from being stolen or otherwise unlawfully interfered with while being imported, offered for transport, handled, or transported.

In addition to meeting all applicable Canadian regulatory and chemistry industry requirements, our Transportation Security Plan meets similar hazardous materials regulations in the U.S.

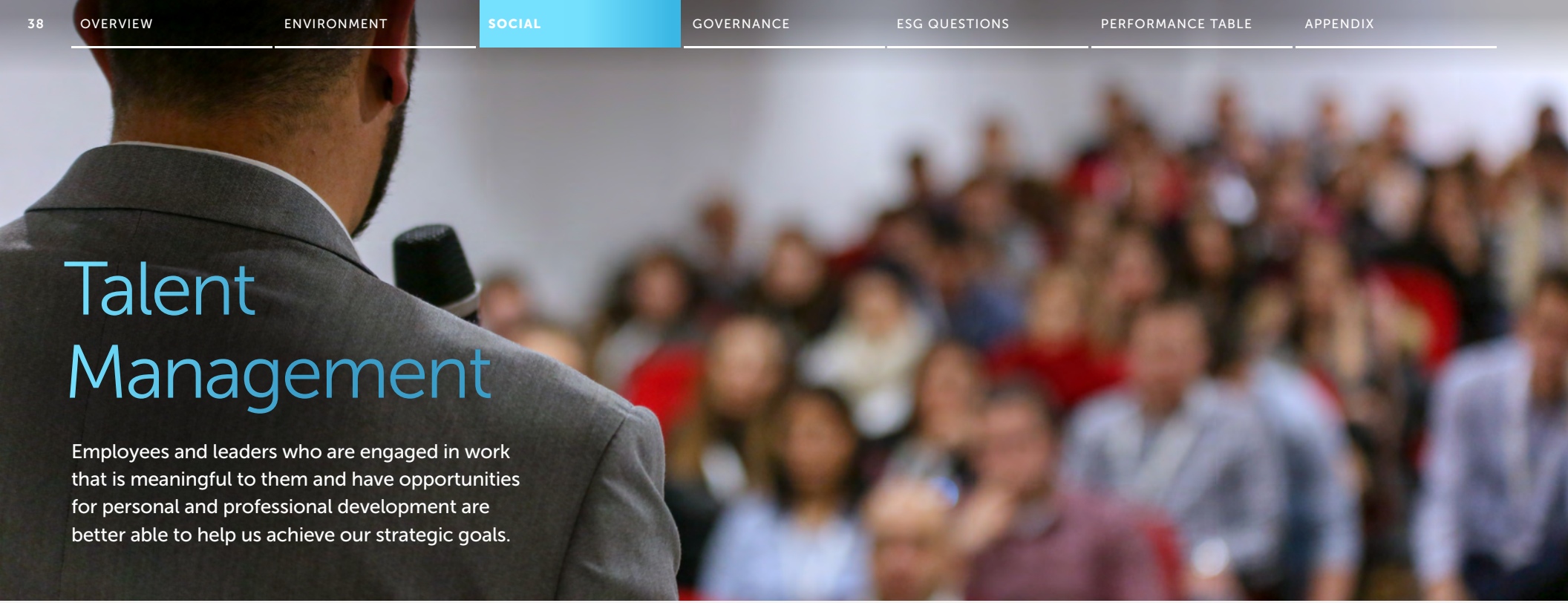
Transportation Safety Incidents



Although most of the incidents continue to be minor and near hits, we experienced five recordable transportation incidents in 2020. Transportation incidents exclude vehicle incidents that do not involve product. The significant increase in all reported incidents starting in 2019 was a result of a change in the reporting protocol to include incidents at vendor and customer facilities.

0
non-accidental releases (NARs) during rail transportation in 2020

291
employees trained in new Transportation Security Plan



Talent Management

Employees and leaders who are engaged in work that is meaningful to them and have opportunities for personal and professional development are better able to help us achieve our strategic goals.

Management Approach: How We Promote and Develop Talent

A LEARNING CULTURE: We encourage everyday innovation by supporting a learning culture. Up to 70 percent of our employee development occurs on the job, 20 percent consists of coaching from a leader and/or networking, and 10 percent is from formal learning, either virtually or in a classroom.

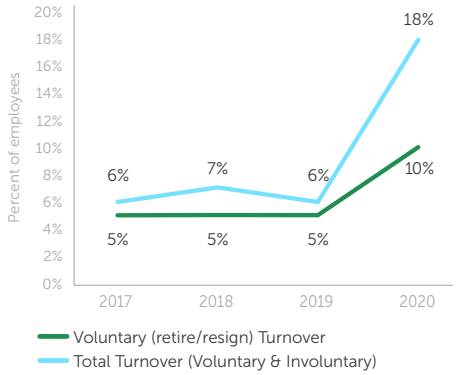
FORMAL LEADERSHIP DEVELOPMENT: NOVA Chemicals' Leadership Development program segments candidates based on development needs, from emerging leaders to senior people leaders. Our philosophy of development refines capabilities through experience, coaching, and formal training.

Formal leadership development is largely delivered through a program called CONNECT: The Neuroscience of Quality Conversation®. This program focuses on facilitating effective conversations between leaders and employees, a critical element in elevating individual performance and development. Training takes place in six virtual sessions led by NOVA Chemicals' leaders as well as trainers from the NeuroLeadership Institute.

2020 Activities

All people leaders at NOVA Chemicals are invited to participate in our Applied Leadership Network, a program that facilitates peer-based learning at meetings held at least six times per year. In 2020, we moved our Applied Leadership Network workshops to a virtual format, in response to workplace changes brought on by the COVID-19 pandemic. Employee response to the virtual format was positive, and we are exploring the possibility of keeping a virtual element to the program even after pandemic restrictions on gathering are lifted.

Turnover Rate



The increase in voluntary and involuntary turnover is directly related to the sale of our expandable polystyrene business and other business improvement processes that we undertook in 2020.

Employee Health and Well-Being

Health and wellness are integral parts of our culture at NOVA Chemicals. We believe that a healthy workforce is a safer and more productive workforce.

Management Approach: How We Promote Health and Well-Being

OCCUPATIONAL HEALTH AND INDUSTRIAL HYGIENE PROGRAMS: We have standardized occupational health and industrial hygiene programs at all NOVA Chemicals sites in compliance with applicable regulations and company standards. We promote employee health and well-being with core programs that ensure worker protection in areas of mental, biological/chemical, and physical health such as ergonomics, fitness to work, travel health, and hearing-conservation programs. As an example, we promote hearing conservation by conducting personal and area monitoring to determine noise levels, post signage in areas requiring hearing protection, and assign workers to complete audiometric surveillance. Audiometric surveillance identifies early warning changes in hearing so appropriate interventions can be taken to prevent hearing loss.

EMPLOYEE WELL-BEING PROGRAM: NOVA Chemicals' Total Well-Being program supports employees' physical, emotional, financial, social, and environmental well-being. Resources available through this program include an employee family assistance program, influenza vaccinations, biometric screening, and educational videos. The program also includes a digital platform to track progress on personal goals and access tools that promote well-being. Employees who participate in the digital platform are eligible to receive incentives.

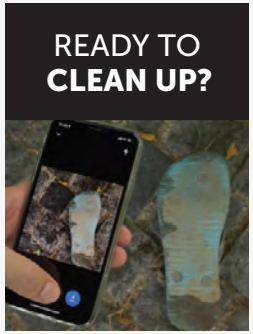
FLEXIBLE WORK OPPORTUNITIES: Our Alternative Work Arrangements program offers options such as variable work hours, job sharing, and phased retirement, where work functions allow.

2020 Activities

For details on how we promoted employee health and well-being during the COVID-19 pandemic, see page 30. In 2020, we also developed our Connected Workplace Policy that establishes clear expectations for leaders and employees in office-based or home-office positions to ensure they collaborated effectively and stayed connected while working from home. It includes eligibility criteria, expectations, and accountabilities (such as work hours, protection of company assets, and ergonomics) for employees working from home.

EMPLOYEES SUPPORTING A CIRCULAR ECONOMY

Total Well-Being includes environmental well-being. In 2020, the Alliance to End Plastic Waste organized its first virtual global cleanup campaign, providing an environmental well-being opportunity for employees. The campaign engaged more than 3,000 people worldwide in collecting 775,000 pieces of litter using the Litterati® app. NOVA Chemicals finished in the top 10 of participating companies.



EMPLOYEE VIEWS ON WORK FROM HOME

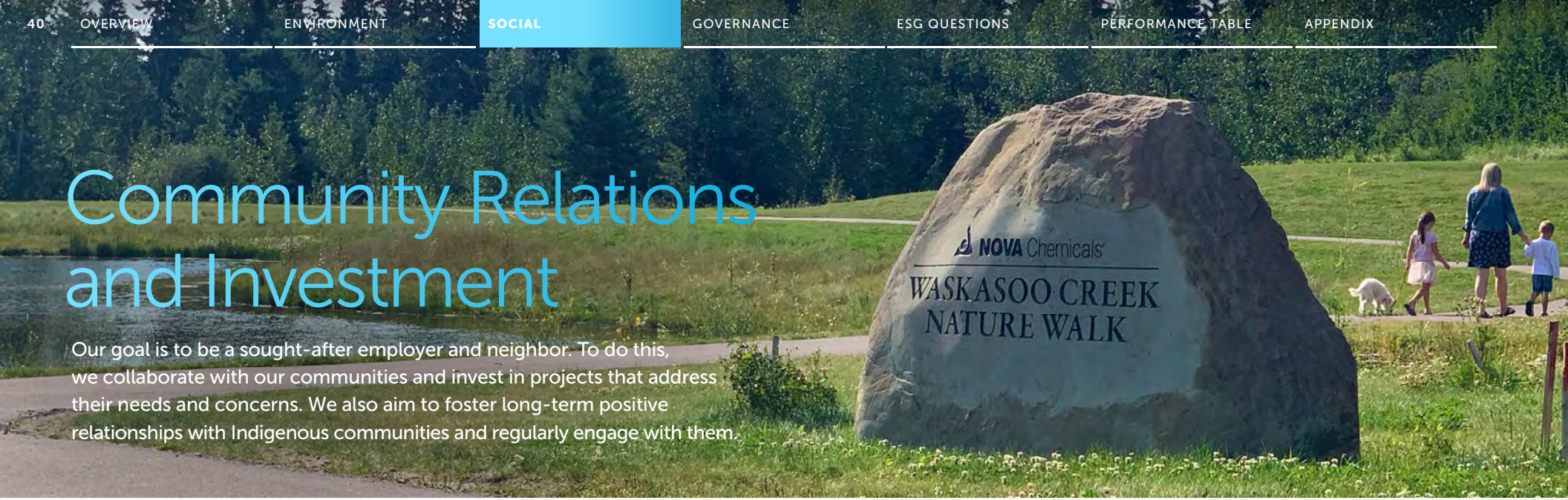
49%

of respondents value the flexibility of a hybrid work environment, enabling them to spend some time in the office

92%

of respondents feel equally or more productive while working from home

Source: Work from Home – Pulse Survey, November 2020



Community Relations and Investment

Our goal is to be a sought-after employer and neighbor. To do this, we collaborate with our communities and invest in projects that address their needs and concerns. We also aim to foster long-term positive relationships with Indigenous communities and regularly engage with them.

Management Approach: How We Manage Community Relations and Investment

BEING ACCOUNTABLE: We adhere to the Chemistry Industry Association of Canada's (CIAC) Responsible Care® Accountability Code, which outlines expectations for proactive community awareness and dialogue. In early 2020, the CIAC updated the Accountability Code, requiring members to engage with Indigenous communities in a manner that respects their unique history, culture, and rights. We reviewed our internal policies and standards to ensure alignment with the new Indigenous community elements.

BEING A GOOD NEIGHBOR: Our Good Neighbor Program outlines specific commitments and actions related to our construction activities. See them below.

