



# Brightening the Horizon Enabling Sustainability



2021  
SUSTAINABILITY  
REPORT



**HUNTSMAN**  
Enriching lives through innovation

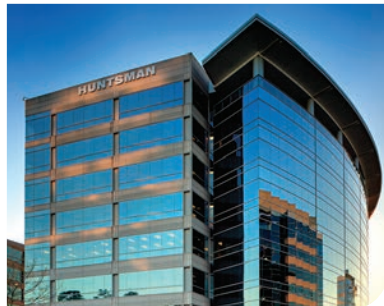
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# Welcome

**Huntsman takes pride in the role we play in creating a more sustainable future.**

Our products are critical solutions to today's most pressing sustainability challenges and are helping society reach its goals of carbon neutrality. Whether it is in our operations or our innovative technologies, Huntsman is committed to making a brighter world possible for future generations. In this report, we share how our efforts are brightening the horizon by enabling sustainability.

# Highlights from the Report

We continue to make progress against our near-term Horizon 2025 targets while announcing our long-term aspirations. In this report, we outline our actions to both provide solutions that enable a more sustainable world and improve our operations that make those solutions possible.



## 2021 Achievements

**55%**

Collective Progress on Near-term Horizon 2025 Targets

**9%**

Emissions Footprint Continues to Decrease

**65%**

Improvement in Water Usage in Water-Stressed Areas

**14**

Number of Product Safety Summaries Published

## Long-Term Goals Set



**Carbon Neutral by 2050**

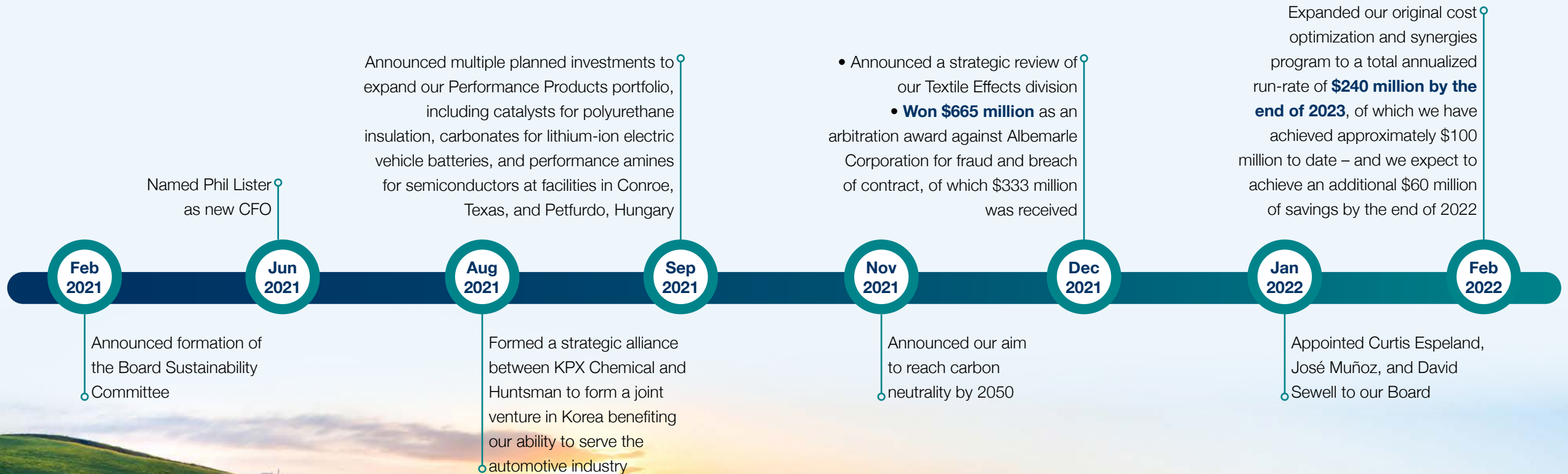


**Full Circularity**



**Sustainable Chemistry**

# Company Milestones Since Our Last Report



# A Letter from the Chairman, President, and Chief Executive Officer | GRI 2-22 |



None of us could have predicted the COVID-related challenges of the past two years. While we all hoped the global health crisis would have ended sooner, 2021 highlighted our resiliency as we navigated these trials and adapted our approaches to continue to keep our associates safe, serve our customers, and meet our financial targets. We stand battle-tested, focused, and filled with hope as we look forward to the future.

The road to a sustainable future runs through the solutions that Huntsman and the rest of the chemical industry provides. Sustainability is, simply put, good business. We will continue to develop innovative solutions to improve efficiency, reduce emissions, and improve environmental performance as we meet the needs of a growing and developing world. The 2021 Sustainability Report highlights these solutions and the responsible way we provide them.

Over the past several years, Huntsman has been transforming our portfolio. Through strategic acquisitions and divestitures, we have moved away from commodity chemicals businesses and into more **differentiated chemicals that are closer to the consumer and more sustainably focused**. Our acquisition of Gabriel Performance Products in 2021 is an example of this, as it allows us to broaden our Advanced Materials differentiated portfolio to include solutions that improve the efficiency of the aerospace and automotive sectors of our economy.

Even when we are not acquiring assets to accomplish this mission, we are building new capabilities and capacity organically. We have invested in the United States **to expand our production of E-GRADE® High-Purity Amines**, which are used to make semiconductors cleaner and more reliable. We also announced plans to **increase our production capacity for ULTRAPURE™ Ethylene Carbonates**, which are used in electric vehicles. Huntsman is the only provider of these carbonates in North America.

We are also developing innovative technologies that help lower emissions in other sectors, including transportation, energy, and power generation and transmission. As a solutions provider, we will work to solve other global challenges while continuing to improve the efficiency of our energy and water use.

To be clear, focusing on creating sustainable solutions for the marketplace does not detract from our intense internal focus on operating safely and responsibly. We continue to keep our people

safe and to outperform our environmental, health, and safety (EHS) goals.

I firmly believe that the chemical industry is the solution to the world's sustainability challenges. Our solutions make homes and buildings more energy efficient, reduce fuel demand for transportation on the ground and in the sky, enable alternative energy solutions, increase the durability of materials to reduce waste, and make our customers' processes more energy and water efficient. In a word, we are enabling sustainability.

With all of you, we look forward to an even brighter horizon ahead.

A handwritten signature in black ink, appearing to read 'Peter R. Huntsman', written in a cursive style.

**Peter R. Huntsman**  
Chairman, President, and  
Chief Executive Officer

## A Letter from the Corporate Sustainability Officer



**As Huntsman takes the next step in our sustainability journey, I am confident that we will continue enriching lives through innovation to make the world a brighter place. There are few things that I am more passionate about than the safety and well-being of people.**

As Huntsman's Senior Vice President of Environmental, Health and Safety, and Manufacturing Excellence, and its Corporate Sustainability Officer, I am honored to continue the company's long-time commitment to the health and safety of our associates, the well-being of the communities where we live and work, and the protection of our environment.

**Our first priority is Zero Harm** – to people, to the community, and to the environment. Our Horizon 2025 targets focus our attention on key elements to ensure our progress, including continuous reductions in injuries, process safety incidents, waste, and greenhouse gas emissions. I am excited to report that, through 2021, we have achieved 55% collective progress on these 2025 targets, the details of which can be found in the pages that follow.

Sustainability at Huntsman extends well beyond our operations, however. While our journey may start on the shop floor, the impact our products have toward enabling a carbon-neutral society tells a much bigger story. In addition to our Horizon 2025 targets, we have announced our **longer-term aspirations to become a carbon-neutral, fully circular company**, while continuing to ensure the safety and sustainability of our product solutions. The details and steps toward those aspirations are disclosed in this report.

On the environmental front, we are aggressively focusing on all areas of stewardship, and are pleased to share our work in this space in targeting Scope 1 and Scope 2 emissions to make a positive difference in our environmental footprint, as well as in those of our communities and our customers.

We continue to actively engage with the communities where we operate, supporting programs that follow the 17 United Nations (UN) Sustainable Development Goals to improve the lives of people living near our operations. For Huntsman, being a good neighbor means recognizing the needs of the communities around us and working together for the good of all people.

As Huntsman takes the next step in our sustainability journey, I am confident that we will continue enriching lives through innovation to make the world a brighter place.

A handwritten signature in black ink that reads "Brittany Benko". The signature is fluid and cursive.

**Brittany Benko**

Corporate Sustainability Officer  
Senior Vice President, Environmental, Health  
and Safety and Manufacturing Excellence

## A Letter from the Board Sustainability Committee Chair



**As Chair of the Board Sustainability Committee, I am pleased to introduce Huntsman's 2021 Sustainability Report. The formation of our committee last year demonstrated the company's readiness to lead the industry and our broad commitment to sustainability at every level.**

Through our people, processes, and products, we are building the bridge to a more sustainable future for the planet and all its inhabitants. As a member of the global chemical industry, Huntsman is in the unique position to drive necessary changes across all dimensions of sustainability and all aspects of our value chain.

Since joining the Board in 2019, I have been asked on several occasions how the chemical industry can cast itself as a sustainability leader, when it depends upon fossil fuels as a raw material. This is a fair question, and I'd like to share my view of the answer. First, let's start with the big picture. **The chemical industry has a major role to play in the development and progress of the modern world.**

Our products enable higher standards of living, ensure safe and plentiful food supplies and preservation, and contribute to more efficient energy usage. They also enable more affordable renewable energy generation. Additionally, our products help connect us to the world through a variety of "smart" devices. This progress has resulted in longer and more healthy lives for people globally.

These contributions, of course, do not excuse us from, or downplay the importance of, building sustainability into our own operations.

Much of Huntsman's work is in transforming petrochemicals into products and solutions that ultimately reduce the demand for these same petrochemicals. In this report, you'll learn of many examples of how our products have generated an incredible return on the carbon invested – meaning that the impact of implementing these solutions removes far more carbon emissions from the future environment than it takes to manufacture the product. And Huntsman doesn't stop there. We've also made discoveries – such as our **MIRALON® process**, which captures destructive methane waste and converts it into a structural carbon material suitable for a variety of applications. These solutions are making a difference, and they are directly contributing to society's goal of becoming carbon neutral.

I'm proud of this progress, and of Huntsman's contributions to a more sustainable world. Our 2021 Sustainability Report reflects the central role that sustainability plays in Huntsman's business strategy – and in its importance to all of Huntsman's stakeholders, including our customers, shareholders, associates, suppliers, regulators, and communities.

This report highlights how Huntsman thinks about and approaches sustainability, how our products, including those already in the market and those at various stages in the development pipeline, are enabling a more sustainable future, and how **Huntsman is making a positive difference in the world.**

The report also highlights our commitment to transparency in communications about sustainability, especially with respect to our progress against our sustainability targets. In the 2021 Sustainability Report, we began disclosing against the Task Force on Climate-related Financial Disclosures (TCFD), further improving the quality of our disclosures in accordance with both the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) frameworks. We have also embarked on measuring our value chain footprint.

We are making great progress, but our work is not done. The committee is excited about moving forward to tackle the challenges and capture the opportunities in Huntsman's sustainability journey.

**Jan E. Tighe**

Board Sustainability Committee Chair,  
Huntsman Board of Directors



HUNTSMAN

# Huntsman Overview

| GRI 2-1 | GRI 2-6 |

Huntsman Corporation is a publicly-owned corporation, headquartered in The Woodlands, Texas, in the United States of America. Huntsman is a global downstream, differentiated, and specialty chemicals company. For more than **50 years**, we have been using science and ingenuity to innovate and create products that enable more sustainable and comfortable lives for millions of people around the world.

Our **9,000+ associates** work in more than 70 manufacturing, research and development (R&D), and operations facilities in approximately **30 countries**. Through our four divisions, we produce **7,500+ products** to serve a broad and diverse range of consumer and industrial end markets, including:



aerospace



transportation



construction



clothing & footwear



food preservation

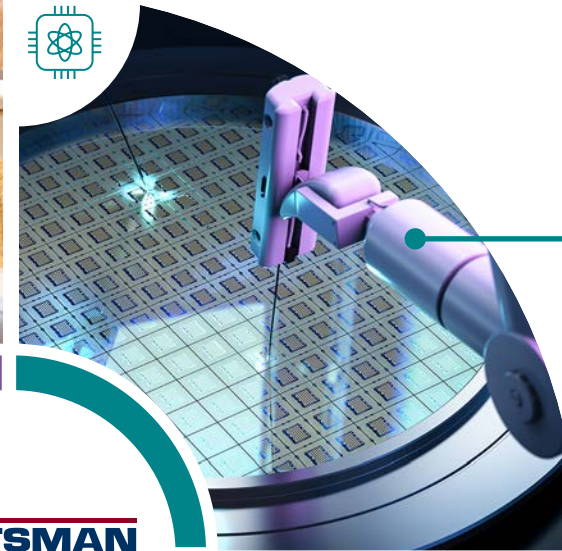
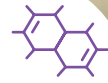


energy & fuels

# Our Divisions

## Polyurethanes

This division is a leading global producer of MDI-based polyurethanes focused on formulating innovative, differentiated products for key downstream markets, including energy-saving insulation, lightweighting and performance materials for automobiles, comfort foam for bedding and furniture, protective coatings, adhesives, and elastomers for footwear.

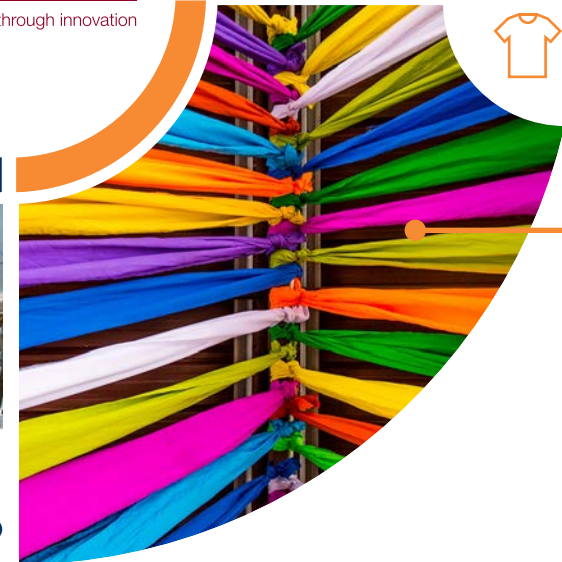


## Performance Products

This division offers products that provide useful properties in everyday items people want and need. Our leading global positions in the manufacture and sale of amines, maleic anhydride, and carbonates enable us to serve diverse consumer and industrial end markets, including energy, automotive and transportation, coatings and adhesives, building and construction, electronics, and industrial manufacturing.

## Advanced Materials

This division provides specialty epoxy, acrylic, and polyurethane-based polymer resin systems, as well as adhesive products, which are replacing traditional materials in aircraft, automobiles, and electrical power transmission. These products are also used in coatings, construction materials, circuit boards, and sports equipment.



## Textile Effects

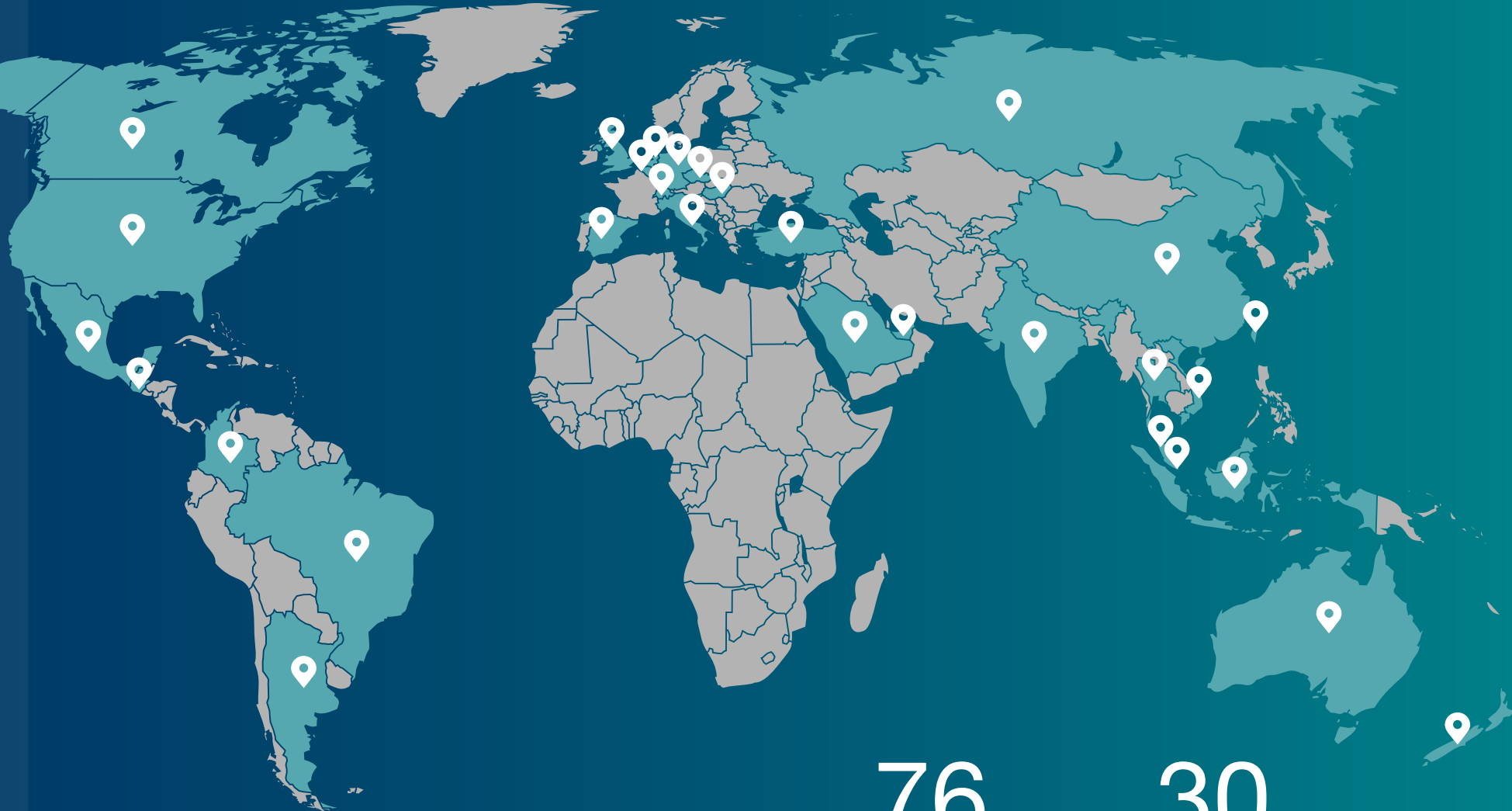
This division is a major global solutions provider of textile dyes, textile chemicals, and digital inks. We work closely with mills, brands, and retailers to deliver sustainable solutions that meet the economic and environmental needs of the textile industry and the planet. Our range of innovative solutions includes intelligent effects such as durable water repellents, color fastness, sun protection, and state-of-the-art dyes that reduce water and energy consumption.