Our Good Neighbor Commitments

COMMUNICATIONS
- Create opportunities for stakeholder feedback
- Continue to consult with directly and potentially impacted stakeholders

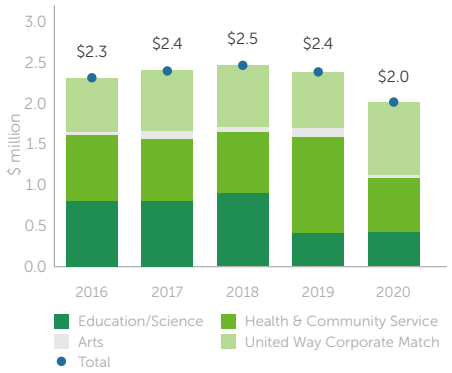
EMPLOYMENT
- Create opportunities to connect the construction workforce with local businesses
- Promote local employement and business development opportunities

ENVIRONMENT
- Meet our permitting and regulatory requirements
- Implement a plan for tree planting
- Work with our contractors to minimize material waste and oversupply

TRAFFIC
- Implement a traffic management plan
- Proactively anticipate traffic impacts, particularly during peak times and movements of heavy equipment
- Promote safe driving behaviors

NOISE
- Schedule work primarily during daytime hours
- Construct a berm

Community Investment



We continue to invest in organizations that improve quality of life. Some of our partners are United Way®, Carnegie Science Center, and Let's Talk Science®.

BUILDING AND SUSTAINING STRONG COMMUNITIES: We are committed to investing in organizations dedicated to improving the quality of life in the communities where we work and live. We support multiple organizations dedicated to removing barriers for the most vulnerable populations in our communities. We support initiatives focused on three core areas that back our business strategy: Science and Education, Health and Community Services, and the Arts.

VOLUNTEERING OUR TIME: We believe in lending a hand through active service. We support community and conservation initiatives through paid volunteer time and on our own as individuals and families.

2020 Activities

SUPPORTING OUR COMMUNITIES THROUGH THE PANDEMIC: Throughout the COVID-19 pandemic, NOVA Chemicals and its employees **donated more than $300,000** through both direct and employee-matching donations to support organizations in the company's primary manufacturing, commercial, and operating locations. This included:

- **$60,000** in initial direct donations to organizations that provide immediate help where it is needed most, as well as company matching of employee donations to these organizations
- **$125,000** donation to food banks across our core regions to help provide food security through the December holiday season to those in need, including children, families, and seniors facing hunger

GIVING THROUGH THE UNITED WAY: We raised nearly **$1.7 million** with virtual fundraising events through our regional United Way campaigns—a combination of employee and retiree pledges, NOVA Chemicals matching dollars, and an additional company contribution, acknowledging a challenging year.

DONATING PRODUCTS: We helped organizations donate essential goods during COVID-19, particularly medical supplies, including:

- Donating a regular supply of isopropyl alcohol to the Refined Fool Brewing Co. in Sarnia, Ontario, to support hand sanitizer production for distribution to regional hospitals and essential businesses in need
- Partnering with Sigma Plastics Group in the U.S. to donate a one-year supply of stretch film made with our resins to the Greater Pittsburgh Community Food Bank, enabling them to focus their resources on purchasing food
- Donating polyethylene (PE) to support the production of more than 100,000 masks, which Nevada-based WestFall Technik gave to numerous hospitals and clinics in the U.S.
- Coordinating with international distributor Montachem to donate polyethylene (PE) resins to Deep Springs International, a Haiti-based non-profit organization, which is using the PE to produce 7,000 drinking water systems (which will benefit 35,000 people) and 2,240 handwashing stations (which will be used by 100,000 people) in Haiti

THROUGHOUT THE PANDEMIC

NOVA Chemicals and its employees donated more than

$300,000

$60,000

initial direct donations to organizations that provide immediate help

$125,000

donation to food banks

UNITED WAY® GIVING

NOVA Chemicals employees, retirees, and the company collectively raised nearly

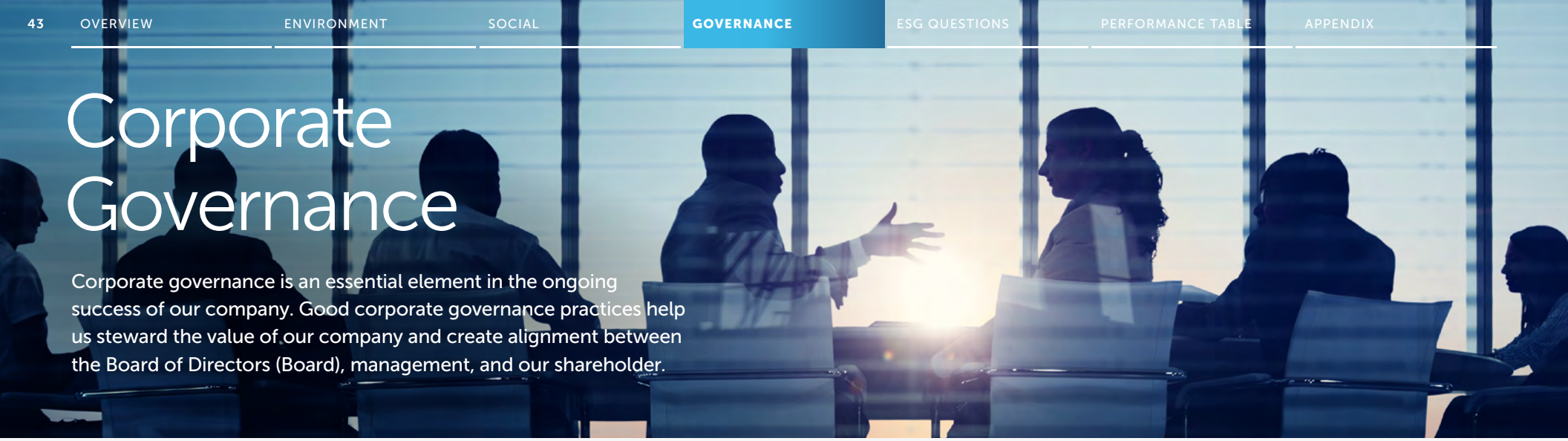
$1.7 MILLION

in pledges, matching and additional donations, acknowledging a challenging year

GOVERNANCE

Our unwavering commitment to sustainability and our Responsible Care® program complements our long-standing commitment to transparency and accountability. We continually improve our governance and business practices, and work to promote a culture of ethical behavior both in our company and with our customers and partners.

IN THIS SECTION



Corporate Governance

Corporate governance is an essential element in the ongoing success of our company. Good corporate governance practices help us steward the value of our company and create alignment between the Board of Directors (Board), management, and our shareholder.

WHY IS CORPORATE GOVERNANCE IMPORTANT?

Sound corporate governance is critical to mitigating risks, achieving strong performance, and maintaining accountability to stakeholders.

Role of the Board

The role of our Board is to protect the interests of NOVA Chemicals' shareholder, provide guidance to management, monitor the effectiveness of management's policies and decisions, and oversee the execution of our strategy.

Board Structure

In 2020, we had six Directors on our Board, one of whom was independent. Board members are appointed by our shareholder. The Board meets on a regular basis, with approximately six Board meetings scheduled each year. In 2020, we had two committees, the Audit Committee and the Remuneration Committee. The Audit Committee and the Remuneration Committee also meet on a regular basis, with approximately six meetings for each committee each year. In addition, we have a Pension and Savings Plan Committee, a subcommittee of the Audit Committee and the Remuneration Committee, comprised of members of management.

Board Renewal and Diversity

We do not have term limits or a formal retirement policy for Directors. We require a certain amount of institutional, financial, and industry knowledge on our Board. At the end of 2020, the average tenure of a director on our Board was 2.8 years. We seek Directors with diverse competencies, skills, and experience.

Executive Compensation

Our underlying principle is to provide competitive compensation that attracts, retains, and motivates highly capable executives to achieve the Company's Business Plan. NOVA Chemicals' executive compensation is heavily weighted towards incentive plans with 76 percent of our CEO and an average of 64 percent for other executive officer compensation considered "at risk" and dependent on performance against targets.

BOARD AND GOVERNANCE INFORMATION

Board composition and independence

Size of Board	6
Independent Directors	1
Separate Chair and CEO	Yes
Independent Chair[1]	No
Board Meetings Held in 2020	8
Average Meeting Attendance	100%

Board renewal

Mandatory Retirement Age	No
Average Director Tenure	2.8 years

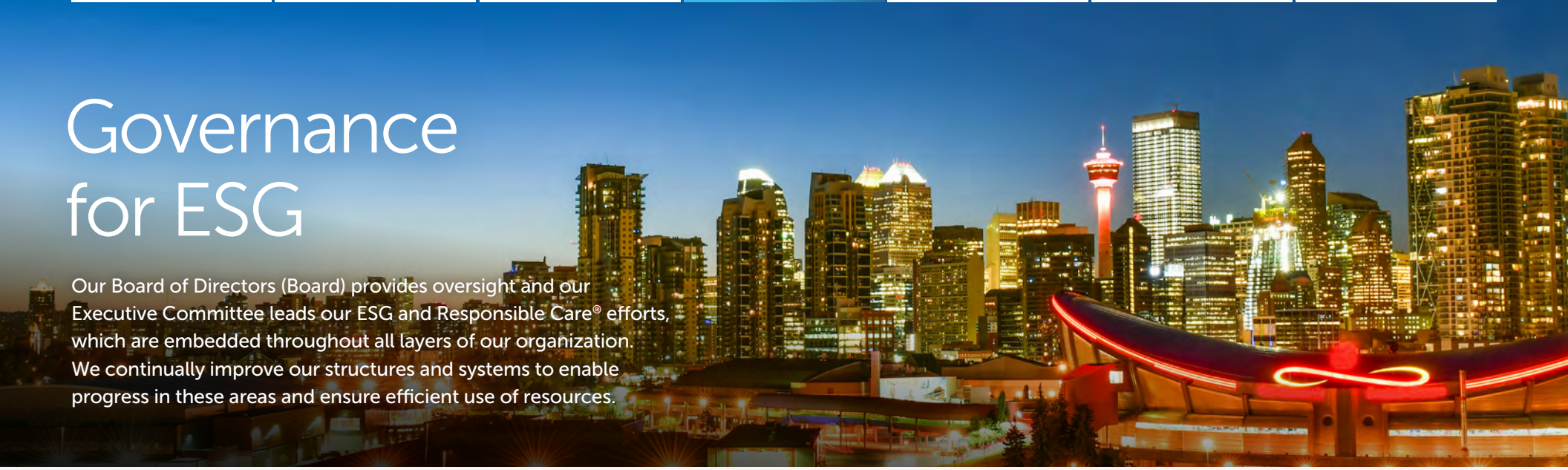
Ethics

Code of Conduct for Directors, Officers, and Employees	Yes

All data as of December 31, 2020.

[1]*An independent Chair does not apply in a private ownership setting.*

Governance for ESG



Our Board of Directors (Board) provides oversight and our Executive Committee leads our ESG and Responsible Care® efforts, which are embedded throughout all layers of our organization. We continually improve our structures and systems to enable progress in these areas and ensure efficient use of resources.

WHY IS IT IMPORTANT FOR US TO HAVE A SOLID GOVERNANCE STRUCTURE FOR ESG MATTERS?

In order to meet our commitments and to be successful in the long term, we need to embed ESG across the organization and provide adequate levels of oversight for ESG-related risks and opportunities.

Oversight

Although the Board provides the highest level of oversight for ESG matters, our Executive Committee has the highest level of responsibility for our ESG performance and executing strategy. Our Executive Committee represents the highest level of management of our organization, and has seven members including our Chief Executive Officer (CEO), Chief Financial Officer (CFO), and five Senior Vice Presidents. The role of the Executive Committee is to provide direction for NOVA Chemicals' ESG governance, management, performance, and target setting. The Executive Committee works to ensure systems, people, and processes are in place to achieve NOVA Chemicals' ESG strategy, optimize performance in Responsible Care® objectives, and ensure compliance with all applicable laws and regulations.

Read about governance specifically for climate-related risks on page 54.

Linking ESG to Compensation

As part of the ESG framework developed in 2020, the company's 2021 variable pay program was designed to include ESG objectives. In addition to financial and Responsible Care® objectives, the 2021 Long-Term Incentive Plan will include objectives to support the Circular Economy, Climate Care, and Inclusion and Diversity areas. The Short-Term Incentive and Technical Variable Pay plans continue to emphasize social aspects related to occupational and process safety performance.

Principles That Guide Our Sustainability Activities

Our Sustainability and Responsible Care® Policy directs our sustainability activities at the highest level. We aim to meet or exceed compliance obligations and commitments, improve our performance, and create long-term value by:

- Providing resources to meet Responsible Care® principles and ethics
- Prioritizing work using a risk-based approach (for example, including climate risk and plastic risk in our Enterprise Risk Management System)
- Setting and achieving goals and objectives
- Implementing science-based solutions and best practices
- Adopting continual improvement methods
- Aligning our interests with those of interested parties

Policies and Responsibilities for the Management of Our Material ESG Topics

ESG TOPIC	MANAGEMENT SYSTEM AND/OR POLICIES	WHO IS RESPONSIBLE
Plastics Circular Economy	• We follow a stage-gate approach to product development, with several built-in check points to ensure we develop products that meet market needs • Responsible Care® Standard 400 Research and Development – Products and Processes • Responsible Care® Standard 400-A Product and Process Development	• Our Market-focused Teams are composed of marketing, product development, sales, and technical services specialists. These teams collaborate with Operations to bring new products to market • Our Sales and Marketing Leadership Team has accountability for plastics circular economy growth, including post-consumer resin sales
Environment (GHG emissions, air emissions, waste, water) **Employee/ contractor safety** **Health and wellness** **Transportation safety** **Process safety** **Product safety**	• Our Sustainability and Responsible Care® Policy guides our practices and aspirations, including our management and advocacy approach to key risks and opportunities • All our facilities have management systems to govern all facets of Responsible Care® (as outlined to the left). These systems align with the requirements of the American Chemistry Council or the Chemistry Industry Association of Canada • We adhere to the RC14001® management system, a standard that combines elements of Responsible Care® and ISO® 14001 • In 2020, all U.S. sites achieved RC14001® certification • Canadian sites will be RC14001® certified by 2023 • Continuous Improvement Program Standard	• Eight Responsible Care® Strategy Teams are responsible for developing strategies to improve our Responsible Care® performance • The Responsible Care® Strategy Teams are integrated across locations and functions • Our Sustainability function is responsible for implementation of our sustainability strategy in collaboration with other areas of the company • The Logistics Team is responsible for Transportation Safety, including tracking and managing transportation incidents, near hits, and non-accidental releases. Metrics are reported monthly to the Logistics Leadership Team. The Supply Chain Risk Exposure Evaluation Network (SCREEN), a work group within Logistics, evaluates transportation risks, and reports to the Director, Logistics and Customer Service
Inclusion and diversity **Talent management**	• Our newly developed Inclusion and Diversity Roadmap will guide our actions towards a more diverse and inclusive workplace • Our formal leadership development is largely delivered through a program called CONNECT: The Neuroscience of Quality Conversation®	• Our Human Resources Team is responsible for tracking performance and developing programs in pursuit of our inclusion and diversity goals and to develop our leaders and employees

NOVA Chemicals has been awarded a Silver rating by EcoVadis®. This places us in the top 15 percent of companies assessed by EcoVadis® in our industry category, and is a reflection of the strength of our management systems as well as the significant effort and dedication of our teams. We will be developing and implementing a continuous improvement plan, based on the strengths and improvement opportunities identified. EcoVadis® assesses companies using a sustainability scorecard that includes 21 indicators in four themes: ethics, environment, labor and human rights, and sustainable procurement.

ESG TOPIC	MANAGEMENT SYSTEM AND/OR POLICIES	WHO IS RESPONSIBLE
Community relations	• Sustainability and Responsible Care® Policy • CIAC Accountability Code, ACC for Geismar, Louisiana, operations • Community Investment Principles	• Our Regional Public Affairs Team is responsible for developing programs to engage with and support our communities
Ethics and compliance	• Code of Conduct • Anti-Trust Compliance Policy • Anti-Bribery and Corruption Policy • Conflict of Interest Policy • Digital incident management system with built-in reporting metrics (for example, calls to the ethics hotline, cases), automatic notification and reminders	• The Ethics and Compliance Team is responsible for developing, implementing, directing, reviewing, and revising the Ethics and Compliance program to be consistent with our risk profile and business strategies and to meet best practices • The team reports metrics quarterly to the Executive Committee and the Audit Committee of the Board and annually to the Board of Directors
Responsible supply chain	• Responsible Care® Outreach Program	• The Product Safety Team is responsible for understanding and communicating the health, safety, environmental, regulatory, and security impacts of our products throughout their life cycle, and reports to the Product Safety Strategy Team on a quarterly basis • The Logistics and Procurement Teams, working within the Responsible Care® Outreach Program, is responsible for the business relationships with its supply chain partners, including evaluating the operational risks of the transportation functions
Public policy	• We follow federal (Canada), Alberta, and Ontario lobbying acts in any interactions with elected officials	• Our Government Relations Team is responsible for engaging with government officials and regulators
Cybersecurity	• U.S. Department of Commerce's National Institute of Standards and Technology (NIST®) cybersecurity framework	• Our IT organization is responsible for procuring systems and developing processes that protect our assets, data, and information

How We Improve

STANDARDIZATION: Standardization of processes is a key element of continuous improvement. We continue to standardize company-wide policies and procedures, prioritizing activities that incur frequent sources of injury or have potential for severe consequences. To date, we have standardized processes for crane and hoisting (2017), rigging (2017), safe driving (2018), high-potential incidents (2018), life-saving rules (2019), and workplace chemical labeling (2019). In 2020, we updated our company-wide Sustainability and Responsible Care® Policy.

MAKING PERFORMANCE VISIBLE: We share our sustainability performance with leaders in a scorecard that is posted internally, and all employees have access to sustainability metrics via an internal website. Safety performance is linked to employee variable pay.

CONTINUOUS IMPROVEMENT (CI): CI refers to our mindset and framework for reducing variability, cost, and waste; engaging and developing employees; making performance visible; and driving problem solving to generate business results through the systematic application of the framework components. We anticipate completing full implementation of the CI system, a way of doing business, at all our manufacturing sites by 2022.

OTHER IMPROVEMENT ACTIVITIES:

- In 2020, we implemented a Business Improvement Program, a comprehensive strategic management system for improving our business on an ongoing basis
- We periodically review our policies and programs to ensure we comply with changing regulations, address societal expectations, and respond to sustainability risks and opportunities
- We assess our risks and ensure they are eliminated or controlled to appropriate levels
- Our operations undergo internal and external audits, according to a schedule or based on the results of our risk assessments
- We measure our performance, benchmark against our peers, and assess our improvement over time
- We investigate ethical, environmental, health, safety, and security incidents, and apply what we learn to prevent future incidents
- We update our policies and standards in response to regulation changes, risks, or learnings from internal review processes

SPOTLIGHT ON RESPONSIBLE CARE®

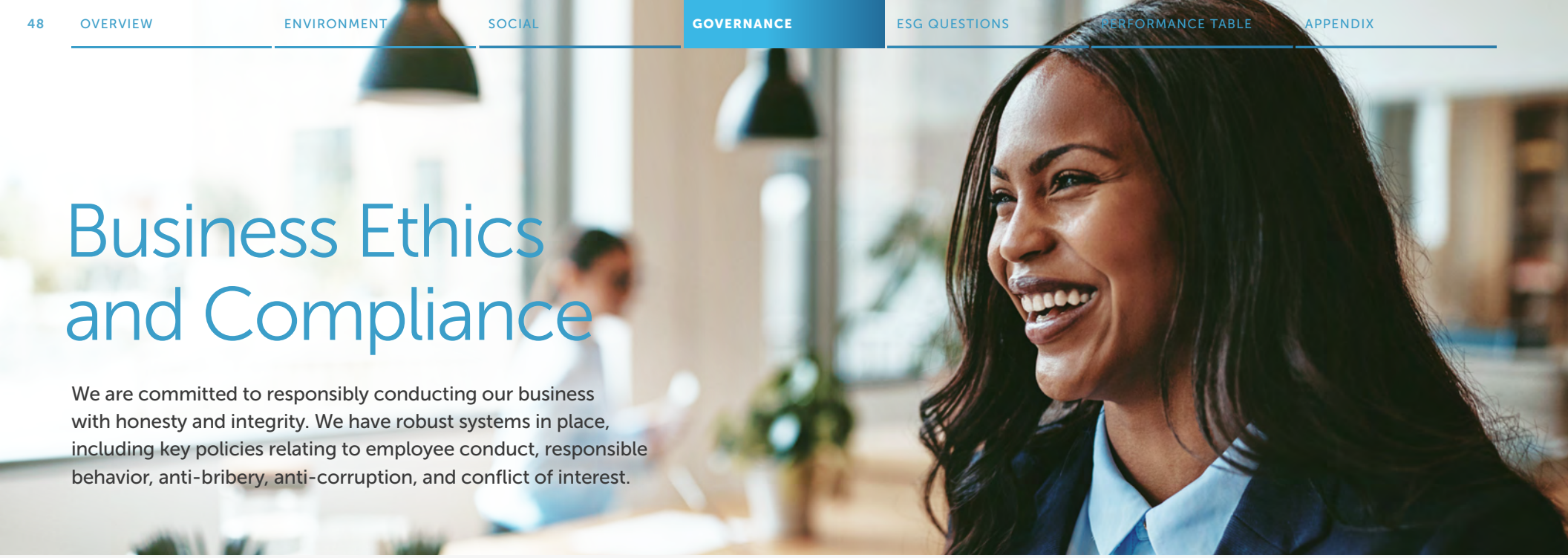
All our facilities have management systems to govern all facets of Responsible Care® standards. These systems align with the requirements of the American Chemistry Council or the Chemistry Industry Association of Canada.

We are transitioning all of our facilities to a new RC14001® management system, a standard that combines elements of Responsible Care® and ISO® 14001. Benefits of the RC14001® unified management system include enhanced transparency and accountability, improved clarity on value-chain influence and responsibility, reduced variation across the organization, and alignment with international standards.

To keep our management systems certified, our facilities must undergo third-party audits every three years.

In 2020, our Geismar, Louisiana, site completed its third-party certification audit and is now RC14001® certified.

Our Canadian sites will replace their current management system and expect to achieve RC14001® certification in 2023 at the latest.



Business Ethics and Compliance

We are committed to responsibly conducting our business with honesty and integrity. We have robust systems in place, including key policies relating to employee conduct, responsible behavior, anti-bribery, anti-corruption, and conflict of interest.

WHY IS IT IMPORTANT FOR US TO MANAGE BUSINESS ETHICS?

Robust ethics and compliance management helps ensure integrity in our performance, protects our reputation as a responsible business, and reduces the risk of wrongdoing. It also mitigates any penalties imposed by regulatory and government bodies for violations.

Management Approach: How We Manage Business Ethics

SETTING EXPECTATIONS: Our Code of Conduct, and the suite of policies it contains, provides employees with clarity and guidance on expected work behaviors. Some of our key policies are:

- **Code of Conduct:** This is designed to assist everyone who works for or represents NOVA Chemicals, including employees and directors, in making decisions with integrity and honesty. It includes references to our policies and guidelines that promote compliance with laws and regulations. We monitor changes and developments and maintain up-to-date controls
- **Anti-Trust Compliance Policy:** This policy gives our employees guidance on how to conduct their day-to-day activities without engaging in prohibited conduct or entering unlawful agreements that limit or restrain trade
- **Anti-Bribery and Corruption Policy:** This policy is intended to ensure that all NOVA Chemicals' activities are conducted with the highest level of integrity and ethical standards and are fully in compliance with all applicable laws
- **Conflict of Interest Policy:** This policy provides guidance in recognizing possible conflict of interest situations and describes the process employees must follow to disclose potential conflicts

COMMUNICATIONS AND TRAINING: All employees are required to complete a business ethics and compliance curriculum within their first two months of hire at NOVA Chemicals, and annually thereafter. Most of the training consists of online learning modules, with some additional training sessions provided in person. In addition to annual Code of Conduct training and refreshers, we provide in-person presentations related to anti-bribery and corruption, anti-trust and competition law, conflicts of interest, gifts and entertainment, interactions with suppliers and customers, and trade compliance. Virtually all (98 percent) permanent active employees completed business conduct training in 2020.