# Where We are Located

Huntsman Corporation's global headquarters is in The Woodlands, Texas, USA. As a public company, we are listed on the New York Stock Exchange under HUN. Countries/regions where we have manufacturing and R&D operations include:

- Argentina
- Australia
- Belgium
- Brazil
- Canada
- China
- Colombia
- Czech Republic
- Germany
- Guatemala
- Hungary
- India
- Indonesia
- Italy
- Malaysia
- Mexico
- New Zealand
- Russia
- Saudi Arabia
- Singapore
- Spain
- Switzerland
- Taiwan
- Thailand
- The Netherlands
- Turkey
- United Arab Emirates
- United Kingdom
- United States
- Vietnam



**76**  
facilities

**30**  
countries/  
regions

# Enabling Sustainability

| CDP C.2 | CDP C.3 | TCFD Strategy A | TCFD Strategy B |

Beyond Huntsman's key demographics is an underlying drive to help the world become more sustainable. Our operations, our people, and our products work together to enable sustainability across the planet.

You may be surprised to learn that the chemical industry, as a whole, makes up approximately 3% to 5% of total greenhouse gas emissions around the world. For an industry that is frequently criticized for negatively impacting society, **actual emissions in the chemical industry are lower than the greenhouse gases emitted by livestock.** Even more interesting is that Huntsman products directly improve the performance of the industries that make up the bulk of the world's emissions with our emissions-reducing innovations that include solutions for the building, transportation, and industrial sectors. Huntsman solutions represent **750 million tons of lifetime emissions avoided each year** by these innovative products.

## Emissions

Despite the small percentage of greenhouse gas emissions that the chemical industry contributes, Huntsman remains focused on further reducing its environmental footprint. A quick glance at our statistics shows an 80% reduction in our on-site volume after recent divestitures (such as our intermediates and surfactants business).

↓ **80%**  
drop in greenhouse  
gas emissions

↓ **40%**  
drop in intensity  
(since 2019)

While this number is directly attributable to the sale of an asset, Huntsman's overall intensity rate also fell by 40%, demonstrating that, as we have shifted our portfolio, the carbon footprint of our operations has significantly reduced. In fact, Huntsman remains one of the lowest emitters in the chemical industry.

## Solutions That Make a Difference

By moving our portfolio further downstream and closer to the consumer, Huntsman assets are not only less emissions-intensive, but are also helping those consumers make a bigger difference in their own environmental footprints.

Huntsman recognizes the important role we play in creating a more sustainable future. **Our innovative solutions are the catalysts that enable 80% of the economy to reduce emissions.** These contributions to a low-carbon economy can help make society's goal of carbon neutrality a reality. The fact is, without solutions to improve the efficiency of buildings and homes, to enable the electrification and efficiency of the transportation sector, and to contribute to the advancement of alternative energy, the world will not be able to achieve this challenging goal. Huntsman products are enabling sustainability.



Product Spotlight

## Spray Polyurethane Foam Insulation

*Improves Efficiency of Homes and Buildings*

Our spray polyurethane foam insulation reduces air intrusion into homes and buildings, decreasing the amount of energy required for heating and cooling. One ton of our spray polyurethane foam goes into solutions, resulting in:

**10 tons** CO<sub>2</sub>e avoided | **1.2 tons** CO<sub>2</sub>e to build | **8X** return on invested carbon



Product Spotlight

## Carbonates for Lithium-Ion Batteries

*Enables Electrification of the Transportation Sector*

Our carbonates improve the efficiency of lithium-ion batteries. One ton of our Performance Products carbonates goes into solutions, resulting in:

**1.3K tons** CO<sub>2</sub>e avoided | **160 tons** CO<sub>2</sub>e to build | **8X** return on invested carbon



Product Spotlight

## Resins and Hardeners for Reducing Airplane Weight

*Improves Energy Efficiency of the Aerospace Sector*

Our resins and hardeners reduce the weight of an airplane by 20% and allow for blended winglets, further improving fuel efficiency. One ton of our Advanced Materials resins and hardeners goes into solutions, resulting in:

**14K tons** CO<sub>2</sub>e avoided | **350 tons** CO<sub>2</sub>e to build | **40X** return on invested carbon



Product Spotlight

## Specialty Amines for Wind Turbine Blades

*Enables Alternative Energy*

Our specialty amines make the blades of a wind turbine longer, so their operation is more economic. One ton of our Performance Products polyetheramines goes into solutions, resulting in:

**30K tons** CO<sub>2</sub>e avoided | **625 tons** CO<sub>2</sub>e to build | **48X** return on invested carbon

# Sustainability Goals

## Near-Term Goals

| GRI 3-3 | SASB RT-CH-110a.1 | SASB RT-CH-110a.2 | CDP C.4 | TCFD Metrics and Targets A | TCFD Metrics and Targets C |

Huntsman pursues continuous improvement in our operations. Our Horizon 2025 targets provide key focus areas across the company. These are challenging goals to set, and we hold our operations accountable to higher standards as we produce the solutions that lead to a more sustainable world.

We are committed to eliminating Tier 1 process safety events, fatalities, and life-impacting injuries and illnesses. We are targeting a 10% reduction in our energy consumption and greenhouse gas emissions, along with a 5% reduction in our water consumption in water-stressed areas, our total waste production, and our hazardous waste production.

We will publish at least 30 product safety summaries by 2025.

The table at right captures our progress against these targets. Our efficiency targets are measured against a baseline set in 2019. Our denominator for efficiency is sales volumes. This is a change to our denominator that we believe aligns the efficiency metric to that of our peers, and also brings our efficiency measure closer to a life-cycle measure to communicate to our customers and other stakeholders.

We have adjusted our baseline and performance to the adjusted baseline based on this change of denominator. These adjustments are made periodically as needed to account for changes in our boundary, portfolio, and methodologies to assure a consistent measure of performance.



### Horizon 2025 Targets

| SASB RT-CH-110a.2 |

2021 Progress to Date

	<b>0</b>	<b>Number</b> of Life-Impacting or Fatal Events (LIFE)	<b>2 Events</b>
		<b>Continuous reduction</b> in OSHA Total Recordable Rate <sup>1</sup>	
	<b>0</b>	<b>Number</b> of Tier 1 Process Safety Incidents	<b>6 Events</b>
	<b>&lt; 0.15</b>	Tier 2 Process Safety Incident Rate	<b>&lt; 0.15 Rate</b>
	<b>30+</b>	Publications of Product Safety Summaries <sup>2</sup>	<b>14</b>

### Efficiency Targets (on a per unit of production)

| SASB RT-CH-110a.2 | TCFD Metrics and Targets A |

2021 Progress to Date

	<b>10%</b>	<b>Reduction</b> in Greenhouse Gas Emissions <sup>3</sup> (Scope 1 and Scope 2)	<b>9%</b>
	<b>10%</b>	<b>Reduction</b> in Energy Consumption	<b>-5%</b>
	<b>5%</b>	<b>Reduction</b> in Net Water Usage at Facilities in Water-Stressed Regions <sup>4</sup>	<b>65%</b>
	<b>5%</b>	<b>Reduction</b> in Total Waste Generated <sup>5</sup>	<b>52%</b>
	<b>5%</b>	<b>Reduction</b> in Hazardous Waste Generated <sup>5</sup>	<b>-4%</b>

<sup>1</sup> Measure year-over-year

<sup>2</sup> A key element of our commitment to the Responsible Care® Product Safety Code. Please see "Product Stewardship" on page 72

<sup>3</sup> Per unit of production on a market basis

<sup>4</sup> Please see "Water Management" on page 50

<sup>5</sup> Please see "Waste Management" on page 56

# Sustainability Goals

## Long-Term Goals

| GRI 3-3 | CDP C.4 | TCFD Metrics and Targets A | Targets Metrics and Targets C |

In addition to our Horizon 2025 targets, Huntsman has announced its long-term aspirations, which include aiming toward carbon neutrality by 2050, becoming a fully circular company, and continuing our processes to assure the safety of our chemicals and materials.



Huntsman is targeting carbon neutrality by  
**2050**

## Carbon Neutrality

| SASB RT-CH-110a.2 | CDP 3.1a | CDP 3.1b | TCFD Metrics and Targets A |

By 2050, Huntsman aims to have a net-zero greenhouse gas emissions intensity, as determined by greenhouse gas emissions in carbon dioxide equivalent (CO<sub>2</sub>e) per unit of sales production. This includes both our Scope 1 (direct) and market-based Scope 2 (indirect) emissions.

We are in the process of developing low-carbon transition plan options, and will evaluate those options in the context of a myriad of factors including, but not limited to:

Pace of technology

Carbon capture, storage, and use



De-carbonization of electricity supply and transportation



Public policies, regulations, and infrastructure development

This transition plan will be shared in our next Sustainability Report.



In addition to our operational emissions, we aim to engage our top suppliers and service providers, including transportation-related providers, on efforts to reduce emissions throughout our value chain.

**Our aim is that our suppliers and service providers, whom we estimate constitute two-thirds of our non-product-use Scope 3 emissions, will establish their own carbon-neutral goals by 2027.**

Efforts are underway to estimate our Scope 3 emissions. Once these estimates are complete, we will develop a supplier engagement plan and timeline to work towards this 2027 engagement target.



## Full Circularity

There are many efforts around circularity that contribute to reducing the need for new materials to enter the economy. For Huntsman, our Horizon 2025 targets are part of the picture.

Reducing our consumption of energy and water, along with reducing our waste generation, leads to less resource demand and contributes to circularity. Many of our solutions contribute to the durability of products, which extends the life of these products and reduces both the need for replacement and for waste. Our products also contribute to the efficiency of our customers, which is highlighted throughout this report.

While all of these factors play a role in circularity, we recognize that stakeholders desire for our products in and of themselves to be more circular. To that end, we will begin in 2022 to measure the portion of our product portfolio that has one or more of the following qualities:

 <b>Sourced from recycled materials</b>	 <b>Bio-sourced</b>	 <b>Recyclable</b>	 <b>Biodegradable</b>
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In the future, we will develop targets for increasing the proportion of our portfolio that contains one or more of these qualities. We have added "Circularity" to our material topics list in 2022 to signify this increase in importance, along with the impact of the role we play to contribute to society's long-term aims (please see "Circularity" on page 59).



## Sustainable Chemistry

Chemical and material safety has long been a priority at Huntsman. The product safety of our solutions is considered on a case-by-case basis, including assessing the use of substances, existing and potential risk management options, ease of substitution, and solution benefits.

We work with regulators, customers, suppliers, and value-chain partners to make these assessments and develop suitable risk mitigation plans that could include phase-out initiatives, reformulation, or development of alternatives.

We evaluate new solution developments against defined substances of concern (SoC) lists at various stages in the development process, using an award-winning SoC risk-evaluation tool.

**Our research and development teams look for SoC issues at all stages of the development process** as part of the selection of the preferred technical solution and when screening new raw materials from suppliers.



A formal hazard assessment is completed by our Product Environmental, Health, and Safety teams during the new product introduction process.

Products with significant SoC impact may be eliminated, or new product development projects terminated, based on an SoC assessment or if the business case for further development is not viable.

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**< 4%** of our product sales include materials containing substances of very high concern

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Huntsman will continue to proactively screen for, and seek innovative alternatives to, substances of concern. For more details, please see “[Product Stewardship](#)” on page **72**.

# CEO Award for Innovation in Sustainability

| CDP C1.3 | CDP C1.3a |

Ten years ago, Huntsman presented its first CEO Award for Innovation in Sustainability to recognize Huntsman associates and encourage them to keep the long-term sustainability of our products and operations at the forefront of innovation within the company.

All around Huntsman, dedicated teams are making a positive difference for the planet, people, prosperity, and our products within the company, in our communities, and with our customers. In 2021, five teams were recognized with this top company honor for their innovation in sustainability.

## Advanced Materials

# Enabling Advanced Electric Motors Through High-Performance Insulating Materials

As consumer demand and environmental regulations drive more widespread adoption of electrical vehicles, car manufacturers around the world are investing in the development of advanced electric motors with higher voltage and power density, but they have long been challenged by the risk of electrical losses that limit a motor's reliability and lifetime.

Our Advanced Materials division has developed **innovative electrical insulating material solutions** to help solve this issue, including three groups of insulating materials (rotor potting, stator potting, and impregnation systems) that are covered by a collection of recently filed patents.

The resulting products are already engaged in various original equipment manufacturer (OEM) and tier-qualification programs, and are currently going through different stages of commercialization.

This innovation program contributes to sustainability at multiple stages of the product life cycle through emissions reduction equaling a **160x return on invested carbon**; raw materials sustainability with Huntsman products that avoid the radioactive waste generation inherent in the current manufacturing environment; and safe alternatives for the carcinogenic, mutagenic, or reprotoxic (CMR) chemicals that are used in the manufacturing of electric vehicles.



 Polyurethanes

## Leading a New Way to Grow with Controlled-Release Fertilizer



A joint development agreement between Pursell Agri-Tech and Huntsman grew a sustainable and commercially lucrative success with a polyurethane-based, controlled-release fertilizer (CRF) made with Huntsman's RIMLINE® polyurethane system. By utilizing an innovative coating technology, along with a unique and proprietary processing technique, the result is a high-quality product produced at a low temperature.

**This advanced CRF coating technology helps solve five UN Sustainability Goals – Zero Hunger, Clean Water and Sanitation, Responsible Consumption and Production, Climate Action, and Life Below Water.**

Contributing to the goal of Zero Hunger, fertilizers using this proprietary coating technology have proven to be efficient for corn, rice, sugarcane, wheat, cotton, potato, and other specialty crops, in addition to all turf and ornamental applications.

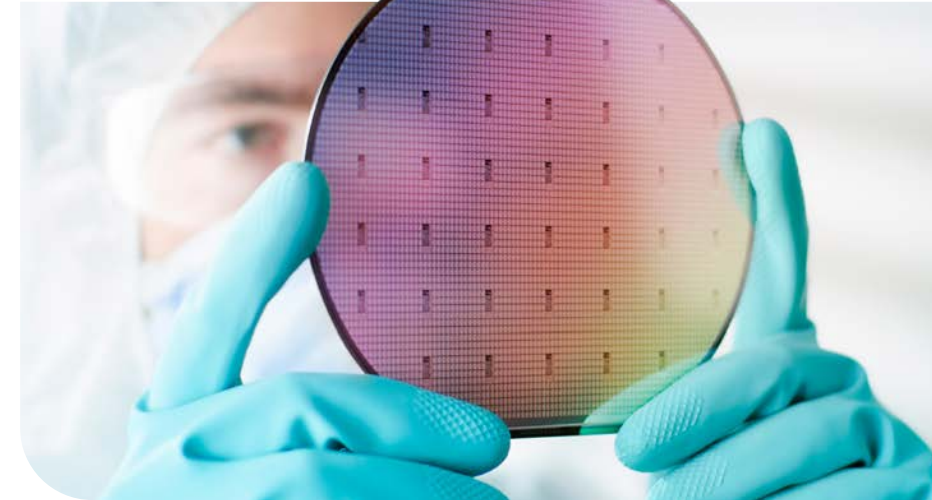
Multiple years of agronomic testing conducted by growers and universities have shown that coated nitrogen fertilizers result in **yield increases of between 3–7% bushel/acre** in both wet and dry growing conditions.

In addition, this innovative technology aids in solving a global issue whereby 66% of applied urea fertilizers is lost to the environment through nutrient run-off into rivers, lakes, oceans, and the atmosphere. **This technology is proven to reduce nutrient leaching and volatilization losses up to 95%.**



 Performance Products

## Innovation Yields Safer Products for Semiconductors



**The development of two new high-purity, high-value performance products for use in the manufacture of semiconductors and displays has resulted in safer and more sustainable solutions for the industry.**

**E-GRADE® THEMAH SLM** and **CHOLINE OH** are quaternary amines that can serve to replace highly toxic tetramethylammonium hydroxide (TMAH) in cleaning formulations for the microelectronics industries.

This project implemented new processes and continuous improvement projects to enable and sustain stringent quality, consistency, and low trace levels of metal requirements in the semiconductor industry.

Collaboration among teams at our plant in Conroe, Texas, and at the Huntsman Advanced Technology Center in The Woodlands, Texas, as well as with our sales personnel, has yielded expanded product offerings, advanced techniques for product development and testing, and closer coordination with customers for future enhancements.

 **Advanced Materials**  **Textile Effects**



## Win-Win Collaboration to Achieve Sustainability in Panyu, China

Collaboration across the Advanced Materials and Textile Effects divisions at our Panyu, China, plant yielded significant achievements in sustainability for Huntsman as the team implemented a series of projects that examined the best ways to utilize resources across the facility to reduce greenhouse gas emissions, energy consumption, waste, and costs.

Changes to wastewater discharge limits offered an opportunity to better manage and optimize the plant's wastewater treatment systems.

By separating what was once combined, the Panyu plant developed an innovative solution to effectively route and treat wastewater, recapture

high-concentration solvents to be purified into raw materials, and eliminate any effluent from going into the nearby river.

Our team also identified and implemented several projects to share utilities across the site for compressed air, nitrogen, and backup chilled water, which significantly reduced power consumption.

Overall, the team achieved reductions of:

**619 tons**  
of CO<sub>2</sub>e per year

**146 tons**  
hazardous waste

**> 1 million**  
kWh per year

**\$389,000**  
operating costs



 **Textile Effects**



## Leading the Transition to a PFC-Free Industry



**In the European Union (EU), the U.S., and China, recent legislative changes now limit the use of perfluorinated chemicals (PFCs), including C8 chemicals, that are commonly found in durable water repellents in the textile industry.**

The transition to PFC-free chemistries is unprecedented in scale and complexity, and is probably the largest shift that the textile industry has ever experienced. Since voluntarily exiting C8 chemistry in 2015, Huntsman has led the industry's transition away from PFC products in the industry through **groundbreaking technologies, including Zelan™ R3** (a water-repellent finish for textiles that draws on the strength of our 30-year alliance with DuPont/Chemours) and **PHOBOTEX® RSY** (which raised the bar for eco-friendly water repellency).

Our Textile Effects division is successfully navigating through the complexity of alternative chemistries to better understand their subsequent impact on performance. This division is proudly meeting end-user performance demands and environmental requirements, while growing its market share to 15% in 2021 (from 11% in 2019) and achieving a **Compound Annual Growth Rate (CAGR) of 20%** in the last five years versus industry growth of 6%.