ASKING QUESTIONS AND REPORTING CONCERNS: We maintain and monitor an EthicsPoint® reporting system, which is a 24-hour confidential and anonymous helpline and online reporting system. The EthicsPoint® system is for employees, contractors, and members of the public. They can ask questions about ethics matters, request help in decision making, or report possible violations of the Code of Conduct. In addition to EthicsPoint® reporting, concerns or questions can be raised through employees' leaders, the legal department, or human resources staff. We investigate, document, and follow up on all questions or issues reported through all intake methods. We also identify improvements and organizational learning opportunities to prevent reoccurrence. Retaliation against anyone who, in good faith, reports a suspected, potential, or actual violation is strictly prohibited.

AUDITING, MONITORING, AND REMEDIATION: Our Ethics and Compliance Team continues to oversee and implement monitoring and remediation plans for ethics and compliance risks and violations.

2020 Activities

INCORPORATED ETHICS AND COMPLIANCE INTO ENTERPRISE RISK MANAGEMENT: In 2020, we added the Business Ethics function to our Enterprise Risk Management system used to identify, assess, and mitigate key risks to the company. Enterprise Risk Management is a key component of an effective corporate governance model and requires all disciplines to operate together cohesively.

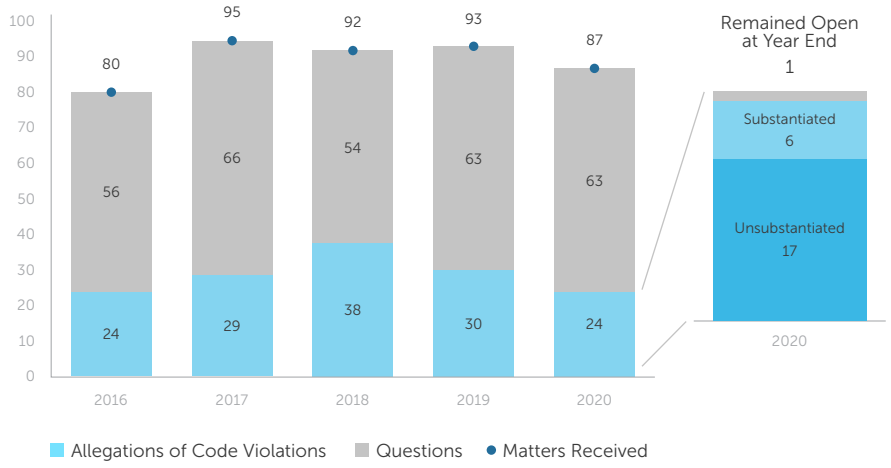
UPDATED ANTI-BRIBERY AND CORRUPTION POLICY: In 2020, we updated our policy to help employees assess potential gifts and determine whether giving or receiving a business courtesy could trigger corporate or personal liability. Our policy prohibits giving or receiving gifts or entertainment with public officials. It includes pre-approval and reporting requirements related to gifts, entertainment, and meals, to or from employees and business partners, as well as sponsorships, charitable donations, and sponsored travel and associated entertainment. In 2020, we provided training on this policy to our leadership and business teams and all new hires.

INTRODUCED CONFLICT OF INTEREST POLICY: NOVA Chemicals requires its employees to be free from conflicts of interest that could adversely influence their judgment, objectivity, duty, and responsibility to NOVA Chemicals when conducting business activities and assignments. In 2020, to help meet this objective, we adopted a Conflict of Interest Policy that requires self-reporting of conflicts and approval by ethics and compliance. The policy helps maintain employees' personal credibility by avoiding any activity that would bring into question their objectivity, loyalty, or responsibility to NOVA Chemicals.

REVISED REPORTING PROCESSES: In 2020, we revised how ethics matters and performance are reported at the Board Committee and Board level. Our Chief Compliance Officer now reports to the Audit Committee on a quarterly basis and to the Board of Directors on an annual basis. These reports include a scorecard of NOVA Chemicals' ethics and compliance performance, issues of significant interest or impact, and changes or modifications to our ethics and compliance program.

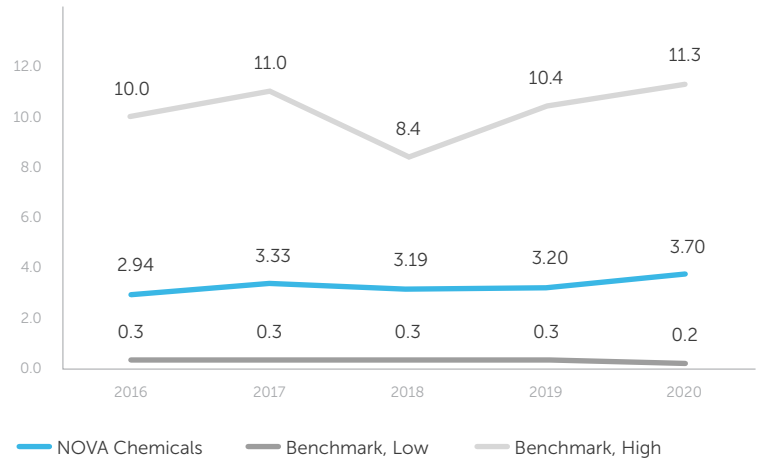
Our Performance

Ethical Matters and Allegations

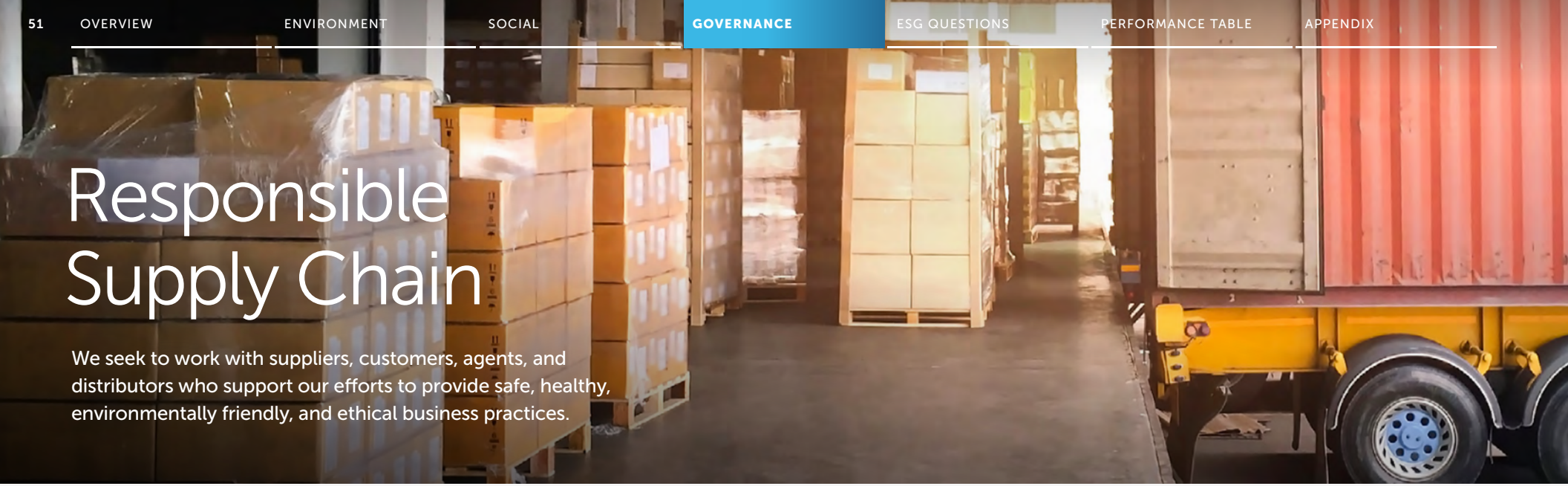


The continued high volume of matters received and addressed reflects the high level of interest shown by employees and leaders in "doing the right thing." For instance, 72 percent of matters received are questions. Only one issue remained open at the end of the year. We investigate all matters received. A substantiated allegation might result in employee education, coaching, discipline, or dismissal, where permitted by local law.

Ethics-Related Reports per 100 Employees



We compare the number of reports received through our ethics line to the NAVEX Global® benchmark. NAVEX Global® has a database of 3,027 organizations that collectively received more than 1.3 million individual calls in 2020. Although there is a wide range of call volumes between organizations, NAVEX Global® notes that organizations with higher reporting rates (calls per hundred employees) may be experiencing the positive business outcomes discussed in the George Washington University study "Evidence on the Use and Efficacy of Internal Whistleblowing Systems," which shows that higher report volumes are associated with fewer and lower amounts of government fines and material lawsuits.



Responsible Supply Chain

We seek to work with suppliers, customers, agents, and distributors who support our efforts to provide safe, healthy, environmentally friendly, and ethical business practices.

WHY IS IT IMPORTANT FOR US TO HAVE A RESPONSIBLE SUPPLY CHAIN?

By managing our value chain according to our Values and Code of Conduct, we are able to positively influence our entire value chain, and to promote safe, healthy, and environmentally friendly practices across the globe.

Management Approach: How We Manage Our Responsible Supply Chain

To carry out our manufacturing, construction, and services, we work with approximately 3,000 suppliers that provide feedstocks, raw materials, supplies for maintenance, repair and operations, and transportation services. To promote Responsible Care® values across the value chain, we use the following:

INTERNAL AND THIRD-PARTY SCREENING: We use an internal screening process and a third-party service provider to rate the risks associated with our business partners (i.e., suppliers, customers, distributors). Screening criteria include trade-prohibited countries, denied parties (according to relevant government agencies), and value of the business arrangement.

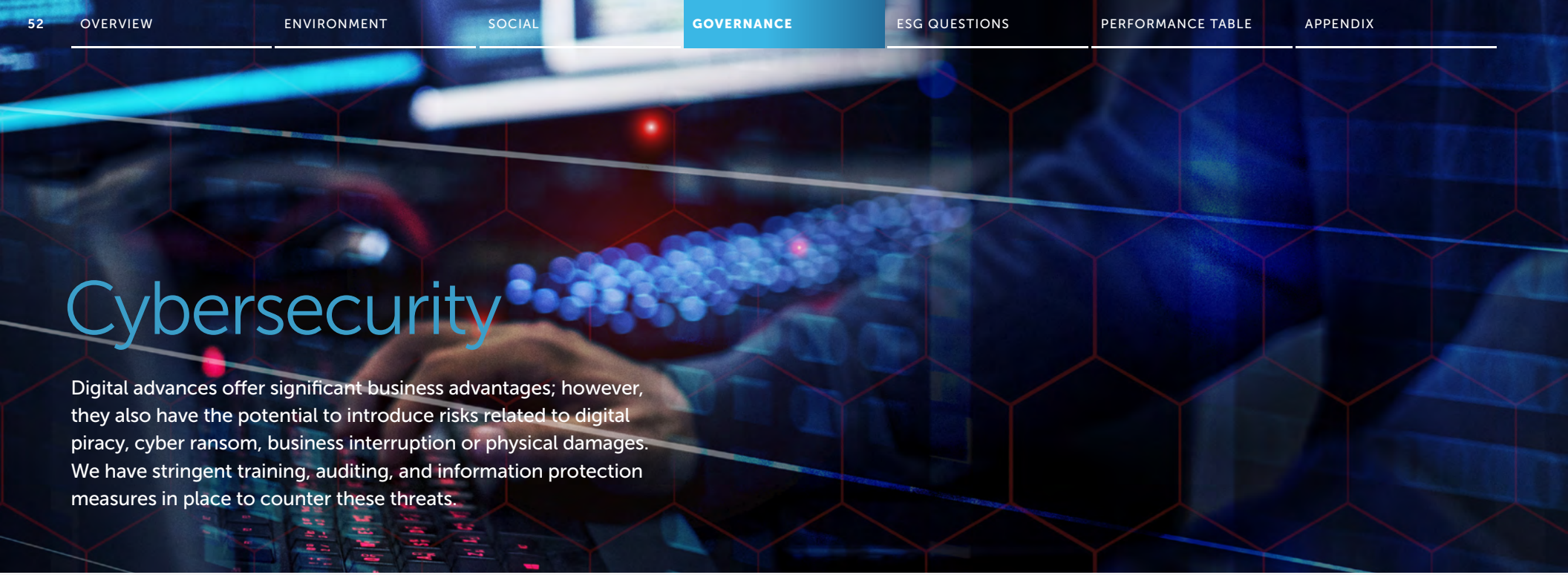
SUPPLY CHAIN RISK EXPOSURE EVALUATION: Our Supply Chain Risk Exposure Evaluation Network (SCREEN) is a cross-functional team that assists and supports our commercial and logistics functions in identifying and managing risks associated with the transportation and storage of products in the supply chain.