# Recognitions and Evaluations

## Recognitions

Huntsman is proud to be recognized among leaders in sustainability across the industry and the world for our responsible management of our business and resources. Our 2021 honors include:

### 2021 Responsible Care® Awards

#### Waste Minimization, Reuse, and Recycling Award

##### TF5 Waste Minimization and Commercialization

Our Conroe, Texas, plant has a 750,000-gallon TF5 wastewater tank that collects high-strength wastewater from washouts and processes throughout the plant. By analyzing the waste stream, the Huntsman team discovered that it was classified as a hazardous material due to the use of a single raw material – cyclohexane. The team isolated the stream and diverted the wastewater from the cyclohexane process to an alternative storage tank, where the team was then able to find a reuse customer for the resulting product.

While initially developed as a waste minimization project, the innovative efforts of this cross-functional team enabled the elimination of the entire 1-million-pound hazardous waste stream from the **facility – saving \$500,000 per year** and turning this waste stream into a new valuable raw material for a more energy-efficient fuel cutter stock.

#### Product Safety Award, American Chemistry Council

##### Substances of Concern Tool

Developed in-house, the Substances of Concern (SoC) tool provides both an immediate view regarding substance and product level risks, as well as a long-term view on product sustainability. This innovative tool is easy to use, and is essential to all Huntsman businesses as they evaluate current and future product slates. The tool uses **29 external lists** as the basis for reviewing the risks of substances.

Through a combination of publicly available data and confidential company data, Huntsman can assign a risk factor for substances and Huntsman products, assess the potential impact to the business, and determine the long-term view of the relevance and sustainability of these products to the company. The result is **faster and smarter decisions around Huntsman's product portfolio** as we contribute to a more sustainable society.

#### Facility Safety Awards

**Award of Achievement** – Recognizing facilities with zero fatalities and zero days away from work for employees

- Akron, Ohio
- Conroe, Texas
- Charlotte, North Carolina

**Award of Honor** – Recognizing facilities with zero fatalities, zero days away from work, and zero job transfer/restriction cases for employees

- Arlington, Texas
- Geismar, Louisiana

**Award of Excellence** – Recognizing facilities with zero fatalities, zero days away from work, and zero job transfers/restriction cases for employees and contractors

- Auburn Hills, Michigan
- East Lansing, Michigan
- Freeport, Texas
- Houston, Texas
- Houston, Texas (TEROL® facility)
- Maple Shade, New Jersey
- Merrimack, New Hampshire
- Ringwood, Illinois
- Huntsman Advanced Technology Center – The Woodlands, Texas
- Waterway One – The Woodlands, Texas



## Newsweek's Most Responsible Companies

Newsweek and Statista analyze publicly available key performance indicators related to corporate responsibility in three main areas (environment, social, and corporate governance) and conduct an independent survey of U.S. residents to determine their list, of America's Most Responsible Companies. For 2022, 500 companies were named and ranked on their list, based on 2021 performance data.

Huntsman ranked #102 on the overall list and **#13 out of 63 companies in the Materials and Chemicals Industry.**

This is the first time Huntsman has appeared in Newsweek's list of America's Most Responsible Companies.



## Wall Street Journal's Best-Managed Companies

The Wall Street Journal's (WSJ's) Best-Managed Companies list has been published for the past five years and is compiled by the Drucker Institute, using 34 data inputs provided by 14 third-party sources. Companies are evaluated in five categories, including customer satisfaction, employee engagement and development, innovation, social responsibility, and financial responsibility.

Huntsman ranked **#98 on the list of 250 best-managed companies**, up from #203 in 2020. Huntsman was also #4 out of companies in the category of Basic/Materials/Resources, ranking higher than DuPont, Dow, Air Products, Eastman, Celanese, Alcoa and LyondellBasell. This was the second time Huntsman has appeared on WSJ's Best-Managed Companies list.



## Evaluations

Below are sustainability evaluations for Huntsman at the time of this report's publication:



**B**



**Silver Medal**  
(58)



**29.7**  
(Medium Risk)



**B**



**E 5**  
**S 3**  
**G 1**

# Community Involvement

| GRI 203-1 | GRI 203-2 |

In addition to creating and manufacturing products that make a difference, Huntsman has made giving back to the communities where we live and work a priority since the company's formation.

Our corporate contributions take many forms as we invest our time, talents, and resources into making the world a brighter place. Huntsman's approach is simple: We assess the needs in the areas where we do business and plug in to opportunities that meet the needs of those communities, which tend to follow the UN Sustainable Development Goals.



## Spotlight Story

### Homes for Heroes: Huntsman Contributes to Housing for Homeless Veterans in Canada

Enriching lives through innovation is more than a tagline for Huntsman – it's how we do business. In Canada, a recent partnership between Huntsman Building Solutions and the Homes for Heroes Foundation offered a unique opportunity to contribute to the homes and the hearts of Canadian veterans. The Homes for Heroes Foundation is a nonprofit organization in Canada whose mission is to integrate homeless military veterans into the community by providing housing and support services across Canada. It does so by building novel, affordable, and energy-efficient urban villages in major cities across Canada, and also by providing the resources, services, and training that homeless veterans need to achieve the goal of living independently in the long term.

To support their mission, **Beyond Foam Insulation, Huntsman Building Solutions, and ATCO have partnered with the Homes for Heroes Foundation** to provide and install quality spray foam insulation in the homes for homeless veterans.

**“Huntsman Building Solutions prides itself on helping make houses feel like home through energy-efficient spray foam insulation,”** said Joe Upper, Director of Sales in Canada for Huntsman Building Solutions. **“This opportunity to contribute to home-building projects that provide a sense of purpose and a place of hope for Canadian veterans is a meaningful way to contribute to the community.”**



For this project, Huntsman Building Solutions provided its Heatlok® Soya HFO™ closed-cell spray foam, which contains a total of **22% recycled plastic and renewable soya oil content**. This product adapts to all surfaces, shapes, and volume, and acts as a weather-resistant insulation, and as an air barrier and a vapor barrier, in a single application. **Each resin drum contains up to 3,000 plastic PET bottles that are diverted from landfills.** Additionally, the installation generates zero waste or trash on the jobsite, and the product adapts to all surfaces, shapes, and volumes.

**“The Heatlok® Soya HFO™ product applied by Beyond Foam Insulation will make these homes comfortable to live in, and will reduce the cost to veterans from an energy-efficiency standpoint. It's the highest-performing air barrier system out there, and it is made from renewable soya and recycled plastics, with low VOC emissions.”**

– Joe Upper





Spotlight Story

## Huntsman Raises Over \$600,000 for Houston-Area Charities Following Devastating Winter Storm



After a devastating winter storm left the Greater Houston area with inches of snow on the ground and more than 1.2 million people without power, Huntsman Chairman, President, and CEO Peter Huntsman issued a “24-hour challenge” to employees to make a difference in the community through donations to relief efforts.

**The impact was significant, with more than \$600,000 donated to the Montgomery County Food Bank, the Houston Food Bank, and Interfaith Ministries of The Woodlands.**

The donations included funds contributed by Huntsman employees at our Conroe, The Woodlands, and Houston Ship Channel locations, and by a few key Huntsman service providers, as well as matching funds from the Huntsman family, the company, and the Beaumont Foundation.

**“Winter Storm Uri’s freezing weather devastated people’s homes, and the loss of power, water, and other resources has created a dire need for so many in our area,” Peter Huntsman said.**

“Commitment to community is fundamental to Huntsman Corporation’s spirit, and we have long supported local food banks and charities that provide for our neighbors. Many of our associates experienced hardship during this winter storm, and their generosity is typical of their compassion. I want to thank them and our business partners, and I hope, through these donations, that we are able to support a quicker recovery.”

– Peter Huntsman





Spotlight Story

## Partnership with Local School District Connects Huntsman with Deserving Students

Sixteen graduating seniors from Spring Independent School District (ISD) near Huntsman's global headquarters in The Woodlands, Texas, were inaugural recipients of our new scholarship program.

The Huntsman Scholarship Program recognizes the outstanding achievements of four students from each of Spring ISD's four high schools with a **\$20,000 scholarship (\$5,000 per year)** for attending an accredited college or university and majoring in science, technology, engineering, or mathematics (STEM) or business-related fields.

The scholarship is renewable for up to four years by maintaining a 3.0 grade point average. **Eight of the recipients will be the first in their families to pursue a college degree.**

**“Many deserving students often miss the opportunity to pursue higher education due to limited financial resources,” said Peter Huntsman, Chairman, President, and CEO of Huntsman Corporation. “It is our hope that these scholarships will help pave the way for these talented students to achieve their educational goals.”**

Applications for the Huntsman Scholarship Program were evaluated on unweighted grade

point averages, class rank, academic leadership, career goals, and letters of recommendation.

This scholarship program is just one of the ways Huntsman has partnered with Spring ISD. The company also actively participates in the district's Vine Mentoring Program, where incoming 9th grade students are paired with Huntsman employees. These Huntsman mentors assist with goal setting and career pathway discussions, while also providing a source of personal encouragement and guidance.



“Since its formation, Huntsman Corporation has made giving back to the communities where we live and work a priority. While our corporate contributions of time and resources take many forms, providing educational opportunities for students is, in our view, a meaningful way of both giving back to the community and investing in our future.”

– Peter Huntsman



Spotlight Story

## Huntsman Dedicates Oxygen Generation Plant in India

In India, Huntsman, through its Textile Effects division, and the Padra Industrial Association (PIA) recently **dedicated a medical-grade oxygen generation facility to the people of Gujarat, India, as part of Huntsman's corporate social responsibility initiatives.**

Located at the Padra Primary Healthcare Center, the medical oxygen generation facility has a capacity to generate oxygen of 10Nm<sup>3</sup> per hour at 90% to 93% purity, and is equipped to service up to 50 beds in the medical center. The initiative is part of Huntsman's ongoing efforts to improve the health infrastructure of the Padra district, as well as to raise the quality of life of the communities in and around this state-of-the-art plant.

**“While COVID-19 cases are declining in the region, we don't want to let our guard down, and we want our area to be prepared to combat any medical emergency in the future,” said Rahul Tikoo, MD, for Huntsman in India. “This oxygen facility will meet all the requirements of the healthcare center.”**

Huntsman's global dyes and chemicals manufacturing unit is in a designated industrial zone of Padra in Baroda, Gujarat. **The facility is spread across 62 acres, and offers direct and indirect employment to more than 800 people.**

**“Padra Industrial Association is also proud to partner with Huntsman, a leading player in our industrial zone, to dedicate this medical oxygen facility to the people of our district. It has always been PIA's endeavor to work toward the betterment of the health of our locals and to also ensure that there is economic prosperity in our region,”** said Pravin Rabadia, President of the Padra Industrial Association.










**“At Huntsman, we prioritize the health and well-being of the communities we operate in, alongside the safety of our associates. In addition to this partnership, we have several welfare programs in the pipeline, focused on education, health, water, sanitation, and livestock to support the communities where we operate.”**

– Kavishwar Kalambe, Baroda Site Director, Huntsman Textile Effects











# United Nations Sustainable Development Goals

Guided by our support of the United Nations Sustainable Development Goals, Huntsman creates innovative products and participates in meaningful community projects to help solve some of the world’s most pressing challenges.

	<p><b>Zero Poverty</b></p>	<ul style="list-style-type: none"> <li>• Associates packed shoeboxes of necessities for the homeless community in Belgium</li> <li>• Huntsman Building Solutions team donated materials and supplies, including its Heatlok® Soya HFO™ closed-cell spray foam insulation, to the Homes for Heroes Foundation to help ready small homes for homeless Canadian veterans</li> </ul>
	<p><b>Zero Hunger</b></p>	<ul style="list-style-type: none"> <li>• MDI<sup>1</sup>-based polyurethane systems produce lightweight, insulated sandwich panels for cold-chain food preservation</li> <li>• Polyurethane-based controlled-release fertilizers increase crop yields for corn, rice, sugarcane, wheat, potato, and other specialty crops</li> </ul>
	<p><b>Good Health and Well-Being</b></p>	<ul style="list-style-type: none"> <li>• Scavenger technology reduces emissions from automotive seating foams by a factor of 10 without compromising comfort</li> <li>• Development of E-Grade® THEMAH and Choline OH replaces other toxic materials commonly used in cleaning formulations in microelectronics industries</li> <li>• Donated furniture and proceeds from the sale of cell phones to healthcare institutions in Brazil</li> <li>• Partnered with foundations in Colombia to support health and wellness</li> <li>• Sponsored a medical-grade oxygen generation facility in Gujarat, India</li> <li>• Donated 20,000 units of essential medical equipment to frontline workers in India</li> </ul>
	<p><b>Quality Education</b></p>	<ul style="list-style-type: none"> <li>• Implemented Huntsman mentors and scholarship programs in communities near our operations</li> <li>• Supported local science fair sponsorships and judging in support of STEM education</li> </ul>
	<p><b>Gender Equality</b></p>	<ul style="list-style-type: none"> <li>• Dedicated multi-purpose medical facility focusing on providing health care for women and children in India</li> <li>• Organized skill-building programs for women in India</li> </ul>
	<p><b>Clean Water and Sanitation</b></p>	<ul style="list-style-type: none"> <li>• AVITERA® SE dyes reduce water consumption in textile manufacturing by up to 50%</li> <li>• Digital inks reduce water consumption up to 60% in the production of printed textile fabrics</li> <li>• Implemented operational projects in Panyu, China, to effectively route and treat wastewater and eliminate effluent from flowing into a nearby river</li> <li>• Partnership with China Green River Environmental Protection Promotion Association to collect plastic waste from the Yangtze River in the Qinghai-Tibet Plateau</li> </ul>
	<p><b>Affordable and Clean Energy</b></p>	<ul style="list-style-type: none"> <li>• Epoxy curing agents, composite resin systems, and structural adhesives enable larger, stronger wind blades that can maximize energy and withstand weather</li> <li>• Innovative solutions in high-performance insulating materials are extending the reliability and lifetime of electric vehicle motors</li> </ul>

<sup>1</sup> MDI: methylene diphenyl diisocyanate

	<p><b>Decent Work and Economic Growth</b></p>	<ul style="list-style-type: none"> <li>Established vegetable nurseries, fish and poultry farms, and livestock management programs for farmers, fishermen, and rural women in India</li> <li>Supported job training and job search programs in communities near our operations</li> </ul>
	<p><b>Industry, Innovation, and Infrastructure</b></p>	<ul style="list-style-type: none"> <li>Thermoset chemistries extend the lifetime of infrastructure and equipment through more durable coatings</li> <li>Led the industry's transition away from PFC chemistries commonly found in durable water repellents in the textile industry through the development of new products and technologies</li> <li>Supported skill building and equipment purchases among fire brigades and departments in communities near our operations</li> </ul>
	<p><b>Reduced Inequalities</b></p>	<ul style="list-style-type: none"> <li>Supported Bright Life Program for individuals with special needs</li> <li>Provided free health care to 25,000 people in India through mobile medical vans</li> <li>Supported community clinics for underserved communities in the U.S.</li> </ul>
	<p><b>Sustainable Cities and Communities</b></p>	<ul style="list-style-type: none"> <li>District Central Heating (DCH) project in China reduces PM2.5 dust associated with coal-fired electricity generation and improves ambient air standards</li> <li>DaltoPIR® fire-rated panels deliver fire and smoke safety properties without compromising energy efficiency and cost</li> <li>Spray polyurethane foam (SPF) insulation is the highest-rated insulant available in the market today</li> <li>Huntsman innovations benefiting the electric vehicle market are reducing emissions and contributing to more sustainable communities</li> </ul>
	<p><b>Responsible Consumption and Production</b></p>	<ul style="list-style-type: none"> <li>DCH project in China utilizes waste heat to warm millions of homes</li> <li>Waste polyethylene terephthalate (PET) bottles are transformed into TEROL® polyols, a key ingredient in energy-saving SPF insulation</li> <li>3D printing technology utilizing Huntsman's thermoplastic polyurethane (TPU) materials in the footwear industry uses less material and eliminates waste</li> <li>Digital inks reduce water consumption, pollution, energy use, CO<sub>2</sub> emissions, and waste</li> <li>MDI binders turn waste rice straw and rubber crumb into raw materials for new products</li> <li>Bio-based technologies enable automotive OEMs to achieve a 9%+ level of bio-based content</li> <li>Waste-reduction and energy-efficiency projects at manufacturing facilities around the world are reducing water usage, energy usage, and waste production</li> <li>"Bottle for Bottle" program in China to collect, recycle, and repurpose PET bottles to create winter school uniforms for children</li> </ul>
	<p><b>Climate Action</b></p>	<ul style="list-style-type: none"> <li>DCH project in China reduces coal-fired power consumption</li> <li>ARALDITE® adhesives and structural composite systems enable lightweighting in automotive and aerospace applications to reduce fuel consumption, energy use, and CO<sub>2</sub> emissions</li> <li>Carbonates create better lithium-ion battery technology to power electric vehicles</li> </ul>
	<p><b>Life Below Water</b></p>	<ul style="list-style-type: none"> <li>Huntsman's polyurethane-based controlled-release fertilizers utilize technology that reduces nutrient leaching and volatilization losses up to 95%</li> </ul>
	<p><b>Peace, Justice, and Strong Institutions</b></p>	<ul style="list-style-type: none"> <li>Supported court-appointed special advocates for children in foster care in Texas</li> </ul>



# Governance

**Huntsman's highest governance body is our Board of Directors.**

The executive officer team is the primary committee responsible for decision making on economic, environmental, and social topics. The Board Sustainability Committee provides oversight of environmental, health, safety, and sustainability-related topics.

The following provides further details on the bodies involved in sustainability for Huntsman.

# Sustainability Governance

## Board of Directors

| [GRI 2-9](#) | [GRI 2-10](#) | [GRI 2-11](#) | [GRI 2-12](#) | [CDP C1.1](#) | [CDP C1.1a](#) |  
| [CDP C1.1b](#) | [TCFD Governance A](#) |

Huntsman’s highest governance body is our Board of Directors.

Nine of the ten members are independent or “non-executive.” Peter Huntsman serves as the Chairman of the Board, President, and Chief Executive Officer. As of the issuance of this report, the Board was structured as follows:



**Peter R. Huntsman**

Chairman of the Board, President, and Chief Executive Officer



**Dr. Mary C. Beckerle**

Director



**Sonia Dulá**

Chair of the Compensation Committee and Director



**Cynthia L. Egan**

Non-Executive Vice Chair of the Board, Chair of the Nominating and Corporate Governance Committee, and Lead Independent Director



**Curtis E. Espeland**

Director



**Daniele Ferrari**

Director



**Jeanne McGovern**

Chair of the Audit Committee and Director



**José Muñoz**

Director



**David B. Sewell**

Director



**U.S. Navy Retired Vice Admiral Jan E. Tighe**

Board Sustainability Committee Chair and Director

In February 2021, the Board Sustainability Committee was formed, and is chaired by Jan E. Tighe, U.S. Navy Vice Admiral (Retired). More information regarding the Board Sustainability Committee, and the Board’s management of sustainability-related topics, can be found at [Guidelines & Ethics: Huntsman Corporation \(HUN\)](#).

# Executive Sustainability Committee

| GRI 2-13 | GRI 2-14 | CDP C1.2 | CDP C1.2a | TCFD Governance B |

Led by Peter Huntsman, the committee is comprised of the executive team along with representatives from key functions.

The committee provides executive direction of the corporate sustainability program and submits regular updates to the Board. As of the issuance of this report, the committee was structured as follows:

**Peter R. Huntsman**

Chairman of the Board, President, and Chief Executive Officer

**Philip M. Lister**

Executive Vice President and Chief Financial Officer

**David Stryker**

Executive Vice President, General Counsel, and Secretary

**Anthony Hankins**

Chief Executive Officer, Asia Pacific and Division President, Polyurethanes

**Rohit Aggarwal**

Division President, Textile Effects

**Scott Wright**

Division President, Advanced Materials

**Chuck Hirsch**

Division President, Performance Products

**Brittany Benko**

Senior Vice President, Environmental, Health & Safety and Manufacturing Excellence, and Corporate Sustainability Officer

**R. Wade Rogers**

Senior Vice President, Global Human Resources and Chief Compliance Officer

**Ivan M. Marcuse**

Vice President, Investor Relations

**Gary Chapman**

Vice President, Global Communications

**Kevin Gundersen**

Global Director, Government Affairs

**Jeff Morgheim**

Global Director, ESG and Sustainability



# Sustainability Council

| GRI 2-13 | GRI 2-14 | CDP C1.2 | CDP C1.2a | TCFD Governance B |

Led by Corporate Sustainability Officer Brittany Benko, the council is comprised of senior representatives from the company's divisions and key functions. The council directs development of the corporate sustainability program and cultivates a common framework for sustainability, ensuring strategic alignment among the divisions, functions, and executive team.



**Todd Bloomfield**

Vice President, Purchasing



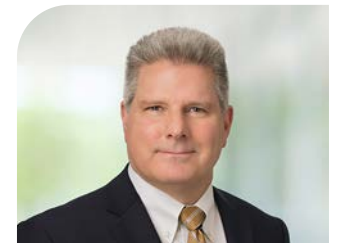
**Gary Chapman**

Vice President, Global Communications



**Twila Day**

Vice President and Chief Information Officer



**Ralph DiGuilio**

Vice President, Global Research & Development, Performance Products



**David Hatrick**

Vice President, Innovation, Advanced Materials



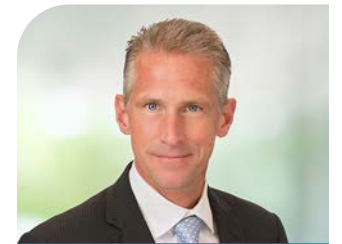
**Ivan M. Marcuse**

Vice President, Investor Relations



**Bill McPherson**

Global HR Director, Corporate Functions



**Jeff Morgheim**

Global Director, ESG and Sustainability



**Pavneet Mumick**

Global Vice President, Technology & Innovation, Polyurethanes



**Khijar Sarnaik**

Vice President, Research and Technology, Textile Effects



**David Nutt**

Director, EHS Legal Services



**Kevin Gundersen**

Global Director, Government Affairs

# Policy Commitments

| GRI 2-23 | GRI 2-24 |

At Huntsman, good governance and corporate responsibility are integral parts of our business strategy. The key focus areas of our corporate responsibility program include our people; our health, safety, and wellness programs; and our environmental stewardship, including our sustainability and product stewardship efforts.

To learn more about our policies, including how we embed our policy commitments, enable the reporting of potential violations of policies, and manage our commitment to compliance with the laws and regulations applicable to our activities, please see our governance disclosures at **Governance: Huntsman Corporation (HUN)**.










# UNGC Communication on Progress

| GRI 2-23 | GRI 2-24 | GRI 2-30 | GRI 2-31 |  
| GRI 205-1 | GRI 205-2 | GRI 205-3 |

Huntsman works to ensure that our corporate policies, procedures, and guidance documents align with the Ten Principles of the United Nations Global Compact (UNGC). The table below identifies relevant Huntsman policies, procedures, systems, and actions that illustrate our progress.

	Principles	Huntsman Policies and Procedures	Systems and Actions
 <b>HUMAN RIGHTS</b>	<b>1</b> Support for human rights	Since 2012, our Business Conduct Guidelines make specific reference to the UNGC and our commitment to operating under its standards in all communities where we do business. In addition, Huntsman’s Vendor Code of Conduct applies to all vendors and their employees, agents, and subcontractors. See also: Huntsman Human Rights Policy.	<ul style="list-style-type: none"> <li>• The Corporate Ethics and Compliance (E&amp;C) department reports any reported human rights violations to the Audit Committee, which includes members of the Board of Directors.</li> <li>• “Speak Up” confidential reporting service for reporting concerns</li> <li>• International Trade Compliance risk assessments for at-risk countries</li> <li>• Pre-qualification due diligence of vendors with high-risk profiles</li> <li>• Periodic re-qualification due diligence review of high-risk vendors and all distributors</li> <li>• Global EHS standards and procedures</li> </ul>
	<b>2</b> Elimination of human rights violations		
 <b>LABOR</b>	<b>3</b> Ensuring freedom of association	Associates are ensured freedom of association and are reminded of that right through visible postings at our facilities.	<ul style="list-style-type: none"> <li>• Of all Huntsman employees, 42% are covered under collective bargaining agreements, including both union and work councils.</li> <li>• Huntsman engages in planning to ensure employees are treated with respect and dignity regarding operational changes that involve a change in staffing levels or otherwise affect employment.</li> </ul>
	<b>4</b> Elimination of all forms of forced labor	In every region of the world, our Human Resources department is charged with ensuring that direct-hire Huntsman associates have necessary and legally required documentation to establish their identity, legal age, and work status. See also: Huntsman Human Rights Policy.	<ul style="list-style-type: none"> <li>• Standard contract clauses require each vendor to agree that no child or indentured labor is used by the vendor in the performance of its business.</li> <li>• Periodic E&amp;C combined policy audits conducted for selected sites that include audits on human rights, child labor, and forced labor</li> </ul>
	<b>5</b> Abolition of child labor		
	<b>6</b> Elimination of discrimination	Huntsman upholds a policy against discrimination, including harassment and retaliation.	<ul style="list-style-type: none"> <li>• Ethics and compliance training</li> <li>• Online training regarding harassment in the workplace</li> <li>• U.S. Purchasing groups offer technical assistance in the preparation and submission of bids to Huntsman, which can include small or disadvantaged businesses.</li> </ul>

		Principles	Huntsman Policies and Procedures	Systems and Actions
 <p><b>ENVIRONMENTAL</b></p>	<p><b>7</b></p> <p><b>Precautionary environmental protection</b></p>	<p>Huntsman's EHS Management System includes 7 Global EHS Standards and 71 Global EHS Procedures to ensure safe operation at all its facilities.</p> <p>Our Product Stewardship Standard EHS-700 outlines global requirements to ensure responsible management of EHS issues relating to Huntsman products throughout their life cycle.</p> <p>Huntsman's Environmental Standard EHS-600 outlines global requirements to identify and minimize the environmental impact of our operations and to strive for continuous improvement.</p> <p>We committed to publish 30+ product safety summaries as part of our Horizon 2025 targets to enhance transparency and provide stakeholders with helpful information.</p> <p>Huntsman's Process Safety Standard EHS-400 outlines global requirements to identify and manage risk associated with process safety incidents and their impacts on the environment.</p>	<ul style="list-style-type: none"> <li>• Our Product EHS Group actively manages product and raw material risk, including hazard communication (such as safety data sheets), compliance, customer risk evaluation, and distribution risk management.</li> <li>• All Huntsman facilities are required to identify, quantify, and minimize energy use, as well as air, water, and waste releases from routine operations.</li> <li>• Management of Change (MOC) procedures at all facilities require consideration of environmental impacts for new projects and changes in processes.</li> <li>• Process Hazard Analysis (PHA) procedures identify process safety hazards and the appropriate safeguards to prevent or mitigate impacts to the environment from loss-of-containment events.</li> <li>• In 2020, we updated 155 REACH dossiers for substances – including 97 voluntary submissions beyond those required by the European Chemicals Agency (ECHA).</li> <li>• As of the end of 2021, we published 14 product safety summaries that are available on our website, toward our goal of publishing 30 or more by 2025.</li> </ul>	
	<p><b>8</b></p> <p><b>Initiatives to promote greater environmental responsibility</b></p>	<p>Huntsman has published our EHS Policy and Commitment on our website, which includes a commitment to the Responsible Care® program and placing care for human health, safety, and the environment at the forefront of everything we do.</p> <p>Huntsman has developed and published our Horizon 2025 global strategic targets in areas of personal and process safety and environmental performance, including production intensity targets in greenhouse gas emissions, energy consumption, hazardous waste disposal, and net water usage.</p> <p>We completed a comprehensive water stress study in 2020, covering all of our manufacturing sites. This study not only informs which sites will be in scope for our Horizon 2025 reduction target, but also helps us understand how we can better address water risks in our portfolio.</p>	<ul style="list-style-type: none"> <li>• We publish our annual Sustainability Report in accordance with the latest GRI Standards, and provided an SASB index for the first time, to meet growing stakeholder interests and support our ongoing commitment to transparency.</li> <li>• Developed a predictive chemical risk tool to identify and evaluate substances of concern</li> <li>• Huntsman is a founding Bluesign® system partner to promote responsibility throughout the textiles value chain.</li> <li>• Contributor to the Zero Discharge of Hazardous Chemicals (ZDHC) Program since September 2019, a foundation that works on several programs aimed at improving sustainability across the textile value chain</li> <li>• Of our manufacturing sites, 24 (43%) are ISO 14001 certified.</li> <li>• In 2021, we completed eight corporate EHS audits and eight corporate process safety management (PSM) audits.</li> <li>• We have Community Advisory Panels (CAPs) at major facilities.</li> <li>• We presented a CEO Award for Innovation in Sustainability, and encouraged a wide field of entries from our associates globally. See 2021 finalists under the Who We Are section.</li> </ul>	

	Principles	Huntsman Policies and Procedures	Systems and Actions
 <b>ENVIRONMENTAL</b>	<p><b>9</b> <b>Development and diffusion of environmentally friendly technology</b></p>	<p>In our EHS Policy and Commitment, our policy is to place care for human health, safety, and the environment at the forefront of everything we do, and our mission is to provide products and solutions through the applications of science that enrich lives and help create a sustainable future, while doing no harm to people or the environment.</p> <p>As a member of the American Chemistry Council (ACC), we support ACC's sustainability principles that commit to achieving measurable reductions in emissions and creating innovative products for a sustainable future and societal benefits.</p>	<ul style="list-style-type: none"> <li>• Many of our products contribute to the UN Sustainable Development Goals (SDGs).</li> <li>• We use waste PET in our polyols as raw material to produce polyurethane insulation. In 2020, we expanded our TEROL® polyols manufacturing to Taiwan – enabling us to meet increasing market demand for recycled content.</li> <li>• We upcycle the equivalent of over 1 billion PET bottles annually, with the equivalent of over 10,000 recycled bottles used in each home, by utilizing our spray foam from the newly created Huntsman Building Solutions (HBS) business.</li> <li>• Our R&amp;D initiatives reduce volatile organic compounds (VOCs), enable lightweight materials for the automotive and aerospace sectors, increase bio-based content, and improve energy-saving insulation for buildings and refrigerated transport that reduces food waste through the cold chain.</li> <li>• AVITERA® SE dyes reduce water consumption in textile manufacturing by up to 50% – in 2020, our dyes helped save roughly 1.5 billion liters of water for customers.</li> </ul>
 <b>ANTI-CORRUPTION</b>	<p><b>10</b> <b>Measures against corruption</b></p>	<p>Our Corporate Ethics and Compliance department oversees and supports our compliance with relevant laws, regulations, and related Huntsman policies worldwide. See also: Huntsman Business Conduct Guidelines, Vendor Code of Conduct.</p>	<ul style="list-style-type: none"> <li>• We have an array of tools for reporting (third-party-run hotline and website for confidential “whistleblower” reporting, dedicated mailbox, monthly communications to all employees, quarterly poster campaigns), investigating, tracking, and correcting ethics, compliance, and corruption allegations.</li> <li>• We report statistics to the Officers and Senior Leaders monthly, and present detailed overviews to the Board quarterly.</li> <li>• We conduct third-party due diligence when adding new vendors to confirm that vendors and representatives comply with all applicable laws and regulations, and with our policies. This due diligence is re-done periodically based on a risk matrix evaluation.</li> <li>• Periodic audits are conducted at Huntsman sites.</li> </ul>

**Membership Associations** | GRI 2-28 | CDP C.12 |  
Huntsman is a member of the following associations:



American Chemistry Council



European Chemical Industry Council (CEFIC)














China Petroleum and Chemical Industry Federation

# Stakeholder Engagement

| GRI 2-29 | CDP C.12 | TCFD Metrics and Targets C |

We engage with our stakeholders to identify actual and potential impacts of our operations, and to determine prevention and mitigation responses to potential negative impacts. The following table outlines our stakeholder categories, how we assess their concerns, communicate with stakeholders, and measure engagement effectiveness.

Stakeholder Category	Methods to Assess Concerns	Communication Channels	Methods to Measure Effectiveness
 <b>Employees</b>	<ul style="list-style-type: none"> <li>Human Resources Department</li> <li>Employee Helpline</li> <li>Division EHS Business Partners</li> <li>Site EHS Leadership</li> </ul>	<ul style="list-style-type: none"> <li>EHS Scorecards</li> <li>Sustainability Report</li> <li>Training</li> <li>EHS Conferences</li> <li>CEO Awards</li> <li>Huntsman Intranet</li> <li>Global Emails</li> </ul>	<ul style="list-style-type: none"> <li>Management Review</li> <li>Employee Surveys</li> <li>EHS Scorecards/Targets</li> <li>Horizon 2025 Progress Review</li> </ul>
 <b>Contractors</b>	<ul style="list-style-type: none"> <li>Site EHS Leadership</li> <li>Division EHS Business Partners</li> <li>Purchasing/Contracts</li> </ul>	<ul style="list-style-type: none"> <li>Site EHS Leadership</li> <li>Division EHS Business Partners</li> <li>Purchasing/Contracts</li> </ul>	<ul style="list-style-type: none"> <li>Site EHS Performance Review</li> <li>EHS Scorecards/Targets</li> <li>Horizon 2025 Progress Review</li> </ul>
 <b>Huntsman Board of Directors</b>	<ul style="list-style-type: none"> <li>Quarterly Meetings/Reviews</li> </ul>	<ul style="list-style-type: none"> <li>EHS Scorecards</li> <li>Sustainability Report</li> <li>Quarterly Meetings/Reviews</li> </ul>	<ul style="list-style-type: none"> <li>Management Review</li> <li>EHS Scorecards/Targets</li> <li>Horizon 2025 Progress Review</li> </ul>
 <b>Investment Community</b>	<ul style="list-style-type: none"> <li>Direct Engagement with Investors</li> </ul>	<ul style="list-style-type: none"> <li>Investor analytics reporting (e.g., MCSI, Sustainalytics, EcoVadis, ISS)</li> <li>Sustainability Report</li> <li>Disclosures on Climate (CDP)</li> <li>Horizon 2025 Targets</li> </ul>	<ul style="list-style-type: none"> <li>Investor Ratings</li> <li>Management Review</li> <li>Horizon 2025 Progress</li> <li>TCFD Reporting (Beginning in 2022)</li> </ul>
 <b>Customers</b>	<ul style="list-style-type: none"> <li>Customer Surveys/Audits</li> <li>Customer Service</li> <li>Product Safety Hotline</li> </ul>	<ul style="list-style-type: none"> <li>Product Information (Material Safety Data Sheets, Labeling)</li> <li>Product Safety Summaries</li> <li>Sustainability Report</li> <li>Sales Contact</li> </ul>	<ul style="list-style-type: none"> <li>Customer Surveys (Division Communication Teams)</li> </ul>

Stakeholder Category	Methods to Assess Concerns	Communication Channels	Methods to Measure Effectiveness
 <b>Suppliers</b>	<ul style="list-style-type: none"> <li>• Vendor Code of Conduct</li> <li>• Ethics Screening</li> <li>• Purchasing/Contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Vendor Code of Conduct</li> <li>• Ethics Screening</li> <li>• PEHS Supplier Questionnaire</li> <li>• Vendor Safety Data Sheet (SDS) System</li> </ul>	<ul style="list-style-type: none"> <li>• Supplier ESG-CSR Management System (Under Development)</li> <li>• Polyurethanes Industrial Hygiene Assessments</li> </ul>
 <b>Community (at Large)</b>	<ul style="list-style-type: none"> <li>• Huntsman Website Contact Link</li> </ul>	<ul style="list-style-type: none"> <li>• Huntsman Website</li> <li>• Social Media</li> <li>• Sustainability Report</li> <li>• Horizon 2025 Targets</li> </ul>	<ul style="list-style-type: none"> <li>• Huntsman Website Analytics</li> <li>• Huntsman Website Feedback Survey</li> </ul>
 <b>Community (Near Neighbors)</b>	<ul style="list-style-type: none"> <li>• Community Advisory Panels (CAPs)</li> <li>• Chambers of Commerce</li> <li>• Fire Department Tours</li> <li>• Local Memberships, such as Local Emergency Planning Committees (LEPCs)</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate Crisis Plan</li> <li>• Site Emergency Response Plans</li> <li>• Community Advisory Panels</li> <li>• Chambers of Commerce</li> <li>• Fire Department Tours</li> <li>• Local Emergency Planning Committees</li> <li>• Phone Contact</li> <li>• Social Media</li> <li>• Huntsman Website</li> </ul>	<ul style="list-style-type: none"> <li>• Feedback During Outreach Activities</li> <li>• Charitable Activities</li> <li>• Huntsman Website Analytics</li> </ul>
 <b>Regulatory Agencies</b>	<ul style="list-style-type: none"> <li>• Direct Engagement with Regulators</li> </ul>	<ul style="list-style-type: none"> <li>• Direct Engagement with Regulators</li> </ul>	<ul style="list-style-type: none"> <li>• Direct Feedback</li> </ul>
 <b>Government Officials</b>	<ul style="list-style-type: none"> <li>• Government Affairs Team</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainability Report</li> <li>• Government Affairs Team</li> </ul>	<ul style="list-style-type: none"> <li>• Direct Feedback</li> </ul>
 <b>Chemical Industry Affiliates</b>	<ul style="list-style-type: none"> <li>• Memberships with National Organizations and Trade Associations (such as ACC)</li> <li>• ACC Committee Involvement</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainability Report</li> <li>• Membership Reporting (ACC)</li> <li>• ACC Committee Involvement</li> </ul>	<ul style="list-style-type: none"> <li>• Trade Shows</li> <li>• Industry Benchmarking (ACC)</li> </ul>



# Materiality

## Process to Determine Material Topics

Huntsman conducted a materiality review in 2021 and updated our disclosure accordingly. We have applied the new 2021 Global Reporting Initiative (GRI) standard, using the single dimension of the potential impact of a material topic to our stakeholders in the context of our activities, business relationships (including but not limited to suppliers and customers), and the sustainability context of our business.