SECURITY PROGRAMS: To help ensure the security of our international supply chain, we are a registered partner in the U.S. Customs Trade Partnership Against Terrorism (CTPAT®) and the Canada Border Services Agency's Partners in Protection program.

RESPONSIBLE CARE® OUTREACH: Our Responsible Care® Outreach Program encourages the adoption of Responsible Care® principles. It engages customers, suppliers, carriers, and other stakeholders to help them understand our commitment to Responsible Care® and our expectations for doing business with NOVA Chemicals.

2020 Activities

ENHANCED OUR RESPONSIBLE CARE® OUTREACH PROGRAM: Our Responsible Care® Outreach Program was initially designed to help existing customers and stakeholders adopt Responsible Care® principles. In 2020, we took a more proactive approach and began using our Responsible Care® Outreach engagement tools to evaluate olefins customers prior to entering into business relationships with them. We also incorporated automated continuous monitoring of our stakeholders (for example, following media stories), to ensure adoption of our Responsible Care® principles. Finally, we began centralizing data management for this program to improve efficiencies and analytical capabilities.



Cybersecurity

Digital advances offer significant business advantages; however, they also have the potential to introduce risks related to digital piracy, cyber ransom, business interruption or physical damages. We have stringent training, auditing, and information protection measures in place to counter these threats.

How We Manage Cybersecurity Risks

Our holistic approach to digital risk management follows the National Institute of Standards and Technology (NIST®) voluntary framework, created by industry and the U.S. government to protect major infrastructure from cybersecurity risks. Our cybersecurity measures incorporate multiple factors to best protect our data, systems, and information. Our efforts include:

ASSESSING RISK: We comprehensively assess and review new systems and initiatives to ensure cybersecurity standards are followed and implemented. We also undertake cyber risk assessments of third-party vendors to ensure reasonable cyber controls are in place to minimize NOVA Chemicals' risk exposure.

SECURING THE OPERATIONAL ENVIRONMENT: Our network is segregated into various zones, based on how critical they are to the organization. Each zone has security controls in place to manage access and ensure maximum protection from malware and malicious activities. Given their significance, we isolate our operational centers from the internet and corporate network activity to limit the risk exposure that could result from a corporate network breach.

PROTECTING INFORMATION: We regularly update user policies, as well as our processes for data loss prevention and data classification.

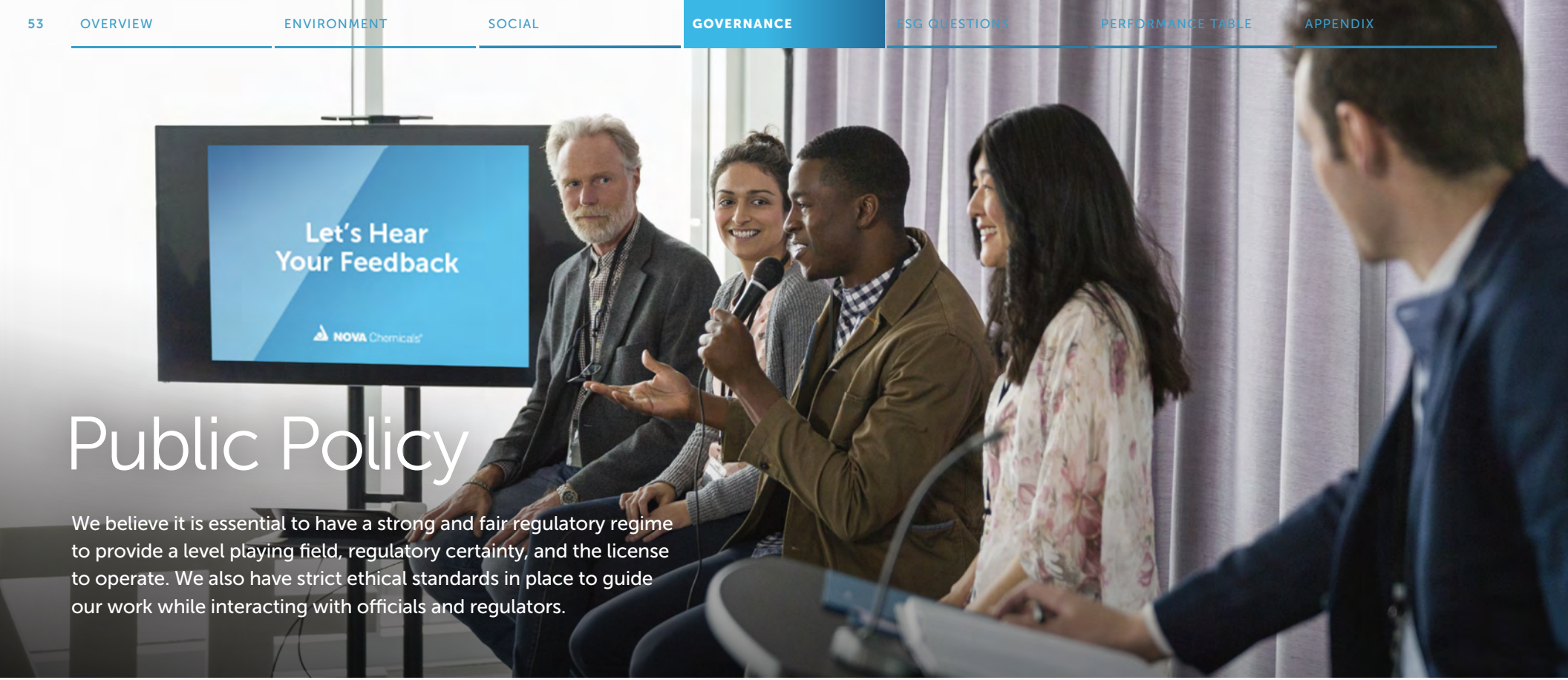
TRAINING: To manage digital risks, we include a cybersecurity module in our mandatory Code of Conduct annual training. Business and IT employees also engage in tabletop exercises to practice responding to cybersecurity events, and they provide focused training for groups with higher-risk business processes.

FOSTERING ACCOUNTABILITY: We run monthly phishing campaigns to test employees' awareness of cybersecurity. When required, we ask employees to refresh their training.

AUDITING: Our cybersecurity systems are audited yearly by a third party and are subject to external penetration testing.

2020 Activities

When the pandemic began in early 2020, we had approximately 1,000 workers move from the office to working from home in 10 working days. To manage the additional risks inherent in remote work, we enhanced our remote connectivity procedures and access system and rolled out new firewall technology. We altered our phishing campaigns to better assess the changing risks due to remote work and built a microsite on our intranet with IT-related resources to help employees navigate the virtual workplace.



Public Policy

We believe it is essential to have a strong and fair regulatory regime to provide a level playing field, regulatory certainty, and the license to operate. We also have strict ethical standards in place to guide our work while interacting with officials and regulators.

Management Approach: How We Get Involved in Public Policy

We actively participate in regulatory advocacy through trade associations in jurisdictions where we have manufacturing operations. We are members of the following industry associations:

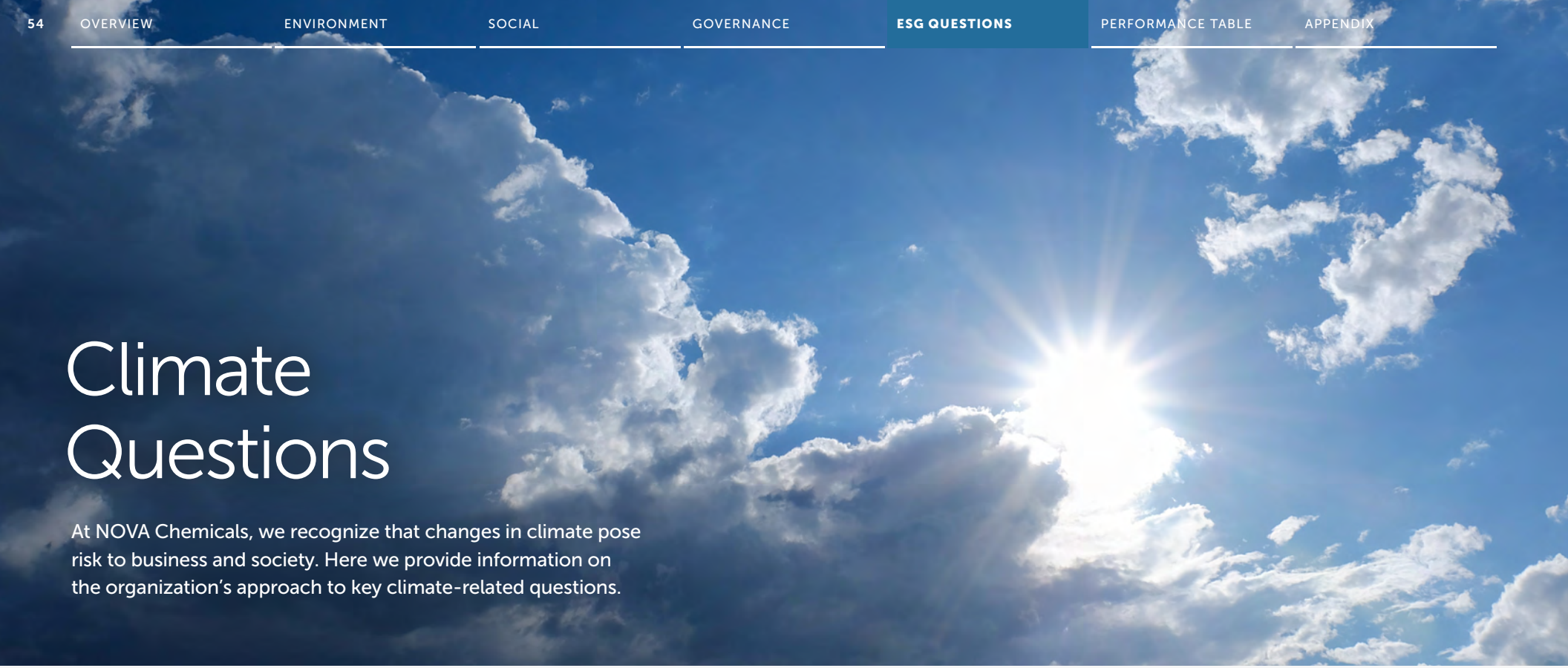
IN CANADA:

- Chemistry Industry Association of Canada
- Canadian Manufacturers & Exporters
- Business Council of Canada
- Resource Development Council
- Plastics Alliance of Alberta
- Alberta Plastics Recycling Association

IN THE U.S.:

- American Chemistry Council
- Plastics Industry Association
- Flexible Packaging Association
- AMERIPEN
- Association of Plastic Recyclers

We also directly and collaboratively engage with regulators on critical issues to assist them in their efforts to protect human health and the environment. The Canadian federal *Lobbying Act,* the Alberta *Lobbyists Act*, and the Ontario *Lobbyists Registration Act* guide our lobbying activities. We have an internal lobbying policy, and provide training for any executives or employees who are likely to interact with government officials. We track and, as required, make publicly available any lobbying activities that are directly focused on policies, programs, and regulations. In the U.S., we rely on industry and trade associations and select lobbying firms to advocate on our behalf.



Climate Questions

At NOVA Chemicals, we recognize that changes in climate pose risk to business and society. Here we provide information on the organization's approach to key climate-related questions.

HOW DOES THE BOARD OVERSEE CLIMATE-RELATED RISKS AND OPPORTUNITIES? Our Board of Directors provides the highest level of oversight for environmental, social, and governance (ESG) matters. However, the Audit Committee of the Board has the highest level of oversight for all risks impacting the company, which can include climate and transition-related risks.