**This sustainability context includes our potential impacts to the planet, people (including human rights), and prosperity of our stakeholders.**

In assessing materiality of topics, we considered not only the near-term and long-term potential impacts, but also the potential severity and potential likelihood of the impacts. We considered both direct and indirect roles that Huntsman could play in these potential impacts.

The material topics are reviewed and approved by the Sustainability Council and Executive Sustainability Committee, and are reviewed by the Board Sustainability Committee.

Our review included discussions and consultations with stakeholders and experts

| GRI 3-1 | TCFD Risk Management A |  
| TCFD Risk Management B |

(such as our customers, internal experts, and management) through our internal risk assessment process, employees, and investors. We took further input from the Sustainability Accounting Standards Board (SASB) materiality map for the chemical sector, and from external sustainability rating organizations, benchmarking with our peers, and macro trends, both for our industry and more broadly.

We apply GRI Disclosure 3-3 to report how we manage material topics.



# Topics

| GRI 3-2 |

Our material topics have been organized along the World Economic Forum’s sustainability framework of “Planet, People, Prosperity, and Principles of Governance.”

Please note that “Principles of Governance” is covered both in our discussion of governance for sustainability-related topics (please refer to “Sustainability Governance”) and our corporate governance disclosures (please refer to the GRI Index).

**Changes in material issues from our last Sustainability Report include:**

- ➖ Removal of Corporate Governance, which is now included in Governance disclosures
- ➖ Removal of Ethics and Compliance, which is now included in Governance disclosures
- ➖ Removal of Releases and Spills, which is now referred to as Loss of Containment and disclosed under the topic of Process Safety
- ➖ Removal of Substances of Concern, which is now disclosed under Product Stewardship
- ⓘ Splitting Air Quality from Greenhouse Gases
- ➕ Adding of Circularity
- ➕ Adding of Community Relations
- ➕ Adding of Diversity, Equity, and Inclusion



# Planet



**Huntsman understands our responsibility to be environmental stewards.**

Our solutions enable sustainability. However, it is important that we are as efficient as possible, and that we work to protect the environment as we make those solutions possible.

The following section describes how we manage the material environment aspects of our business, along with our progress to improve our operations.



# Greenhouse Gases

## Management of the Topic

| [GRI 3-3](#) | [SASB RT-CH-110a.2](#) | [CDP C.4](#) | [CDP C.5](#) | [TCFD Governance A](#) | [TCFD Governance B](#) | [TCFD Strategy A](#) | [TCFD Strategy B](#) | [TCFD Risk Management A](#) | [TCFD Risk Management B](#) | [TCFD Metrics and Targets A](#) | [TCFD Metrics and Targets B](#) | [TCFD Metrics and Targets C](#) |

Huntsman has pursued a transformation strategy to deliver sustainable solutions to the world. We have targeted our efforts to address our customers’ needs for innovation, sustainability, and reduced carbon footprints. As highlighted in our Who We Are section, Huntsman’s products enable a net-carbon-neutral future.

Our manufacturing operations require large amounts of energy to power processing units, machinery, and non-manufacturing facilities. Given that a substantial portion of our energy supply comes from non-renewable sources, our energy consumption generates greenhouse gas emissions both at our sites and for those entities that provide steam and electricity to our sites. We also emit greenhouse gases from our processes. We do not sell greenhouse gases.

It is important to note that the amount of greenhouse gases required to produce Huntsman’s products is dwarfed by the carbon savings that our products generate. However, Huntsman understands the need for sensible reductions of all sources of greenhouse gases, and we are committed to reducing our operational greenhouse emissions. Our Horizon 2025 goals include a target to reduce greenhouse gas intensity by 10% from

our 2019 baseline by 2025. Working toward this goal also supports our energy and water reduction targets. We continually identify opportunities to reduce our greenhouse gas emissions, either by reducing energy

demand (please see Energy) or by procuring renewable energy when it makes economic sense to do so.

Longer term, by 2050, Huntsman aims to have a net-zero greenhouse gas emissions intensity, as determined by greenhouse gas emissions in carbon dioxide equivalent (CO<sub>2</sub>e) per unit of sales production. This includes both our Scope 1 (direct) and market-based Scope 2 (indirect) emissions.

We are in the process of developing options for our low-carbon transition plan, and will evaluate those options based on a myriad of factors, including but not limited to:

- Pace of technology
- De-carbonization of electricity supply and transportation
- Carbon capture, storage, and use
- Public policies, regulations, and infrastructure development

Projects for the transition plan include but are not limited to:

- Electrification of equipment (e.g., boilers)
- Recycling steam for energy
- Replacing fuel oil use with natural gas as infrastructure becomes available
- Working with steam suppliers on plans to reduce or eliminate carbon from steam generation
- Procuring renewable electricity

This transition plan will be shared in our next Sustainability Report.

In addition to our operational emissions, we aim to engage our top suppliers and service providers, including transportation-related providers, on efforts to reduce emissions through our value chain.

Our aim is that our suppliers and service providers, whom we estimate constitute two-thirds of our non-product-use Scope 3 emissions, will establish their own carbon-neutral goals by 2027.

Efforts are underway to estimate our Scope 3 emissions. Once these estimates are complete, we will develop a supplier engagement plan and timeline to work toward the 2027 engagement target referenced above. Leased office space and warehouses, outside our operational control, are excluded from our Scope 1 and Scope 2 emissions but will be included in our Scope 3 emissions inventory.

Our sites measure and report energy consumption, including the type of energy consumed for on-site operations, as well as purchased electricity, heating, cooling and steam, energy generated but not consumed, and energy sold. We apply local factors to energy consumed to determine greenhouse gas emissions from our energy use. We also estimate our process-related emissions by using sound engineering methods.

Of the Kyoto gases, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and hydrofluorocarbons (HFC's) are relevant. All forms of greenhouse gases are converted to CO<sub>2</sub>e emissions, using the standard of the Intergovernmental Panel on Climate Change (IPCC) Assessment Report (AR) 5 (or IPPC AR5) for the 100-year time horizon global warming potentials (GWPs) relative to carbon dioxide (where CO<sub>2</sub> =1). We divide total CO<sub>2</sub>e emissions by sold production to determine intensity.

**Horizon 2025 target**

**↓ 10%**

**reduction in greenhouse gas emissions intensity**

 **2021 Greenhouse Gas Intensity**  
intensity was 0.406 metric tons of CO<sub>2</sub>e per ton of sold product

**↓ 9.6%**  
lower than 2019 baseline

# Direct (Scope 1) Emissions

| [GRI 305-1](#) | [SASB RT-CH-110a.1](#) | [CDP C.6](#) | [CDP C.7](#) |  
| [TCFD Metrics and Targets B](#) |

The following tables show gross direct (Scope 1) greenhouse gas emissions in metric tons of CO<sub>2</sub> equivalent within Huntsman. These include emissions from all sources where Huntsman exercised operational control. All the emissions apply to the chemical sector. None of these emissions are the result of biogenic sources. The tables break down emissions by type, region, and division.

## Direct Greenhouse Gas Emissions by Type (t) and (t of CO<sub>2</sub>e)

| [GRI 305-1](#) |

Greenhouse Gas Type	2017		2018		2019		2020		2021	
	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)
Carbon Dioxide (CO <sub>2</sub> )	239,991	239,991	242,799	242,799	227,756	227,756	216,691	216,691	236,943	236,943
Methane (CH <sub>4</sub> )	7	187	7	183	5	139	6	156	6	162
Nitrous Oxide (N <sub>2</sub> O)	2	425	1	388	2	495	8	2,193	3	733
HFC's	59	64,463	96	97,642	118	113,380	105	102,765	68	66,732
<b>Total Kyoto Protocol Gases</b>	<b>240,059</b>	<b>305,066</b>	<b>242,903</b>	<b>341,012</b>	<b>227,881</b>	<b>341,770</b>	<b>216,810</b>	<b>321,805</b>	<b>237,020</b>	<b>304,570</b>
Non-Kyoto Protocol Gases	31	30,843	31	31,410	41	41,171	45	39,485	46	40,967
<b>Total</b>	<b>240,090</b>	<b>335,909</b>	<b>242,934</b>	<b>372,422</b>	<b>227,922</b>	<b>382,941</b>	<b>216,855</b>	<b>361,290</b>	<b>237,066</b>	<b>345,537</b>

## Direct Greenhouse Gas Emissions by Region (t of CO<sub>2</sub>e)

| [GRI 305-1](#) |

Region	2017	2018	2019	2020	2021
Americas	225,382	263,386	274,563	265,663	246,661
Europe, Middle East, and Africa	80,006	81,673	91,002	83,466	82,094
Asia Pacific	30,521	27,363	17,376	12,161	16,782
<b>Total</b>	<b>335,909</b>	<b>372,422</b>	<b>382,941</b>	<b>361,290</b>	<b>345,537</b>

## Direct Greenhouse Gas Emissions by Division (t of CO<sub>2</sub>e)

| [GRI 305-1](#) |

Energy Type	2017	2018	2019	2020	2021
Polyurethanes	146,247	179,380	202,253	186,047	152,005
Performance Products	89,366	98,072	93,475	89,788	103,777
Advanced Materials	63,746	62,549	67,255	67,967	67,887
Textile Effects	36,550	32,421	19,958	17,488	21,868
<b>Total</b>	<b>335,909</b>	<b>372,422</b>	<b>382,941</b>	<b>361,290</b>	<b>345,537</b>

# Indirect (Scope 2) Emissions

| GRI 305-2 | CDP C.6 | CDP C.7 | TCFD Metrics and Targets B |

The following tables show both gross location-based and gross market-based energy indirect (Scope 2) greenhouse gas emissions in metric tons of CO<sub>2</sub> equivalent within Huntsman. These include emissions from sources where Huntsman exercised operational control. All emissions apply to the chemical sector. The tables break down emissions by type, as well as by region and division.

The sites update the factors for other fuels, non-combustion process emissions, purchased electricity, and purchased steam, at least

annually, or when there is a material change in operational conditions. The factors are applied to both annual and monthly metrics to calculate energy consumption and greenhouse gas emissions. Whenever possible, local parameters will be used for the most accurate reporting. For some sites, this may only be possible at the national level.

Some imported grid electricity will include “location-based” and “market-based” parameters. Location-based is the location where

the electricity is physically generated. Market-based parameters account for agreements the company may enter with an electricity provider to purchase more renewable energy as a portion of the supplied electricity. When a site has entered into an agreement with an electricity provider to purchase a larger share of electricity from renewable sources, the site shall obtain a certification from the electricity provider that attests to the validity of the supplied renewable energy.

Indirect Greenhouse Gas Emissions by Type (t) and (t of CO<sub>2</sub>e)

| GRI 305-2 |

Greenhouse Gas Type		2017		2018		2019		2020		2021	
		(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)	(t)	(t of CO <sub>2</sub> e)
Location Based	Carbon Dioxide (CO <sub>2</sub> )	754,413	754,413	762,984	762,984	757,205	757,205	682,781	682,781	780,716	780,716
	Methane (CH <sub>4</sub> )	24	681	24	673	23	640	20	557	22	624
	Nitrous Oxide (N <sub>2</sub> O)	4	1,042	4	1,028	4	939	4	804	4	900
	<b>Total</b>	<b>754,441</b>	<b>756,136</b>	<b>763,012</b>	<b>764,685</b>	<b>757,232</b>	<b>758,784</b>	<b>682,805</b>	<b>684,142</b>	<b>780,742</b>	<b>782,240</b>
Market Based	Carbon dioxide (CO <sub>2</sub> )	837,192	837,192	821,722	821,722	799,766	799,766	718,135	718,135	773,774	773,774
	Methane (CH <sub>4</sub> )	24	682	24	673	23	638	19	544	21	583
	Nitrous Oxide (N <sub>2</sub> O)	4	1,049	4	1,032	4	936	4	770	4	792
	<b>Total</b>	<b>837,220</b>	<b>838,923</b>	<b>821,750</b>	<b>823,427</b>	<b>799,793</b>	<b>801,340</b>	<b>718,158</b>	<b>719,449</b>	<b>773,799</b>	<b>775,149</b>

**Indirect Greenhouse Gas Emissions by Region** (t of CO<sub>2</sub>e)

| GRI 305-2 |

Regions		2017	2018	2019	2020	2021
Location Based	Americas	409,039	408,231	402,574	355,128	417,908
	Europe, Middle East, and Africa	274,560	261,872	257,452	237,747	258,627
	Asia Pacific	72,537	94,582	98,758	91,267	105,705
	<b>Total</b>	<b>756,136</b>	<b>764,685</b>	<b>758,784</b>	<b>684,142</b>	<b>782,240</b>
Market Based	Americas	462,563	437,295	414,246	378,955	433,666
	Europe, Middle East, and Africa	303,822	291,550	288,337	249,225	235,779
	Asia Pacific	72,538	94,582	98,757	91,269	105,704
	<b>Total</b>	<b>838,923</b>	<b>823,427</b>	<b>801,340</b>	<b>719,449</b>	<b>775,149</b>

**Indirect Greenhouse Gas Emissions by Division** (t of CO<sub>2</sub>e)

| GRI 305-2 |

Energy type		2017	2018	2019	2020	2021
Location Based	Polyurethanes	520,881	536,296	508,971	484,312	536,019
	Performance Products	139,383	126,716	141,029	110,683	144,506
	Advanced Materials	64,731	72,644	81,952	71,515	77,407
	Textile Effects	31,141	29,029	26,832	17,632	24,308
	<b>Total</b>	<b>756,136</b>	<b>764,685</b>	<b>758,784</b>	<b>684,142</b>	<b>782,240</b>
Market Based	Polyurethanes	581,967	581,374	541,146	507,307	519,948
	Performance Products	149,213	133,621	143,428	114,842	147,856
	Advanced Materials	74,284	77,205	88,210	78,090	81,250
	Textile Effects	33,459	31,227	28,556	19,210	26,095
	<b>Total</b>	<b>838,923</b>	<b>823,427</b>	<b>801,340</b>	<b>719,449</b>	<b>775,149</b>

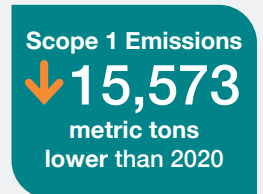
## Other Indirect (Scope 3) Greenhouse Gas Emissions

| GRI 305-3 | CDP C.6 | CDP C.7 | CDP C-CH7.8 |  
| TCFD Metric and Targets B |

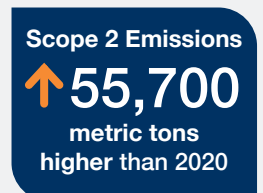
In addition to our operational emissions, we aim to engage our top suppliers and service providers, including transportation-related providers, on efforts to reduce emissions through our value chain. Our aim is that our suppliers and service providers, whom we estimate constitute two-thirds of our non-product-use Scope 3 emissions, will establish their own carbon-neutral goals by 2027.

Efforts are underway to estimate our Scope 3 emissions. Once these estimates are complete, we will develop a supplier engagement plan and timeline to work toward the 2027 engagement target. In 2023, we will begin disclosing our Scope 3 estimates, along with our estimate of how much of our Scope 3 emissions are covered by carbon-neutral goals, and our supplier and service provider engagement.

In 2021, our Scope 1 emissions decreased by 15,573 metric tons as compared to 2020. This change was driven primarily by a significant reduction in non-methane volatile organic compounds (VOCs) from 2020 to 2021 at our Kuan Yin, Thailand, site, and the closing of two of our sites in North America.



In 2021, our Scope 2 (market-based) emissions increased 55,700 metric tons as compared to 2020. This change was driven primarily by growth at our facilities in Geismar, Louisiana, and in Freeport, Texas, as well as additional utility loads at our Freeport and Conroe, Texas, plants due to winter storms. This increase was partially offset by an extension, in the Netherlands, of our Rotterdam site's renewable purchase agreement from 9 months to a full year.



# Greenhouse Gas Emissions Intensity

| GRI 305-4 | CDP C.6 | CDP C.7 | TCFD Metrics and Targets B |

Our emission intensity target is based on Scope 1 emissions and market-based Scope 2 emissions. All greenhouse gases are included for Scope 1 emissions, while carbon dioxide, methane, and nitrous oxide are included for Scope 2 emissions.

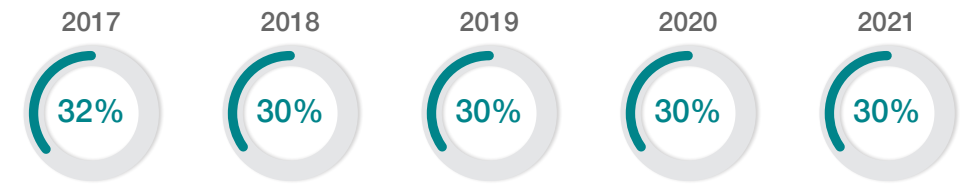
Our base year is 2019 per our Horizon 2025 targets. The intensity for our base year was 0.452 metric tons of CO<sub>2</sub>e per metric ton of sold products.

## Emissions Intensity (t of CO<sub>2</sub>e) | GRI 305-4 |

	2017	2018	2019	2020	2021
<b>Scope 1</b>	0.129	0.137	0.146	0.139	0.126
<b>Scope 2</b>					
Location Based	0.291	0.282	0.290	0.263	0.286
Market Based	0.322	0.303	0.306	0.277	0.283
<b>Scope 1 + Scope 2 (Market Based)</b>	<b>0.451</b>	<b>0.440</b>	<b>0.452</b>	<b>0.416</b>	<b>0.409</b>

The following table shows the percentage of Scope 1 and location-based Scope 2 emissions that are regulated.

## Share of Emissions Covered by Regulations (%)



In 2021, our Scope 1 plus Scope 2 (market-based) greenhouse gas emissions intensity decreased by 0.007 metric tons of CO<sub>2</sub>e per metric ton of sold product as compared to 2020. This change was driven by a significant reduction in non-methane volatile organic compounds from 2020 to 2021 at our Kuan Yin, Thailand, site, and by the closing of two of our sites in North America, as well as an extension of our Rotterdam renewable energy purchase, offset by growth at our Geismar, Louisiana, and Freeport, Texas, sites and additional energy demands due to winter storms at our Freeport and Conroe sites in Texas.

**Scope 1 & Scope 2 emissions**  
↓ **0.007**  
metric tons lower than 2020

# Reduction of Greenhouse Gas Emissions

| GRI 305-5 |

Our Rotterdam site has extended its electricity contract to buy certified green electricity for Huntsman and third parties at the site. **The total savings per year are approximately 42,000 tons CO<sub>2</sub>e**, of which 80%, or approximately 34,000 tons, are attributable to Huntsman. These reductions are Scope 2, primarily CO<sub>2</sub>.

Our Advanced Materials and Textile Effects teams in Panyu, China, identified and implemented several projects to share utilities across the site for compressed air, nitrogen, and backup chilled water, which significantly reduced power consumption. **The result was a reduction of 619 tons of CO<sub>2</sub>e**, primarily Scope 2 CO<sub>2</sub>.

## Task Force on Climate-related Financial Disclosures

The Task Force on Climate-related Financial Disclosures (TCFD) helps companies understand what financial markets want from disclosure in order to measure and respond to the effects of climate change.

Huntsman committed to adopt and disclose according to the TCFD framework in our 2020 Sustainability Report. For the first time, we are providing an index that provides the location of Huntsman's information related to the TCFD framework, categorized by Governance, Strategy, Risk Management, and Metrics and Targets.

# Energy Management

## Our Approach

| GRI 3-3 | SASB RT-CH-130a.1 | CDP C.4 | CDP C.8 | CDP C.9 |  
| TCFD Metrics and Targets A | TCFD Metrics and Targets C |

Our manufacturing operations require large amounts of energy to power processing units, machinery, and non-manufacturing facilities. Our primary energy sources are purchased natural gas for non-feedstock fuel to power on-site processing units and generate steam, purchased steam generated offsite, and purchased electricity generated offsite. Our energy comes from both non-renewable and renewable sources. Energy consumption can contribute to water demand and air emissions. Reduction in energy demand results in financial savings and fewer environmental impacts.

Huntsman is committed to energy efficiency, and our Horizon 2025 goals include a target to reduce energy intensity by 10% from 2019 by 2025. Working toward this goal also supports our greenhouse gas and water reduction targets.

We continually evaluate energy usage at our sites, including identifying opportunities to improve the efficiency of steam and electricity generation, heat requirements, and production processes. Improvements can come in the form of renewal of

our equipment at its end of life with higher energy efficiency replacements and targeted investments to reduce energy consumption. We have also engaged electricity providers regarding the procurement of renewable electricity to lower the carbon footprint of our operational emissions.

Our sites measure and report energy consumption, including the type of energy consumed for on-site operations, as well as purchased electricity, heating, cooling and steam, energy generated but not consumed, and energy sold.

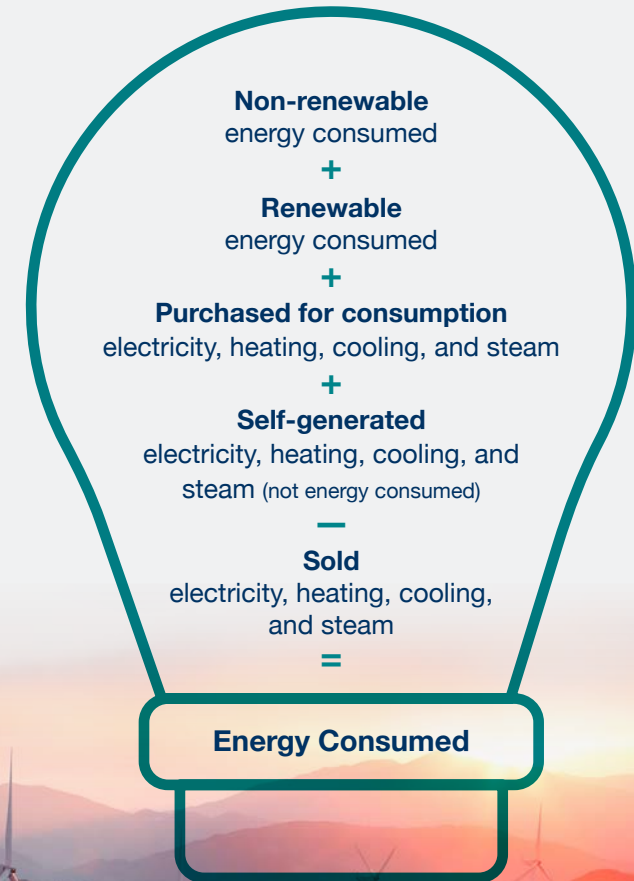
All forms of energy are converted to gigajoules (GJ) by using standard conversion factors and applying assumptions to the energy content of purchased fuels if not provided by the energy supplier. Energy consumed is divided by sold production to determine intensity.

Horizon 2025 target  
↓ **10%**  
reduction in energy consumption intensity

 **2021 Energy Intensity**  
was 5.93 gigajoules per ton of sold product

↑ **5.0%**  
higher than 2019 baseline




Our calculation for energy consumed is as follows:






# Energy Consumption Within Huntsman

| GRI 302-1 |

The following tables show energy consumption within Huntsman.

	2017	2018	2019	2020	2021	
 <b>Non-renewable fuel consumption (GJ)</b>   GRI 302-1.a	Natural Gas	12,031,754	12,465,581	12,796,922	11,843,432	13,300,973
	Liquified Petroleum Gas (LPG)	100,683	115,837	96,871	94,442	106,581
	Distillate Fuel Oil (DFO)	107,821	75,269	77,163	85,534	92,588
	Residual Fuel Oil (RFO)	164,876	72,277	3,533	1,754	2,152
	Coal	666,210	688,677	494,847	345,411	378,941
	Coke	–	–	–	–	–
	Other	545,356	505,367	474,796	474,860	1,125,390
	Nuclear	348,877	391,976	440,464	376,096	405,270
<b>Total Non-Renewable Fuel Consumption</b>	<b>13,965,577</b>	<b>14,314,984</b>	<b>14,384,596</b>	<b>13,221,529</b>	<b>15,411,895</b>	
 <b>Renewable fuel consumption (GJ)</b>   GRI 302-1.b	Wind	143,784	134,786	146,560	196,743	220,091
	Solar	30,914	42,582	51,817	66,170	74,733
	Hydroelectric	116,490	118,212	124,423	116,247	144,576
	Geothermal	2,592	2,161	2,008	1,758	2,227
	Biogenic Mass	74,500	67,127	69,106	81,482	90,419
	Wave/Tidal	–	–	–	–	–
	Non-Specified Renewable	161	149	11,058	42,957	305,018
	<b>Total Renewable Fuel Consumption</b>	<b>368,441</b>	<b>365,017</b>	<b>404,972</b>	<b>505,357</b>	<b>837,064</b>
 <b>Energy purchased and consumed (GJ)</b>   GRI 302-1.c	Electricity	2,666,979	2,690,988	2,747,658	2,679,619	2,981,296
	Heating	4,407,128	4,599,677	4,559,326	4,237,028	5,401,105
	Cooling	–	–	–	–	–
	Steam	7,259,911	7,389,336	7,482,584	6,810,239	7,866,558
	<b>Total</b>	<b>14,334,018</b>	<b>14,680,001</b>	<b>14,789,568</b>	<b>13,726,886</b>	<b>16,248,959</b>

		2017	2018	2019	2020	2021
 <b>Energy sold (GJ)</b>   GRI 302-1.d	Electricity	N/A	N/A	48	100	73
	Heating	N/A	N/A	-	-	-
	Cooling	N/A	N/A	-	-	-
	Steam	N/A	N/A	28,083	5,461	28,039
	<b>Total</b>	-	-	<b>28,131</b>	<b>5,561</b>	<b>28,112</b>
 <b>Total energy consumption (GJ)</b>   GRI 302-1.e   RT-CH-130a.1.1     CDP 7.5	Total	14,334,018	14,680,001	14,789,568	13,726,886	16,248,959
	Total Self-Generated	2,123,689	1,945,497	2,317,739	2,136,445	3,088,533
	Market-Based	-	-	30,101	273,038	435,754
 <b>Energy consumption shares (%)</b>   RT-CH-130a.1.2     RT-CH-130a.1.3     RT-CH-130a.1.4   CDP 8.1	Grid Electricity to Total Electricity	100.0%	99.1%	99.3%	99.3%	99.9%
	Renewable Energy to Total Energy	2.6%	2.5%	2.7%	3.7%	5.2%
	Energy Spend to Operational Spend	< 5%	< 5%	< 5%	< 5%	< 5%

In calculating energy consumption from fuels and biofuels, we use higher heating values (HHVs), also known as gross calorific values (GCVs), which are directly measured (when available), or we apply heat values from the Greenhouse Gas (GHG) Emissions Calculation Tool provided by the Greenhouse Gas Protocol and WRI. We use well-established conversion factors to convert both heating values and watts to joules.

## Energy Consumption Outside of Huntsman

| GRI 302-2 |

Huntsman has not reported Scope 3 energy consumption in the past. However, in 2022, we are starting to measure our Scope 3 impacts, including energy consumption along our value chain.

In 2021, our energy consumption increased by 2,522,073 GJ as compared to 2020. This change was driven by growth in our

Geismar, Louisiana, and Freeport, Texas, sites; higher energy demand at our Conroe and Freeport sites in Texas due to Winter Storm Yuri in February 2021; and an increase in net steam usage at our Wilton, England, site in the UK, which was partially offset by changes in our production mix.



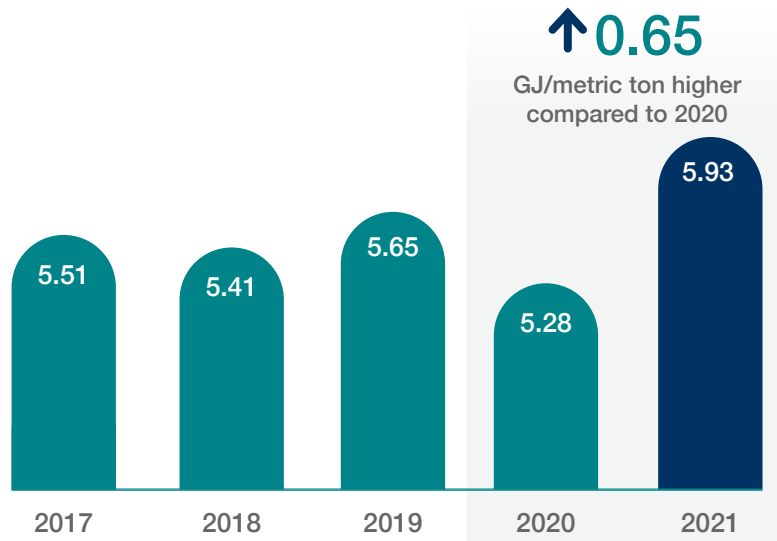
## Energy Intensity

| GRI 302-3 | SASB RT-CH-130a.1 |

We determine our energy intensity, using sales of production in metric tons as our denominator. Our energy intensity measure includes all types of energy for our operational emissions (Scope 1 and Scope 2).

**Energy Intensity** (GJ/metric ton)

| GRI 302-3 | SASB RT-CH-130a.1 |



In 2021, our energy intensity increased by 0.65 gigajoules per metric ton of sold product as compared to 2020. This change was driven primarily by higher energy demand at our Conroe and Freeport sites in Texas due to Winter Storm Yuri in February 2021, along with both increases in Geismar energy demand due to production growth and an increase in net steam usage at our Wilton, England, site in the UK, which was partially offset by changes in our production mix.



## Reduction of Energy Consumption

| GRI 302-4 | GRI 302-5 |

Our Panyu, China, site, jointly run by our Advanced Materials and Textile Effects divisions, applied both separation-to-combination or combination-to-separation approaches to site operations to reduce both environmental impact and costs at the site. This included a reduction of energy consumption of

over a million kilowatt hours of energy consumption.

Reductions in energy requirements of our products and services are not applicable to Huntsman, as we are a provider of chemicals used in products.

# Water Management

## Management of the Topic

| GRI 3-3 | GRI 303-1 | SASB RT-CH-140a.3 |

Water quality is an important issue for Huntsman as a responsible member of the communities in which we operate. We recognize that water is a shared resource. Plans for water usage, including consideration of broader community and industrial water needs, are developed at the site level in line with regulatory permit conditions and local regulations.

Horizon 2025 target

**↓5%**

in net water usage intensity at facilities in water-stressed regions

Our Horizon 2025 targets include a 5% reduction in net water usage intensity at facilities in water-stressed regions of the world, per unit of production. Working with a leading international consulting firm, we completed an updated global water study, following our previous study commissioned in 2014. Utilizing two leading water risk models (World Wildlife Fund's Water Risk Filter, and World Resources Institute's Aqueduct model), we evaluated multiple drivers of water stress, including baseline water stress, scarcity, flooding, drought, quality, ecosystem services, seasonal variability, biodiversity importance, groundwater table decline, and governance.

Focusing on three drivers – baseline water stress, drought risk, and overall basin risk – and considering trends in average annual net water usage, we identified sites considered to be operating in water-stressed regions. All facilities are encouraged to incorporate the results of the study and to assess their site-specific

profile as they consider potential water risks relative to their location with the intent to increase resilience and improve long-term planning.

Water can be withdrawn from multiple sources. Most of the water that we use is withdrawn from surface water sources, including lakes and rivers.

We recognize that withdrawal and discharge sources typically differ, and that consumption is more precisely tracked by considering withdrawals and discharges for individual aquifers. We do not currently track data at this level of detail.

Our water withdrawal includes water purchased from third parties. We do not include water use at smaller facilities, such as leased offices, due to materiality.



**2021 Water Consumption**  
in regions of water-stress intensity was 0.65 megaliters (ML) per ton of sold product

**↓65%**  
lower than 2019 baseline

**We calculate water consumption as:**

Aggregate Water Withdrawals

–

Aggregate Water Discharges

=

**Water Consumption**  
(Net Water Usage)

# Management of Water-Discharge-Related Impacts

| GRI 303-2 | SASB RT-CH-140a.2 | SASB RT-CH-140a.3 |

**Our EHS Management System includes standards and procedures for the management of effluent water quality at our sites.**

All manufacturing sites are required to report multiple effluent water quality metrics, including organics, inorganics, solids, and others. We are complying with — and, in many cases, exceeding — increasingly strict water quality standards. We understand the connection between water quality and water scarcity. Keeping water clean goes together with the efficient use of water.

In the accompanying tables, our chemical oxygen demand (COD) indirectly measures the quantity of organic

compounds in water. COD is a laboratory test to determine whether a specific wastewater will have a significant adverse effect on fish or aquatic plant life. We use COD as a broad measure of the effects that our effluent will have on a receiving water body. COD accounts for the highest proportion of our water loads. We consider COD our primary measure for substance of concern from our effluents.<sup>1</sup>

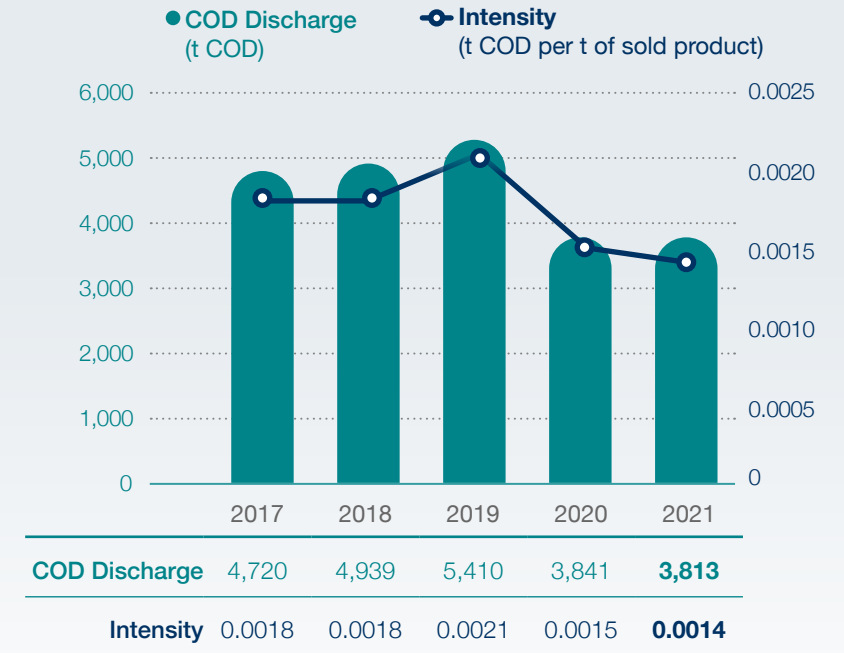
In 2021, our water discharge intensity decreased by 6% as compared to 2020. This change was driven by a 5% increase in our sold product with a 1% decrease in COD. The decrease in COD was driven by lower COD levels at our Wilton, England, site, offset by small increases from a variety of sites due to production growth.

Our effluent standards are determined on a site-by-site basis based on local permits or regulations. Non-compliance is deemed to occur if a site has exceeded permit or regulatory limits. In 2021, we had 13 incidents of non-compliance involving water discharges exceeding COD limits of a discharge permit.<sup>1</sup>



<sup>1</sup> These paragraphs relate to GRI 303.3

## COD Discharge and Intensity | GRI 303-2 |



**2021 water discharge intensity**

**↓ 6%**  
lower than 2020



# Water Data

| [GRI 303-3](#) | [GRI 303-4](#) | [GRI 303-5](#) | [SASB RT-CH-140a.1](#) |

The following is a list of our sites operating in regions that we have determined to be water stressed.