WHAT IS MANAGEMENT'S ROLE IN ASSESSING AND MANAGING CLIMATE-RELATED RISKS? Although the Board provides the highest level of oversight for ESG matters, our Executive Committee has the highest level of responsibility for our ESG performance and executing strategy. Our Executive Committee represents the highest level of management of our organization, and has seven members including our Chief Executive Officer (CEO), Chief Financial Officer (CFO), and five Senior Vice Presidents. The Executive Committee is responsible for:

- Understanding and periodically reviewing the principal risks to our business
- Identifying emerging risks
- Defining organizational risk tolerance levels
- Monitoring the implementation of risk mitigation actions including ensuring that appropriate policies, processes, people, and technology are in place to support safe, compliant, and sustainable business practices
- Quarterly reporting, through the CFO, of the key risks and mitigation actions to the Board of Directors or the Audit Committee
- Integrating risks into NOVA Chemicals' general strategy and policies relating to sustainability matters

WHAT IS THE ORGANIZATION'S PROCESS FOR IDENTIFYING AND ASSESSING CLIMATE-RELATED RISKS? At NOVA Chemicals, we have a formal Enterprise Risk Management (ERM) program. Our approach to risk management is guided by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission Enterprise Risk Management Framework (2017). The COSO framework defines essential enterprise risk management components and provides clear direction and guidance for enterprise risk management.

Our ERM program includes a process to identify all significant risks to our organization, including climate and transition-related ones. Our approach includes:

Risk Identification: Our Risk Coach Network (Network) includes representatives from all business units at the Vice President and Director levels, as well as subject matter experts, as necessary. The Network meets quarterly and is responsible for continually reassessing identified significant risks and identifying emerging risks. NOVA Chemicals' Risk Management group provides a quarterly update to the Executive Committee. The Executive Committee determines whether risks are included in our enterprise risk registry. The Executive Committee subsequently informs the Audit Committee of the Board of any new or material changes to risks being managed or any changes in risk assessment. We monitor regulations and legislation to make sure they are reflected in our risk registry. For example, in 2019 we added the Canadian federal government's Clean Fuel Standard into our risk registry to monitor for risks it may pose to our business or performance.

Risk Evaluation: When evaluating and assessing risks, we consider multiple criteria including likelihood of occurrence and the scale and nature of a potential impact. For instance, the impact of risks can be social (impacting people), environmental (impacting air, land, water, or biodiversity), financial, or reputational. All risks are assigned an inherent level of risk (risk without mitigation) and a residual level of risk (risk remaining after accounting for current mitigation activities and insurance recoveries). NOVA Chemicals classifies a risk as significant if it has an inherent risk of $30 million or more, or a residual likelihood of approximately 25 percent or more, with some latitude and judgment. The assessment of our risks is mapped in our risk matrix (heat map) and tracked in our risk register.

WHAT IS THE ORGANIZATION'S PROCESS FOR MANAGING CLIMATE-RELATED RISKS?

Risk Management: Our risk management process follows a "three lines of defense" model. Our first line of defense is the "owner" of the risk, or the business unit most likely to be impacted by a risk, who is responsible for mitigating it. Our second line of defense is our Risk Coach Network. The third line of defense is an internal audit, which verifies that risks are being managed.

HOW ARE CLIMATE-RELATED MANAGEMENT PROCESSES INTEGRATED INTO OVERALL RISK MANAGEMENT? As noted, our process for identifying climate-related risks is completely integrated, and not separate, from our Enterprise Risk Management program.

CASE STUDY: EMERGENCY PREPAREDNESS AT OUR GEISMAR, LOUISIANA, SITE

In February 2021, a severe winter storm in Texas resulted in interruptions to electrical and natural gas utilities. This significantly impacted the public and the industry, and affected the natural gas supply to our Geismar, Louisiana, site. The unseasonable colder temperatures along the Gulf Coast impacted other producers in the area, and required our Geismar site to reduce production temporarily.

Our Geismar site had emergency plans in place to prepare for and respond to these events. We have a freeze precaution checklist, which we improved after a 2018 freeze that temporarily took our plant out of operation. Because the 2021 weather was predicted well in advance, our team had time to prepare the plant, add temporary insulation, and take additional precautions. They were well-prepared to respond to plant issues with additional around-the-clock resources.

The team also did an excellent job in responding to a restriction on the pipeline delivery system when several other user plants were shut down. "It wasn't easy, but we learned additional opportunities to improve and be even better prepared for the next time," says Scott Kay, Director of Geismar Manufacturing.

WHAT CLIMATE-RELATED RISKS AND OPPORTUNITIES HAS THE ORGANIZATION IDENTIFIED OVER THE SHORT, MEDIUM, AND LONG TERM, AND WHAT ARE THE IMPACTS OF THOSE RISKS AND OPPORTUNITIES ON BUSINESS STRATEGY AND FINANCIAL PLANNING? We prepare for risks that could have a material future adverse effect on the operations, financial condition, and reputation of our business. Climate-related risks that fall into these categories have two dimensions: physical and transitional. Physical risks include extreme weather events and changing temperatures that can impact our sites. Transitional risks include regulatory, legal, and societal changes related to the transition to a lower carbon economy. The following section describes the short, medium, and long-term climate-related risks we are currently evaluating.

Physical Risks: All of our sites have emergency preparedness plans that include severe weather events. They also regularly conduct emergency drills. The frequency and severity of extreme weather events appear to be increasing globally, including in our areas of operations. To better understand these risks and their potential impact, we:

- Communicate potential key physical risks to our senior leaders, to increase awareness
- Subscribe to a weather service that provides site-specific advance notifications and forecasts for tropical storms and hurricanes for our Geismar, Louisiana, facility
- Include climate-related risks in our enterprise risk register

Since water is essential to our manufacturing processes, we have also started to evaluate water scarcity risks (see more on page 23). For example the Red Deer River, which supplies water for our Joffre, Alberta, site, is largely dependent on snow melt. In the future, shifting weather and climate patterns[1] in Alberta may have impacts on water availability during the summer season.

Transition Risks: As governments adjust regulations and their positions to align with more ambitious global decarbonization goals, we continue to monitor regulatory changes. As carbon pricing regulations continue to evolve, we believe that a transparent price signal is an effective tool in reducing emissions when accompanied by complementary measures that ensure the competitiveness of industry and the sustainability of local economies.

The following greenhouse gas (GHG) regulations are currently applicable in our areas of operation:

> ***Alberta Technology Innovation and Emissions Reduction (TIER) Regulation:*** In 2019, the Government of Canada announced that Alberta regulations were deemed equivalent with federal requirements. This means that our Joffre, Alberta, facility can continue to be regulated at a provincial level rather than under the federal Output-Based Pricing System (OBPS). Under TIER, companies can use the less stringent of a facility-specific or high-performance (product-based) benchmark. We use the facility-specific benchmark, which means we have to reduce our facility's emissions intensity based on a baseline year.

> ***Ontario Emissions Performance Standards (EPS) Regulation:*** Until recently, Ontario was regulated under the Federal OBPS. In September 2020, the Government of Canada announced that the Ontario EPS Regulation had been deemed equivalent with the federal requirements. However, the federal OBPS is expected to remain in effect in Ontario until January 1, 2022.

[1]Alberta WaterSMART® 2025. Climate Vulnerability and Sustainable Water Management in the SSRB Project: Red Deer River Basin Modelling, Final Report. 99 pages. Available online at albertawater.com

> ***Federal Carbon Regulation:*** In December 2020, the Government of Canada announced that the annual carbon price will increase by $15 per tonne CO_2e from 2023 to 2030, reaching an annual cost of $170 per tonne by 2030. While neither Alberta nor Ontario has made similar announcements on future carbon pricing, a recent decision by the Supreme Court of Canada determined that the federal *Greenhouse Gas Pollution Pricing Act* is constitutional, meaning that the federal carbon price is expected to inform provincial carbon pricing options in the future. The Supreme Court decision reduces the uncertainty for carbon regulation in Canada; however, there remain factors that can influence future carbon regulation in Canada, including elections that can result in changes in policy and regulation.

Other government positions may lead to new regulations in the near term. Positions we are monitoring include:

> ***Net-Zero Carbon Commitments:*** In November 2020, the Government of Canada tabled the Canadian Net-Zero Emissions Accountability Act in the House of Commons. The Act is intended to legally bind the federal government to a process for achieving net-zero emissions by 2050, including rolling five-year emissions-reduction targets and plans to reach them.

> ***Paris Agreement:*** In support of its commitments under the Paris Agreement, the Canadian government continues to implement carbon policy and regulations that apply to our facilities in Canada. In February 2021, the U.S. officially rejoined the Paris Agreement. There is uncertainty about when and how U.S. carbon regulations will be introduced, and how they might apply to our Geismar, Louisiana, facility. The U.S. Environmental Protection Agency (EPA) has a GHG emissions reporting program for carbon dioxide, methane, and other GHGs, as well as a permitting program for certain large GHG emissions sources. This reporting program applies to our Geismar facility.

Managing Transition-Related Risks:
The majority (69 percent) of our GHG emissions are covered under GHG limiting regulations. We meet our yearly carbon compliance obligations through a combination of three activities: reducing our emissions, purchasing or using purchased third-party offsets or credits, and paying the remaining compliance cost as carbon tax, if relevant.

In 2020, at the corporate level, we fully met our compliance obligation in two ways:

- Reducing our emissions through upgrades in technology, with some units operating at optimal efficiency rates
- Using purchased carbon credits

As part of our strategy to manage our GHG emissions and related compliance, NOVA Chemicals previously purchased emission credits available to mitigate future compliance costs. Regulations in Alberta currently allow the use of emission credits and the government of Canada has proposed regulations for the use of offsets and/or credits. We anticipate using available credits to reduce our corporate compliance, and therefore do not anticipate paying any carbon tax in the next two years.

Transition-Related Opportunities:

> ***Demand for Lower-Carbon Products:*** We believe plastics will continue to play an essential role in supporting modern life and protecting human health and hygiene. Plastic packaging delivers many of its benefits often with lower environmental impacts than the alternatives, as studies have found that plastic packaging has close to four times lower environmental costs (including lower emissions) than non-

99%

of our emissions are covered under GHG reporting and compliance regulations. The GHG emissions from our Centre for Performance Applications and Centre for Applied Research are reported voluntarily.

69%

of our emissions are covered under GHG-limiting regulations.

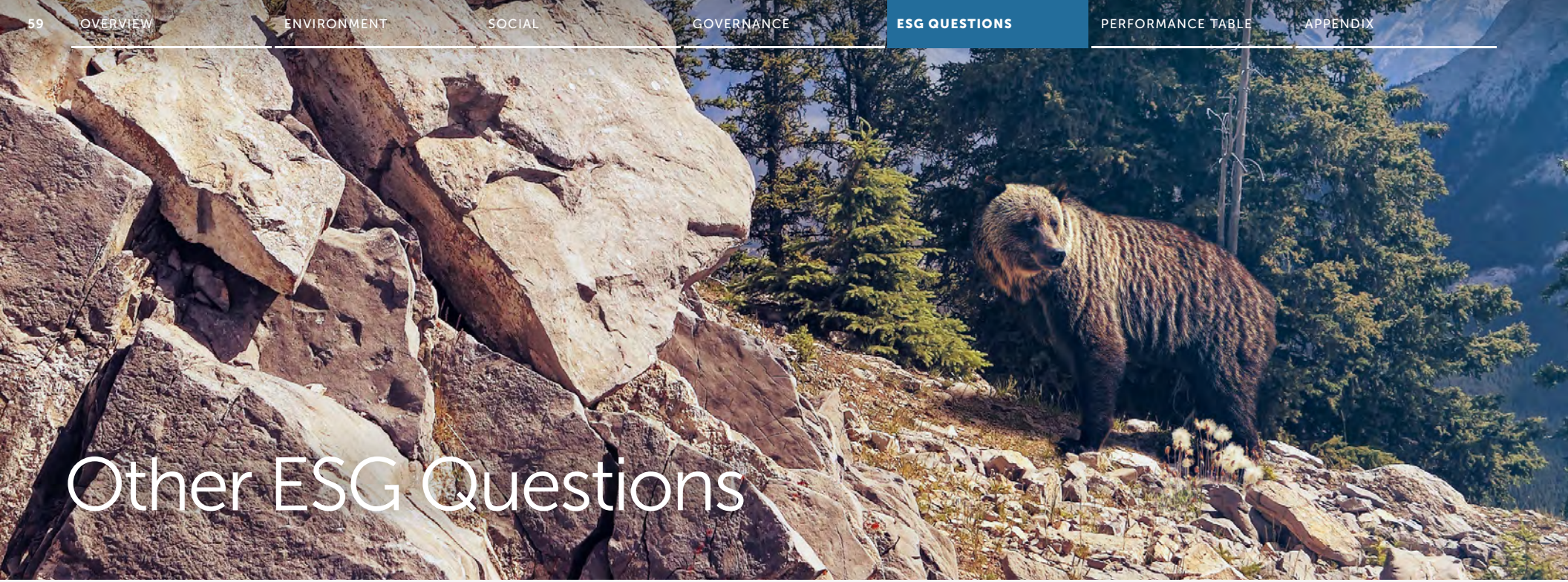
plastic packaging.[2] As society continues its transition to a lower-carbon economy, demand for lower-carbon products and services is expected to increase. Our long-term commitment to sustainability can enhance our value proposition to our customers. We are working to improve our performance in this area through:

- Investigating alternative and renewable feedstock sources. As an example, we are evaluating the potential to use municipal solid waste (typically more than 50 percent bio-based carbon) as a bio-based feedstock, as part of our collaboration with Enerkem (see page 14 for details)
- Increasing supply of recycled polyethylene, which can replace virgin resin in some applications

> ***Demand for Recycled Products:*** Climate-related trends can also have an impact on the environmental awareness of consumers, and enhance the uptake of "reduce, reuse, and recycle" practices. This awareness will continue to increase demand for products that safely incorporate increased post-consumer content. To help meet this demand, we continue seeking ways to develop products that contribute to a plastics circular economy.