- 📍 Brazil**  
Taboão da Serra
- 📍 Mexico**  
Atotonilquillo
- 📍 U.S.**  
Arlington, TX  
Conroe, TX  
Freeport, TX  
Los Angeles, CA
- 📍 China**  
Panyu
- 📍 Saudi Arabia**  
HAPC Dammam
- 📍 Thailand**  
Bangkok (Mahachai)  
Samut Prakan
- 📍 Vietnam**  
Ho Chi Minh City
- 📍 India**  
Baroda  
Mumbai  
Pune
- 📍 UAE**  
Dubai
- 📍 UK**  
Wilton, England
- 📍 Italy**  
Modena



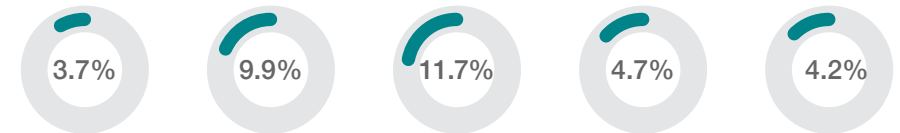
The following table shows water withdrawal, discharge, and consumption for Huntsman in total and for those regions of water stress in which we operate.

## Water Withdrawals, Discharges, and Consumption in Megaliters (ML)

| [GRI 303-3](#) | [GRI 303-4](#) | [GRI 303-5](#) |

		2017	2018	2019	2020	2021
<b>Total</b>	<b>Withdrawal (ML)</b>	19,332,941	20,120,901	20,081,873	18,799,136	20,133,839
	<b>Discharge (ML)</b>	14,151,472	14,759,816	15,286,135	14,123,459	15,116,906
	<b>Consumption (ML)</b>	5,181,469	5,361,085	4,795,738	4,675,677	5,016,933
	<b>Intensity (ML consumption per t of sold product)</b>	1.99	1.97	1.83	1.80	1.83
<b>Regions of Water Stress</b>	<b>Withdrawal (ML)</b>	3,725,538	3,751,375	3,533,678	3,348,145	3,852,659
	<b>Discharge (ML)</b>	3,534,002	3,218,500	2,974,132	3,127,240	3,641,029
	<b>Consumption (ML)</b>	191,536	532,875	559,546	220,905	211,629
	<b>Intensity (ML consumption per t of sold product)</b>	0.62	1.59	1.85	0.72	0.65

### Percentage of Consumption in Water-Stressed Sites (%)



In 2021, our total water consumption increased by 341,256 ML and our total water consumption intensity increased by 0.03 ML per metric ton of product as compared to 2020. These changes were driven by decreased water discharge from our aniline production site in Wilton, England, and growth in production at both our Geismar, Louisiana, and Freeport, Texas, sites – partially offset by the diversion of water from deep well injection at our Freeport site (with a corresponding drop in non-hazardous waste disposal).

In 2021, our water consumption in regions of water stress decreased by 9,275 ML, and the intensity of water consumption in regions of water stress decreased by 0.07 as compared to 2020. These changes were driven primarily by the diversion of water from deep well injection at our Freeport site (with a corresponding drop in non-hazardous waste disposal), partially offset by decreased water discharge from our aniline production site in Wilton.

Water storage has not been identified as having a significant water-related impact.

# Withdrawals and Discharges by Source and Quality for 2021

| GRI 303-3 | GRI 303-4 | GRI 303-5 |

## All Sites

Sources of Water (ML)		Freshwater <sup>1</sup>	Other Water <sup>2</sup>	Not Measured <sup>3</sup>	Total
Withdrawals	Surface Water	6,922,042	–	6,033,067	<b>12,955,109</b>
	Rainwater	24,017	N/A	N/A	<b>24,017</b>
	Ground Water	501,368	364,375	2,061,270	<b>2,927,013</b>
	Seawater	N/A	–	N/A	–
	Produced Water	–	–	–	–
	Reuse (from on-site sources)	122,865	–	10,861	133,726
	Reuse (from third parties)	–	–	–	–
<b>Total</b>	<b>7,570,292</b>	<b>364,375</b>	<b>8,105,198</b>	<b>16,039,865</b>	
Third-Party Withdrawals	Surface Water	1,027,831	488,554	2,174,452	3,690,837
	Rainwater	5,818	N/A	N/A	<b>5,818</b>
	Ground Water	180,239	–	217,081	<b>397,320</b>
	Seawater	N/A	–	N/A	–
	Produced Water	–	–	–	–
<b>Total</b>	<b>1,213,888</b>	<b>488,554</b>	<b>2,391,533</b>	<b>4,093,975</b>	
<b>Total Withdrawals</b>	<b>8,784,180</b>	<b>852,929</b>	<b>10,496,731</b>	<b>20,133,840</b>	
Water Discharges	Surface Water	9,088,725	566,552	2,931,316	<b>12,586,593</b>
	Ground Water	–	–	–	–
	Seawater	–	–	–	–
	Third-Party Treatment and Other	1,216,089	–	1,314,224	<b>2,530,313</b>
	Third-Party Sent to Other Organizations for Reuse	–	–	–	–
<b>Total Discharges</b>	<b>10,304,814</b>	<b>566,552</b>	<b>4,245,540</b>	<b>15,116,906</b>	
<b>Consumption (net water usage)</b>	<b>(1,520,634)</b>	<b>286,377</b>	<b>6,251,191</b>	<b>5,016,934</b>	

## Water-Stressed Sites

Freshwater	Other Water	Not Measured	Total
11,634	–	8,970	<b>20,604</b>
7,875	N/A	N/A	<b>7,875</b>
326,415	364,375	770,173	<b>1,460,963</b>
N/A	–	N/A	–
–	–	–	–
–	–	8,970	<b>8,970</b>
–	–	–	–
<b>345,924</b>	<b>364,375</b>	<b>788,113</b>	<b>1,498,412</b>
363,844	–	1,819,590	<b>2,183,434</b>
–	N/A	N/A	–
6,317	–	164,496	<b>170,813</b>
N/A	–	N/A	–
–	–	–	–
<b>370,161</b>	<b>–</b>	<b>1,984,086</b>	<b>2,354,247</b>
<b>716,085</b>	<b>364,375</b>	<b>2,772,199</b>	<b>3,852,659</b>
2,124,287	566,552	–	<b>2,690,839</b>
–	–	–	–
–	–	–	–
141,192	–	808,998	<b>950,190</b>
–	–	–	–
<b>2,265,479</b>	<b>566,552</b>	<b>808,998</b>	<b>3,641,029</b>
<b>(1,549,394)</b>	<b>(202,177)</b>	<b>1,963,201</b>	<b>211,630</b>

<sup>1</sup> Freshwater is defined as water with less than or equal to 1,000 mg/L of total dissolved solids (TDS).

<sup>2</sup> "Other Water" is defined as water with greater than 1,000 mg/L TDS.

<sup>3</sup> "Not measured" is where TDS was not measured.

# Air Quality

## Management of the Topic

| GRI 3-3 | GRI 305-6 |

In addition to greenhouse gases, our manufacturing operations may produce air emissions, including volatile organic compounds (VOCs), hazardous air pollutants (HAPs), particulate matter (PM), persistent organic pollutants (POPs), nitrogen oxides (NOx), and sulfur dioxides (SOx). As with greenhouse gases, these emissions typically stem from the combustion of fuels and the processing of feedstocks.

Huntsman faces operating costs, regulatory compliance costs, regulatory penalties in the event of non-compliance, and capital expenditures related to emissions management. Our related financial impacts will vary depending on the magnitude of emissions and the prevailing regulations. We actively manage air emissions to mitigate their impacts and to improve our environmental and financial performance.

Huntsman monitors, tracks, and reports chemical emissions to the atmosphere — whether specifically permitted, part of routine operations, or the result of accidental releases. Quantification methodologies include either direct measurement or estimation. Our estimations may be based on emission factors, models, material balance, engineering judgment, or other appropriate methods. We follow local government calculation methodologies, where available, when the data is already calculated for submittal to local government.

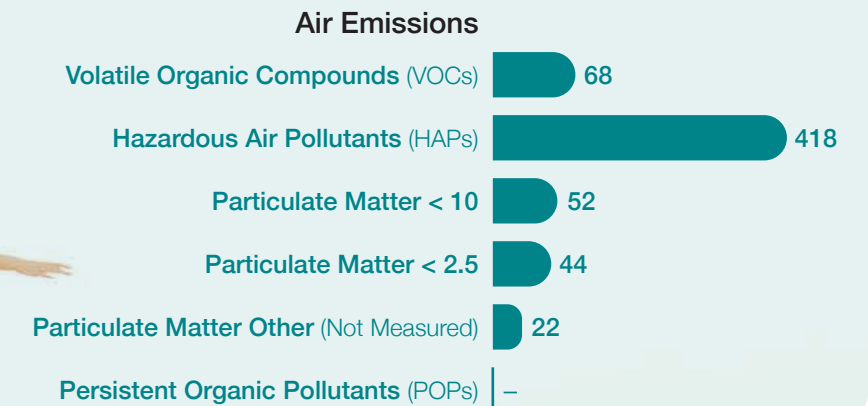
We do not emit ozone-depleting substances.

## Air Emissions Data

| GRI 305-7 | SASB RT-CH-120a.1 |

The following table shows the total non-greenhouse gas emissions to air for 2021. VOCs and HAPs are based on the U.S. Environmental Protection Agency (EPA) data. Certain VOCs are classified as HAPs. “Particulate Matter Other” was not measured, and could potentially be categorized as either Particulate Matter < 10 or Particulate Matter < 2.5.

### Non-Greenhouse Gas (GHG) Emissions to Air Totals (t) for 2021 | GRI 305-7 |

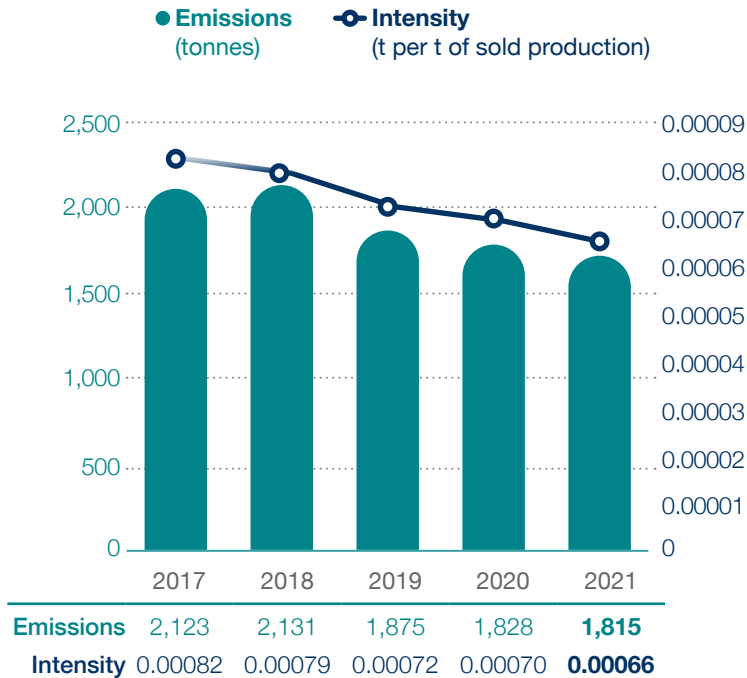


# Total Non-Greenhouse Gas, Nitrogen-Oxide, and Sulfur-Oxide Emissions

In volumes and intensity, as measured by emissions per metric ton of sold production

| GRI 305-7 | SASB RT-CH-120a.1 |

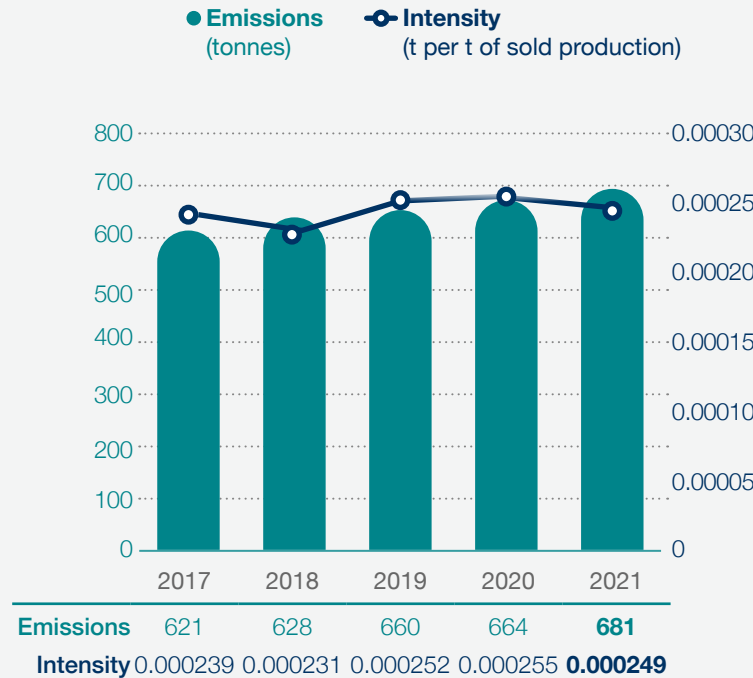
**Non-GHG Emissions & Intensity**  
| GRI 305-7 |



In 2021, our non-greenhouse gas (non-GHG) emissions decreased by 13 metric tons and non-GHG emissions intensity decreased by 5.7% as compared to 2020. This decrease was driven primarily by the near elimination of heavy oil use by switching to compressed natural gas for spray dryers and boilers at our Atotonilquillo site in Mexico.

**Non-GHG emissions**  
↓ **13**  
metric tons  
lower than 2020

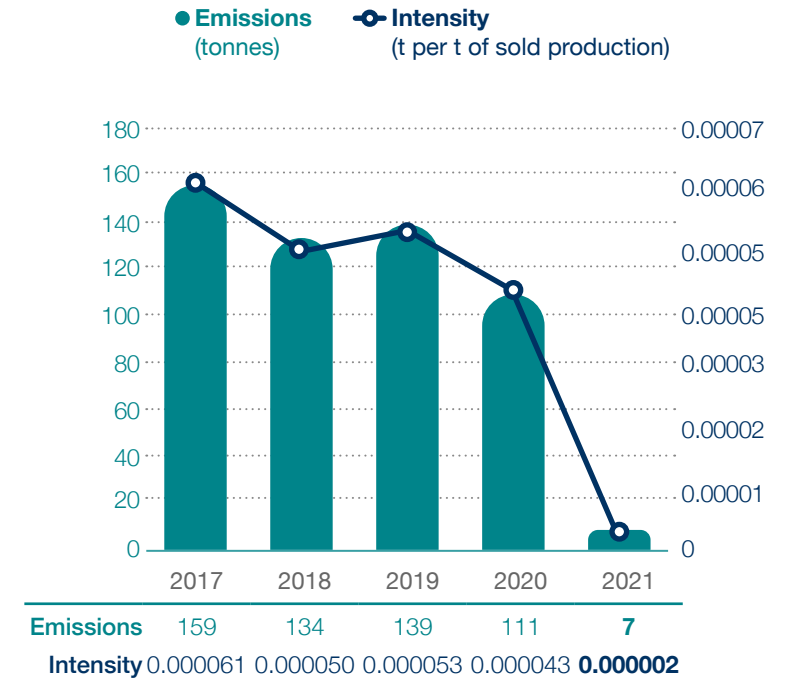
**Nitrogen Oxides (NOx) Emissions & Intensity**  
| GRI 305-7 | SASB RT-CH-120a.1 |



In 2021, our NOx emissions increased by 17 metric tons, and our NOx emissions intensity decreased by 2.4% as compared to 2020. This increase was driven primarily by an increase in production at our Geismar, Louisiana, site.

**NOx emissions**  
↑ **17**  
metric tons  
higher than 2020

**Sulfur Oxides (SOx) Emissions & Intensity**  
| GRI 305-7 | SASB RT-CH-120a.1 |



In 2021, our SOx emissions decreased by 104 metric tons and SOx emissions intensity decreased by 95% as compared to 2020. This decrease was driven primarily by the near elimination of heavy oil use by switching to compressed natural gas for spray dryers and boilers at our Atotonilquillo site in Mexico.

**SOx emissions**  
↓ **104**  
metric tons  
lower than 2020

# Waste Management

## Our Approach

| GRI 3-3 | GRI 306-1 | GRI 306-2 |

Our manufacturing operations generate both non-hazardous and hazardous waste. These wastes include but are not limited to heavy metals, process wastewater, residual gas and liquids from processes, and wastewater sludge. Our management of waste must consider regulations that govern the generation, transport, treatment, storage, and disposal of waste materials. Reducing waste generation delivers financial savings and also decreases environmental impacts, risk from remediation liabilities, and the potential of regulatory penalties.

Huntsman’s waste management strategy includes, in preferred order: elimination and minimization of waste generation through process design, plant operations and maintenance; recycling and reuse of usable materials to eliminate or reduce waste hazards and volumes. Incineration or disposal of wastes in landfills is considered only after all other options have been exhausted.

In addition to managing our operational wastes, Huntsman strives to improve resource efficiency throughout the value chain. For example, our TEROL® polyols use PET waste to create MDI. Downstream, our solutions make products more durable, and by extending the life of our products, they contribute to waste reduction.

Huntsman is committed to resource efficiency in our operations, including preventing and reducing both hazardous and non-hazardous waste.

Horizon 2025 target  
**↓5%**  
in Total Waste and Hazardous Waste Generated Intensity

Our Horizon 2025 goals include a target to reduce both our 2019 total waste and hazardous waste intensity by 5% by 2025.

Working to achieve this goal supports our longer-term aspirations toward circularity. We continually look for ways to reduce waste and improve operational performance. We regularly complete audits to inspect external waste management plans and ensure that our waste is disposed of in accordance with contractual or regulatory obligations.