> ***Attention to Hydrogen:*** To help achieve net-zero emissions, hydrogen has emerged as one of the pathways to decarbonize the economy. We currently produce and sell hydrogen as a co-product at our ethylene facilities. The downstream sale and use of our hydrogen for further value-added manufacturing has two benefits: obtaining a financial benefit by selling a co-product, and enabling an environmental benefit since this hydrogen has a lower emissions intensity than hydrogen produced from a steam methane reformer. We will continue to monitor hydrogen developments that might present opportunities to our company.

[2] Read "Plastics and Sustainability: A Valuation of Environmental Benefits, Costs and Opportunities for Continuous Improvement."



Other ESG Questions

Do you have a policy on human rights or modern slavery?

Our commitment to human rights is included in our Code of Conduct, in the section "Uphold Human Rights." Specifically, NOVA Chemicals stands by the principle that everyone has the right to be treated with dignity and respect. We recognize and respect human rights, and we expect our partners to do the same. We protect and support the communities where we work by maintaining safe working conditions in which all employees are given an appropriate number of working hours and fair compensation for their work. The use of child and forced labor of any kind is illegal and inhumane. Human trafficking, or modern slavery, is a criminal industry that denies people their freedom and human rights. We are against human trafficking or slavery and all human rights violations. We are hired fairly and with consent, and we hire others fairly and with consent.

Do you have formal lobbying efforts? How do you provide input to public policy development?

Our disclosures on lobbying and public policy are located in the Public Policy section on page 53.

Do you have significant impacts on biodiversity?

We are committed to proactively and responsibly managing our operational impacts on air, water, land, and biodiversity. Biodiversity is a consideration in our environmental project planning and routine operations. NOVA Chemicals does not have operations in key biodiversity areas or ecologically sensitive areas. However, our Responsible Care® standards include requirements to protect natural resources and minimize our impact on regionally sensitive species at each operating site.

How do you promote sustainable procurement?

Our disclosures on sustainable procurement are located in the Responsible Supply Chain section on page 51.

Performance Table

ENVIRONMENT	UNITS	2016	2017	2018	2019	2020
GHG EMISSIONS (OPERATIONAL CONTROL)[1]						
Scope 1 GHG emissions	kilotonnes	3,471	3,054	4,094	4,135	3,963
Scope 2 GHG emissions	kilotonnes	758	741	900	912	844
Scope 3 GHG emissions	kilotonnes	NR	NR	NR	NR	13,440
GHG emissions intensity (Scope 1 & 2)	tonnes CO_2e/ tonne of product	0.65	0.63	0.66	0.66	0.63
Scope 1 emissions under carbon limiting regulations[2]	percent	NR	NR	NR	NR	69%
OTHER AIR EMISSIONS						
NOx	tonnes	4,951	3,944	5,237	5,105	5,138
SOx	tonnes	912	518	1,188	861	680
VOCs	tonnes	1,407	1,216	1,714	1,724	1,460
Hazardous air pollutants (HAPs)[3]	tonnes	NR	NR	NR	NR	95
REGULATORY COMPLIANCE						
Regulatory/permit exceedances[4]	count	5	10	6	5	7
ENERGY USE						
Total energy consumed from natural gas (excluding electricity)	GJ	NR	NR	NR	NR	39,380,000
Total energy used	GJ	NR	NR	NR	NR	107,400,000
Total purchased electricity	MWh	NR	NR	NR	NR	1,643,000
Purchased electricity – non-renewable	MWh	NR	NR	NR	NR	1,643,000
Purchased electricity – renewable	MWh	NR	NR	NR	NR	0
WATER						
Water withdrawal	m^3	NR	NR	NR	NR	40,850,000
Water withdrawn from regions with high or extremely high baseline water stress[5]	m^3	NR	NR	NR	NR	14,920,000
Total water discharge	m^3	NR	NR	NR	NR	21,270,000
WASTE						
Total non-hazardous waste	tonnes	NR	NR	NR	NR	20,410
Non-hazardous waste reused	tonnes	NR	NR	NR	NR	12,370
Total hazardous waste	tonnes	NR	NR	NR	NR	2,820
Hazardous waste sent for recycling	tonnes	NR	NR	NR	NR	120

NR = Not Reported

SOCIAL	UNITS	2016	2017	2018	2019	2020
EMPLOYEE AND CONTRACTOR SAFETY						
Recordable injury rates – employees	count per 200,000 exposure hours	0.35	0.45	0.32	0.29	0.08
Recordable injury rates – contractors		0.57	0.77	0.53	0.48	0.49
Recordable injury rates – combined		0.52	0.61	0.41	0.37	0.26
Lost time injury rate – employees		0.17	0.10	0.10	0.06	0.04
Lost time injury rate – contractors		0.04	0.07	0.00	0.03	0.04
Lost time injury rate – combined		0.11	0.09	0.06	0.04	0.04
Fatalities - employees and contractors	count	1	0	0	0	0
Vehicle incidents[6]	count	43	60	36	61	35
Near misses (near hits)[7]	count	502	563	551	544	627
Safety Interactions[8]	count	62,924	65,662	67,260	65,129	55,763
PROCESS SAFETY						
Total process fires (uncontrolled + controlled)	events	13	17	21	12	10
Flammable Loss of Containment (FLOC)[9]	events	57	47	52	49	20
Process Safety Incidents Count (PSIC) – Tier 1	incidents	4	8	6	8	1
Process Safety Incidents Count (PSIC) – Tier 2	incidents	6	15	8	10	8
Process Safety Total Incident Rate (PSTIR)[10]	incidents per 200,000 worked hours	0.09	0.15	0.13	0.18	0.03
Process Safety Incident Severity Rate (PSISR)[11]	severity weighted rate of incidents per 200,000 hours worked	0.19	0.47	0.39	0.49	0.09
TRANSPORTATION SAFETY						
Total number of transportation incidents	count	10	9	16	24	22
Reportable transportation incidents[12]	count	1	3	1	2	5
Non-Accident Releases (NARs)[13]	count	0	0	0	0	0
PRODUCT SAFETY						
High priority products with product risk profile[14]	percent	100%	100%	100%	100%	100%
Incidents of non-compliance (e.g., product recalls and allegations) concerning the health and safety of products[15]	count	0	0	0	0	0
Products subject to information requirements	percent	100%	100%	100%	100%	100%
Type of labeling and information required and percentage of products subject to information requirements	percent	100%	100%	100%	100%	100%
Percentage of revenue from products that contain Canadian Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances Percentage of such products that have undergone a hazard assessment	percent	NR	NR	NR	NR	8%
EMPLOYEES						
Total number of employees	count	2,724	2,857	2,885	2,906	2,351
Full time	count	2,657	2,782	2,820	2,836	2,303
Part time	count	67	75	65	70	48
Female	count	700	707	710	711	592
Male	count	2,024	2,150	2,175	2,195	1,759
Employees in the US	count	434	559	578	581	291
Employees in Canada	count	2,290	2,283	2,291	2,309	2,051

NR = Not Reported

SOCIAL (CONTINUED)	UNITS	2016	2017	2018	2019	2020
Employees covered by collective bargaining agreements	percent	12%	12%	11%	11%	8%
Total new hires	count	184	168	220	210	84
Rate of new hires	percent	7%	6%	8%	7%	4%
Voluntary (retire/resign) turnover	percent	3%	5%	5%	5%	10%
Total turnover (voluntary & involuntary)	percent	NR	6%	7%	6%	18%
Women at various levels						
Total workforce	percent	NR	NR	NR	NR	25%
Board of Directors	percent	NR	NR	NR	NR	0%
Management	percent	NR	NR	NR	NR	28%
Executives	percent	NR	NR	NR	NR	20%
Demographics						
30 years and under	percent	NR	NR	NR	NR	13%
30 to 50	percent	NR	NR	NR	NR	55%
50 Plus	percent	NR	NR	NR	NR	32%
COMMUNITIES						
Community investment	$	2,321,192	2,409,998	2,479,642	2,390,635	2,017,962
Volunteerism (hours)[16]	hours	6,797	5,836	6,136	5,934	2,248
ECONOMIC VALUE GENERATED AND DISTRIBUTED						
Revenues	million USD	3,512	3,844	4,195	3,343	3,207
Payments to governments (taxes paid net of refunds)[17]	million USD	94	68	-17	-3	-61
Payments to employees (salaries and benefits)	million USD	441	464	465	473	414
Capital expenditures	million USD	518	531	449	793	688
ADDITIONAL INFORMATION ON TAXES						
Income and property taxes paid[18]	million USD	98	72	14	119	14
Income tax refunds received[19]	million USD	4	4	31	122	75
Taxes paid, net of refunds[20]	million USD	94	68	-17	-3	-61

GOVERNANCE	UNITS	2016	2017	2018	2019	2020
BUSINESS ETHICS AND ANTI-CORRUPTION						
Matters received	count	80	95	92	93	87
Questions	count	56	66	54	63	63
Allegations of Code violations	count	24	29	38	30	24
Unsubstantiated	count	10	19	17	14	17
Substantiated	count	8	10	16	16	6
Remained open at year end	count	6	0	5	0	1
Number of employees that signed Code of Conduct	count	NR	NR	2,790	2,700	2,300
Number of employees who received mandatory training	count	NR	NR	220	2,900	2,400
Number of employees who received optional training courses	count	NR	NR	250	300	425
CATEGORIES FOR ALLEGATIONS						
Accounting, auditing, and financial reporting	percent	3%	0%	3%	0%	0%
Business integrity	percent	56%	59%	67%	85%	78%
HR, diversity, and workplace respect	percent	15%	12%	21%	15%	22%
Environment, health and safety	percent	5%	5%	9%	1%	14%
Misuse, misappropriation of corporate asset	percent	0%	0%	1%	0%	0%

NR = Not Reported

Notes

1. We report all environmental information, including GHG emissions, using the operational control approach. This means we report 100 percent of GHG emissions from facilities that we operate regardless of financial ownership. Scope 3 emissions are reported based on modeling emissions generated from value chain activities not owned or operated by NOVA Chemicals.
2. Emission limiting regulations include jurisdictions with industrial carbon regulation.
3. Hazardous air pollutants (HAPs) are defined by the EPA as those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. The EPA provides a list of HAPs in "The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants."
4. Regulatory/Permit Exceedance (RPE) includes reportable spills and other non-compliances with federal, provincial/state, or municipal approval, permit, or regulatory requirements with potential for adverse impact. This metric excludes administrative non-compliances and reports to the regulator related to minor issues such as instrument downtime, labeling, and signage.
5. Water stress as classified by the World Resources Institute's (WRI) Aqueduct Water Risk Atlas tool, High (40–80 percent) or Extremely High (>80 percent) Baseline Water Stress.
6. This data has been restated since the publication of our 2019 sustainability report to consistently include only driving-related vehicle incidents, and excludes any incidents involving powered mobile equipment or rail.
7. Near hits: A near hit is an unplanned event that did not result in undesirable consequences, but had the potential to do so. We encourage near-hit reporting because it is a proactive leading indicator that enables us to identify and address a hazardous situation before an incident occurs.
8. Safety interactions are peer interactions about safe or at-risk behaviors. We encourage employees to speak up when they see positive or at-risk behaviors, as part of a Responsible Care® mindset.
9. Flammable loss of containment events (FLOCs) are incidents that involve an unanticipated leak or spill of flammable material.
10. Process Safety Incident Rate is calculated using the American Petroleum Institute (API) recommended practice 754 from 2016. This aligns with SASB recommendations.
11. Process Safety Incident Severity Rate (PSISR) is calculated using the American Petroleum Institute (API) recommended practice 754 from 2016. This aligns with SASB recommendations.
12. Consistent with the International Council of Chemical Associations (ICCA) Guidance for Reporting Performance, an incident causing one of the following: direct involvement of authorities and/or emergency services, evacuation of people, or closure of public traffic routes for at least three hours; any release of more than 50 kg/L of dangerous goods or more than 1,000 kg/L of non-dangerous goods; any damage of more than 50,000 Euro (including environmental cleanup) resulting from a transport incident; or a death or injury leading to intensive medical treatment, a stay in hospital of at least one day, or an absence from work of more than three days.
13. Non-accidental releases are the unintentional releases of a hazardous material while in transportation, including loading and unloading while in railroad possession, that is not caused by a derailment, collision, or other rail-related accident.
14. Interpreted for application to NOVA Chemicals as percentage of high priority products (based on our prioritization process) with a product risk profile available to the public.
15. Interpreted for application to NOVA Chemicals as incidents of non-compliance specifically limited to U.S. EPA Toxic Substances Control Act (TSCA) allegations, U.S. Food and Drug Administration (FDA) product recalls, and Canadian equivalents. Non-compliance with voluntary codes is not included.
16. 2020 hours reflect COVID-19–related restrictions.
17. Includes only income and property tax. Excludes sales taxes (goods and services tax [GST], harmonized sales tax [HST], Québec sales tax [QST]).
18. NOVA Chemicals is committed to transparency and responsible tax payments. We are guided by tax principles that follow the intent of the law in our tax calculations and payments. Although our revenues have not decreased significantly in the last five years, income tax paid has decreased, and in 2018, 2019, and 2020 we received refunds in excess of taxes paid. In 2017 and 2018, tax losses were created as a result of unfavorable litigation. The losses were carried back and applied against taxable income in prior years to recover cash tax previously paid. The refunds were received in 2018 and 2019. In 2019, our income tax rate decreased because the Alberta Job Creation Tax Cut bill came into effect reducing income tax rate for Alberta-based businesses to incentivize job creation.
19. We received tax refunds from tax authorities/governments after their assessment of our tax obligations.
20. This figure is our taxes paid minus tax refunds. In 2018, 2019, and 2020, the refunds exceeded the taxes we paid.

Appendix

This report has been prepared in accordance with the Global Reporting Initiative (GRI®) Standards: Core option. This section contains additional disclosures to fulfill GRI and other requirements that are not addressed elsewhere in this report. For more information on the GRI, visit the GRI website.

Material Topic Boundaries

We report on the topics that are most relevant to our stakeholders and that can impact the success of our business. We determined our material topics, and their boundaries, during our 2020 materiality assessment. For the purposes of GRI reporting, the topics covered under our Priority and Foundational Topics are considered material topics.

	Suppliers/ Contractors	NOVA Chemicals' Facilities and Locations	Customers	Communities	Social Interest
Plastics circular economy		●	●		●
Climate care	●	●	●	●	●
Inclusion and diversity		●			
Ethics	●	●	●		
Air emissions	●	●		●	
Water and waste	●	●		●	
Employee and contractor safety	●	●			
Process safety		●	●	●	
Transportation safety	●	●	●	●	
Product safety	●	●	●		●
Responsible supply chain	●	●			

Engagement with Interested Parties

Our continued success depends on understanding and respecting the needs and concerns of interested parties at every stage of our operations. We consider interested parties to be people or groups who are directly or indirectly affected by our operations, as well as those who have the ability to influence outcomes. The table below illustrates the range of interested parties with whom we interact, the concerns they have raised, and how we engage with them.

INTERESTED PARTIES	TOPICS AND CONCERNS		HOW WE ENGAGE	
Communities and Indigenous Communities	• Public safety • Environmental and social impacts • Employment • Noise, light, and traffic	• Support for community programs • Cumulative effects of production • Plastics sustainability	• Call-out system • Conversations • Community advisory panels • Neighbor events/open houses	• Volunteer activities • Newsletters • Website community information • Responsible Care® verification
Employees	• Fair total compensation • Safe work environment • Career development • Work/life balance	• Impact of employee work on society • Environmental and social impacts	• Newsletters • Employee sessions • Quality conversations • Engagement surveys	• Intranet and direct emails • Volunteer opportunities
Customers	• Cost • Quality • On-time delivery • Mutual development benefits	• Safety • Lifecycle of products • Plastic sustainability • Greenhouse gas (GHG) emissions	• Direct engagement (meetings and events) • Joint development programs • Collaboration • Product information	• Training/technical support • Innovation • Conferences
Suppliers	• Stability • Growth plans • Fair treatment	• Mutual development benefits	• Meetings • Joint development programs	• Training • Technical support
Owner	• Return on investment • ESG performance	• Strong governance and succession • Strategic planning	• Board meetings • Board site visits	• Regular correspondence • Reports
Governments/Regulators	• Impact to communities • Corporate responsibility • Investment	• Compliance requirements • Taxes • Climate change and plastic pollution	• Reporting • Periodic conversations	• Policy advocacy
Providers of Capital	• Long-term success • Return on investment	• Cash generation/interest payments • GHG emissions	• Conference calls • Reporting	• Conversations
Industry Associations	• Advocacy for industry		• Industry association meetings • Conferences	• Industry surveys

GRI® Index

This report has been prepared in accordance with the GRI Standards: Core option. We also provide information on topics and indicators, beyond those required to fulfill the requirements of the Core option.

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416-1	Percentage of significant products for which health and safety impacts are assessed for improvement	61, note 4
416-2	Number of incidents of non-compliance concerning the health and safety of products	61, note 5
417-1	Requirements for product and service information and labeling	61

Notes

- We provide the most complete information and data available for all the indicators required to report in accordance with GRI® Standards: Core option. In some cases, data breakdown by country, gender, or other specific categories is not available or cannot be provided for privacy concerns
- Note 1: Although NOVA Chemicals has not formally adopted the precautionary principle, our consistent implementation of Responsible Care® standards demonstrates a commitment to proactively identify and prevent or mitigate negative impacts
- Note 2: As a privately held company, NOVA Chemicals does not have publicly available financial statements
- Note 3: Scope 3 emissions are reported based on modeling emissions generated from value chain activities not owned or operated by NOVA Chemicals
- Note 4: Interpreted for application to NOVA Chemicals as percentage of high priority products (based on our prioritization process) with a product risk profile available to the public
- Note 5: Interpreted for application to NOVA Chemicals as incidents of non-compliance specifically limited to U.S. Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA) allegations, U.S. Food and Drug Administration (FDA) product recalls, and Canadian equivalents. Non-compliance with voluntary codes is not included

SASB Index

Below are the quantitative metrics and references to qualitative descriptions in this report that align with the Sustainability Accounting Standards Board (SASB)® standard for the Chemicals industry. SASB® is a non-profit organization with the goal of enabling businesses around the world to identify, manage, and communicate financially material sustainability information to their investors.

SASB REF	SASB SUGGESTED DISCLOSURES	2020 DATA
	GHG EMISSIONS	
RT-CH-110a.1	Gross global Scope 1 emissions	3,963 kilotonnes
RT-CH-110a.1	Percentage of Scope 1 emissions covered under emissions-limiting regulations	69%
RT-CH-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	p. 16-18
	AIR QUALITY	
RT-CH-110a.3	NOx (excluding N_2O)	5,138 tonnes
RT-CH-110a.3	SOx	680 tonnes
RT-CH-110a.3	Volatile organic compounds (VOCs)	1,460 tonnes
RT-CH-110a.3	Hazardous air pollutants (HAPs)	95 tonnes
	ENERGY MANAGEMENT	
RT-CH-130a.1	Total energy consumed	107,400,000 GJ
RT-CH-130a.1	Total purchased electricity	1,643,000 MWh
RT-CH-130a.1	Percentage renewable electricity purchased	0%
RT-CH-130a.1	Self-generated electricity	0 MWh
	WATER MANAGEMENT	
RT-CH-140a.1	Total water withdrawn	40,850,000 m^3
RT-CH-140a.1	Total water consumed	NR
RT-CH-140a.1	Percentage water withdrawn in regions with High or Extremely High Baseline Water Stress	37%
RT-CH-140a.1	Percentage water consumed in regions with High or Extremely High Baseline Water Stress	NR
RT-CH-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	NR
RT-CH-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	23

NR = Not Reported

SASB REF	SASB SUGGESTED DISCLOSURES	2020 DATA
	HAZARDOUS WASTE MANAGEMENT	
RT-CH-150a.1	Amount of hazardous waste generated	2,820 tonnes
RT-CH-150a.1	Percentage hazardous waste recycled	4%
	COMMUNITY RELATIONS	
RT-CH-210a.1	Discussion of engagement processes to manage risks and opportunities associated with community interests	p. 40-41, 65
	WORKFORCE HEALTH & SAFETY	
RT-CH-320a.1	Total recordable incident rate (TRIR) (incidents per 200,000 hours worked)	0.26
RT-CH-320a.1	Fatalities	0
RT-CH-320a.1	Near misses (total not rate)	627
RT-CH-320a.2	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	p. 39
	PRODUCT DESIGN FOR USE-PHASE EFFICIENCY	
RT-CH-410a.1	Revenue from products designed for use-phase resource efficiency	NR
	SAFETY & ENVIRONMENTAL STEWARDSHIP OF CHEMICALS	
RT-CH-410b.1	Percentage of revenue from products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances	8%
RT-CH-410b.1	Percentage of GHS 1 and 2 products that have undergone a hazard assessment	100%
RT-CH-410b.2	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	p. 35
	GENETICALLY MODIFIED ORGANISMS	
RT-CH-410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Not applicable
	MANAGEMENT OF THE LEGAL & REGULATORY ENVIRONMENT	
RT-CH-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	p. 53
	OPERATIONAL SAFETY, EMERGENCY PREPAREDNESS & RESPONSE	
RT-CH-540a.1	Process Safety Incidents Count (PSIC), Tier 1	1 incident
RT-CH-540a.1	Process Safety Incidents Count (PSIC), Tier 2	8 incidents
RT-CH-540a.1	Process Safety Total Incident Rate (PSTIR) (incidents per 200,000 hours worked)	0.03
RT-CH-540a.1	Process Safety Incident Severity Rate (PSISR) (severity weighted rate of incidents per 200,000 hours worked)	0.09
RT-CH-540a.2	Number of transport incidents	5 incidents

NR = Not Reported

Advisory

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- Advanced SCLAIRTECH™ is a trademark of NOVA Chemicals Corporation.
- Alberta WaterSMART® is a registered service mark of WaterSMART Solutions Ltd.
- BONFIRE® is a registered service mark of NOVA Chemicals Corporation.
- CONNECT: The Neuroscience of Quality Conversations® is a registered service mark of NeuroLeadership Institute Inc.
- CTPAT® is a registered service mark of the U.S. Department of Homeland Security.
- EcoVadis® logo is a registered service mark of EcoVadis SAS.
- Ellevate Network® is a registered service mark of Ellevate Network LLC.
- EthicsPoint® is a registered trademark of NAVEX Global, Inc.
- Flex Forward® is a registered service mark of Earth Animal Ventures, Inc.
- GRI® is a registered trademark of Stichting Global Reporting Initiative.
- ISO® is a registered service mark of International Organization for Standardization.
- Let's Talk Science® is a registered service mark of Let's Talk Science Inc.
- Litterati® is a registered service mark of Jeff Kirschner.
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