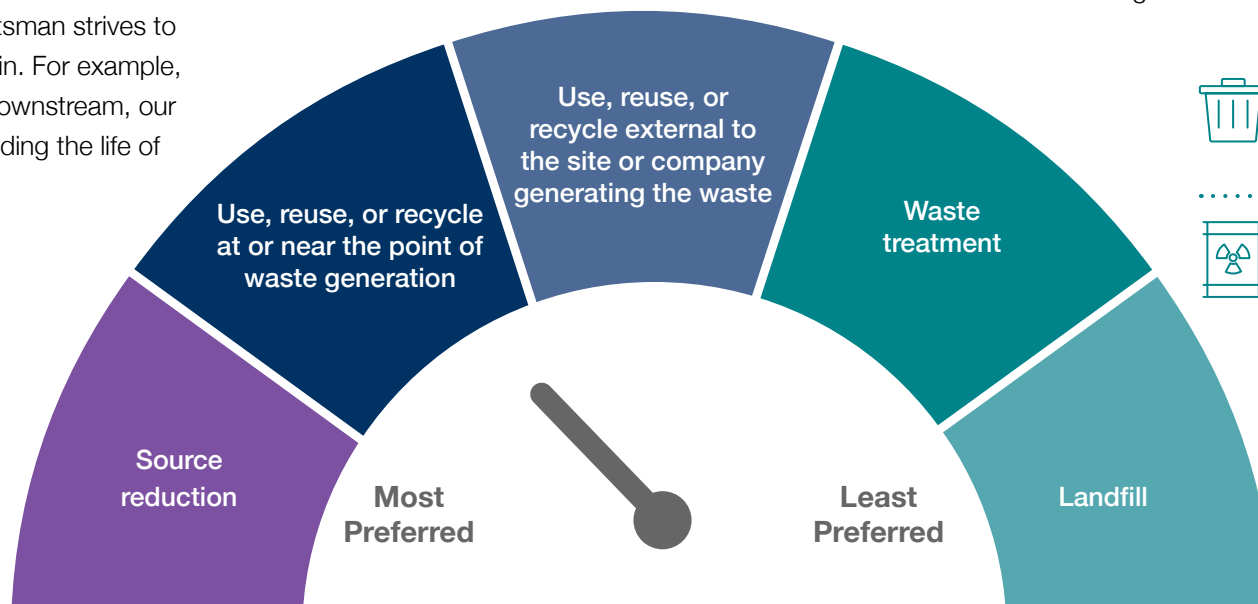
Our sites measure, confirm, and report hazardous and non-hazardous waste volumes generated, volumes and types of

### Examples of waste reduction activities

- Huntsman Textile Effect plant in Mexico**  
A wastewater improvement project enabled a **50% reduction** in our solid waste disposal.
- Huntsman Performance Products site in Llanelli**  
The installation of new aeration in a reed bed system allowed for **passive treatment of effluent** in an environmentally friendly manner and reduced the amount of waste incinerated.

recovery operations used for waste diverted from disposal, and volumes and types of disposal operations for wastes directed to disposal for on-site operations. Some waste diverted from disposal is incinerated in an energy recovery process that provides heat for other processes, reduces additional fuel required, and lowers impacts to the environment. All forms of waste are converted to metric tons, using standard conversion factors. Waste volumes generated are divided by sold production to determine intensity.

### Waste Minimization Hierarchy





# Waste Data

| [GRI 306-3](#) | [GRI 306-4](#) | [GRI 306-5](#) | [SASB RT-CH-150a.1](#) |

The following tables show the diversion of waste from disposal and waste directed to disposal, along with the percentage of hazardous waste recovered. All figures exclude effluent, unless required by national legislation to be reported under total waste. Waste is categorized as hazardous waste, non-recycled hazardous waste, or recycled hazardous waste in accordance with local regulations.

## Waste Diverted from Disposal by Recovery Operation (t)

| [GRI 306-4](#) | [SASB RT-CH-150a.1](#) |

2021	Hazardous	Non-Hazardous	Total
<b>Reuse</b>	2,060	2,345	<b>4,405</b>
<b>Recycling</b>	7,575	3,445	<b>11,020</b>
<b>Composting</b>	–	11	<b>11</b>
<b>Storage (as of Dec. 31)</b>	–	–	–
<b>Total On-site</b>	<b>9,635</b>	<b>5,801</b>	<b>15,436</b>

## Waste Directed to Disposal by Disposal Operation (t)

| [GRI 306-5](#) | [SASB RT-CH-150a.1](#) |

2021	Hazardous	Non-Hazardous	Total
<b>Incineration with Energy Recovery</b>	19,960	2,023	<b>21,983</b>
<b>Incineration Without Energy Recovery</b>	21,126	2,898	<b>24,024</b>
<b>Deep Well Injection</b>	3,449	241,452	<b>244,901</b>
<b>Landfill</b>	9,612	19,598	<b>29,210</b>
<b>Other</b>	4,710	2,122	<b>6,832</b>
<b>Total On-Site</b>	<b>58,857</b>	<b>268,093</b>	<b>326,950</b>

## Total Waste (t)

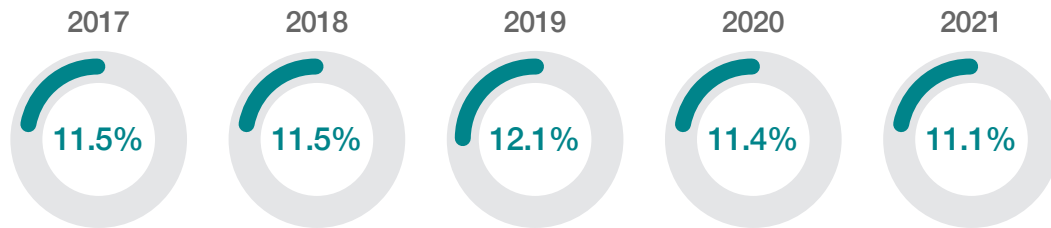
| [GRI 306-3](#) | [GRI 306-4](#) | [GRI 306-5](#) |

	2017	2018	2019	2020	2021
<b>Total Waste</b>	332,321	356,568	680,483	586,584	342,386
<b>Waste Diverted from Disposal</b>	14,387	15,436	15,846	12,419	15,436
<b>Waste Directed to Disposal</b>	317,934	341,132	664,637	574,165	326,950



### Hazardous Waste Recycled (%)

| SASB RT-CH-150a.1 |



Sites using on-site deep well injection, incineration, or composting are cases where waste is disposed of directly by the organization. In most other cases, waste disposal is provided by third-party vendors. Disposal methods are known from the disposal sites used or from methods listed on manifest documentation.

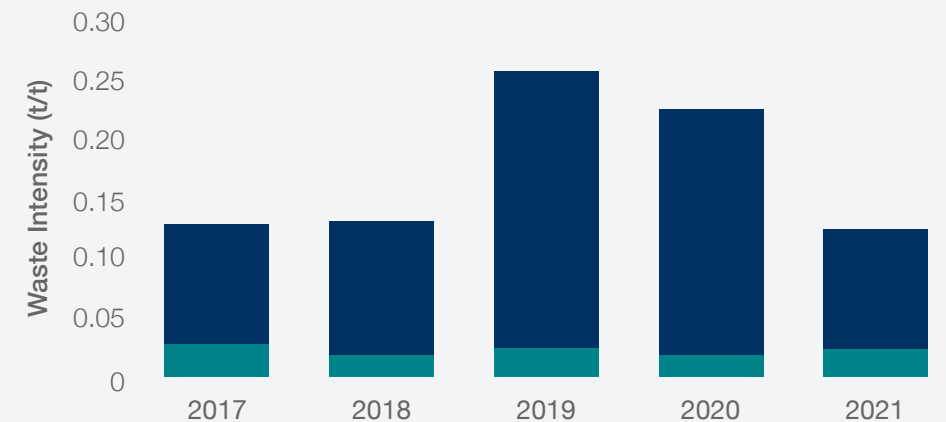
The large increase in non-hazardous waste and total waste from 2018 to 2019 was driven by a change in the classification of water discharge to a new, on-site deep injection well at our Freeport, Texas, site. Based on U.S. regulations and permits, underground injection volumes are considered waste. Previously, these volumes had been sent to a third-party wastewater treatment facility and reported as water discharges.

In 2021, our non-hazardous waste was 273,894 metric tons, a decrease of 254,854 metric tons compared to 2020. This change was driven by significantly lower injection volumes to a deep injection well due to operational challenges. This led to an increase in water discharge for 2021.

In 2021, our hazardous waste was 68,492 metric tons, an increase of 10,656 metric tons as compared to 2020. This change was driven by overall growth in production, along with higher hazardous waste disposal at our Atotonilquillo, Mexico, site (due to a broken evaporator requiring diversion of non-biodegradable steam to a third party), as well as at our Geismar, Louisiana, site (due to construction material removal and tank cleanouts) and at our Pétfürdő, Hungary, site (due to the decommissioning of equipment).

## Waste Intensity Metrics

We measure our waste intensity by using sales of production in metric tons as our denominator. Our energy intensity measures include all waste recovery operations and disposal methods.



	2017	2018	2019	2020	2021
<b>Hazardous Waste</b>	0.0294	0.0228	0.0241	0.0222	<b>0.0250</b>
<b>Non-Hazardous Waste</b>	0.0983	0.1085	0.2360	0.2032	<b>0.1000</b>
<b>Total Waste</b>	0.1277	0.1313	0.2601	0.2254	<b>0.1250</b>

In 2021, our total waste intensity decreased by 0.1004 metric tons of total waste per ton of sold product as compared to 2020. This change was driven primarily by the decrease in volumes sent to the deep injection well at our Freeport, Texas, site.

In 2021, our total hazardous waste intensity increased by 0.0028 as compared to 2020. This change was driven by the changing mix of production from 2020 to 2021, and by specific drivers at our Atotonilquillo, Geismar, and Petfurdo sites.

# Circularity

## Management of the Topic

| GRI 3-3 |

Huntsman can impact circularity across the entire value chain. As mentioned previously in this report, our TEROL<sup>®</sup> polyols use polyethylene terephthalate (PET) waste to create methylene diphenyl diisocyanate (MDI). We are also moving into new areas of circularity, including our recent purchase of bio-based benzene for MDI production. Downstream, our solutions make products more durable, and contribute to waste reduction by extending the life of products.

Huntsman is committed to managing and improving our resource efficiency, and to stimulating the circular economy by improving the recyclability and durability of our products and driving innovation based on sustainability criteria.

Products and solutions from the chemical industry are in 95% of all goods manufactured and sold in our economy. Because of the enormous role chemicals play in the materials used in the global economy, the chemical industry has a huge role to play in circularity.

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### Our Horizon 2025 goals for improving energy efficiency, reducing water intensity, and decreasing waste intensity are part of our strategy to become more circular.

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We use recycled or bio-sourced packaging materials when it makes technical and economic sense to do so.

Additionally, our customers have signaled increased interest in how Huntsman products can assist them in making their products more circular. As mentioned in our Long-Term Goals, Huntsman has set an aspiration to become a fully circular company. As a first step

toward that aspiration, Huntsman will begin to capture measures of circularity for our solutions, including:

- Recycled content
- Bio-sourced content
- Recyclable content
- Biodegradable content
- Resilience (e.g., durability) content

These metrics will be disclosed as 2022 data in our next Sustainability Report.

## Material Data

| GRI 301-1 | GRI 301-2 | | GRI 301-3 |

The following graphs provides data on materials used to produce and package our products.

Because we are a chemical producer, we do not reclaim products.

### Weight of Materials and Percentage Recycled for 2021

| GRI 301-1 | GRI 301-2 |





# People



**People are the foundation of Huntsman Corporation.**

Maintaining a safe and ethical work environment for our people and for the communities where we live and work is paramount to our business. Our talented and diverse teams around the world are our greatest strength. Our energized and passionate professionals bring fresh perspectives and create new solutions to enable Huntsman to continue enriching lives through innovation.

# Workforce Health and Safety

## Management of the Topic

| GRI 3-3 |

Work-related hazards that pose a potential risk of high-consequence injury include hazards inherent to nearly all companies across the chemical industry, and they range from major events (such as exposure to toxic releases, fires, and explosions) to routine activities (such as confined space entries, working from heights, or lifting heavy objects). When the combination of associates and contractors is considered, the most common types of work-related injuries are abrasions, lacerations, sprains, and strains.

**Our Environmental, Health, and Safety (EHS) Policy and Commitment encapsulate our vision to prevent all harm through achieving excellence in EHS performance in all aspects of our business.**

We aim to continually improve our safety performance for all associates and contractors, and are committed to eliminating life-impacting injuries and fatalities.



We track our performance, using the U.S. Occupational Safety and Health Administration (OSHA) Total Recordable Incident Rate (TRIR), for both injuries and illnesses, inclusive of our contractors.

$$\frac{\text{No. of injuries and illnesses} \times 200,000}{\text{Total hours worked}} = \text{OSHA TRIR}$$

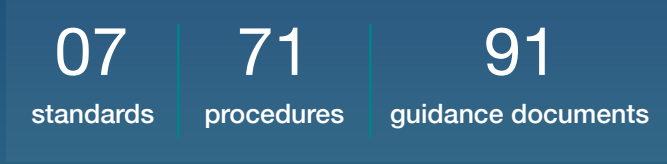
Additionally, we track Life-Impacting or Fatal Event (LIFE) occurrences, and we are committed to eliminating these incidents and to continuously reducing our Total Recordable Incident Rate as part of our Horizon 2025 targets.

Our systems to manage workforce health and safety are described in further detail in the following sections.

# Occupational Health and Safety Management System

| GRI 403-1 |

Huntsman has implemented an **Environmental, Health, and Safety (EHS) Management System** to support implementation of the requirements, consisting of:



This management system is based on principles of various recognized management system standards, such as **Responsible Care®**, **ANSI/ASSP Z10.0-2019**, and **CFR 1910.119**. Our standards and procedures apply to all Huntsman-owned-and-operated facilities and corporate functions. They do not apply to joint ventures (JVs) in which Huntsman is a minority owner or to third-party warehouses and tollers, unless requested by a member of the EHS leadership team.

For Huntsman facilities located in the United States, Huntsman has implemented its **Responsible Care®** program to supplement existing EHS management systems to enhance performance and improve the safety and health of our employees, the communities in which we operate, and the environment.

## Hazard Identification, Risk Assessment, and Incident Investigation

| GRI 403-2 | SASB RT-CH-320a.2 |

The EHS Management System outlines the methods used to identify work-related hazards and assess risks. Guidance documents and procedural requirements outline the Hierarchy of Controls. These methods include pre-job safety inspections, job safety analyses, and work permits (including permitting for hot work, confined space entry, and work at height).

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**All manufacturing sites conduct Process Hazard Analysis (PHA) and Fire Risk Analysis (FRA) of their facilities to identify process and fire-related hazards, and determine where additional layers of protection are needed to ensure the health and safety of people and protection of the environment.**

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The process for a work-related incident investigation is outlined in our EHS Management System – specifically, EHS-106: Incident Investigation. Based on the severity and likelihood of the outcome, a 5-why methodology may be used for “lower-severity” incidents, while those of a higher consequence require the use of Apollo root cause analysis.

Our industrial hygiene (IH) teams continuously identify potential health hazards, assess risks, and implement controls – as outlined in our EHS Management System. All sites complete IH risk assessments, and, in 2018, Huntsman standardized how sites conduct risk assessments that are used to develop annual sampling plans to quantify exposures. Exposure monitoring results are compared to published occupational exposure limits to confirm that existing controls are adequate.

To reduce potential exposure to both acute and chronic health hazards, our sites incorporate the Hierarchy of Controls, starting with elimination (if possible), substitution, engineering controls (enclosing, containing, isolating, automating, and minimizing dispersion or tools to avoid direct contact), administrative controls, and, lastly, personal protective equipment. **As new controls are implemented, exposures are reassessed to keep workers safe.**

The organization assesses the quality of the processes and the competency of the persons carrying out the tasks through site self-audits, corporate EHS and process safety audits, and competent person assessments (for activities related to Process Safety Management). Additional requirements for training and competency are described in the EHS Management System – specifically, EHS-113: Training and Competency.

Sites use the results of self-audits to make site-based improvements. The results of the corporate EHS and process safety audits are used to make both site-based and company-wide improvements. Competent person assessments are used to identify additional training and skill improvement opportunities.

Associates are encouraged to report work-related hazards through **incident reports, near-miss reports, and 60-second checks**, as well as any additional methods that individual sites have implemented.

All Huntsman associates have stop-work authority for situations when they feel there is a danger to themselves, their co-workers, or the public. Associates are protected from retaliation by the company’s code of ethics, along with a robust series of Human Resources (HR) policies and procedures.



## Occupational Health Services

| GRI 403-3 |

Huntsman ensures that occupational health services are provided for employees under the guidance of the Global Director of Occupational Health, a board-certified medical doctor. Each site contracts with either an on-site medical provider or with a local medical provider to ensure **prompt access to occupational health and medical services when needed.**

The sites adjust their workload to ensure that the services are available to associates as required.

The company has processes to protect worker privacy under U.S. Health Insurance Portability and Accountability Act (HIPAA) and EU General Data Protection Regulation (GDPR) practices – specifically, EHS-505: Health Record Management and Confidentiality.

## Worker Participation, Consultation, and Communication on Occupational Health and Safety

| GRI 403-4 |

Huntsman includes worker participation in the development, implementation, and evaluation of the EHS Management System by having site-based personnel involved and consulted with on the development of new corporate requirements and on the updating of existing requirements.

Certain individual site-based personnel are directly involved in the rollout of new and updated requirements via webinars, face-to-face trainings, and other communication packages, contingent on the extent of the update.

Sites are expected to have **frontline associates directly involved in the development of EHS practices and programs** (for example, developing formal job safety analyses).

### Huntsman values input from sites to continue to improve EHS practices as a corporation.

Where formal joint management-worker health and safety committees exist, the responsibilities, decision-making authority, worker representation, and frequency of meetings are based on local laws and negotiated contracts.

The hazards in the workplace are communicated by making safety data sheets that are readily available for all raw materials, products, and intermediates. Workers have access to process hazard information through readily available Process Hazard Analyses.

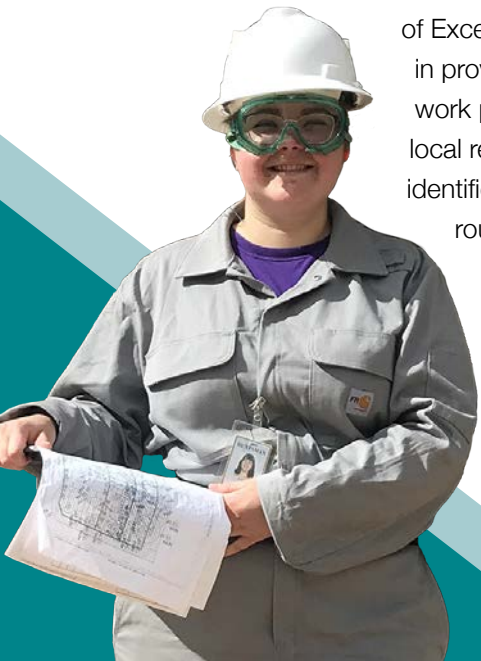


## Worker Training on Occupational Health and Safety

| GRI 403-5 |

Training requirements for associates are outlined in the EHS Management System – specifically, EHS-113: EHS Training and Competency. Several corporate-level training programs exist to provide a high-level overview including a requirement for everyone to complete a training course called “Why EHS Matters,” which prominently features Chairman, President, and CEO Peter Huntsman discussing the importance of EHS to the company and all associates. Our sites are required to develop training matrices for their operations to ensure competencies and safe work practices. The effectiveness of these programs is assessed through corporate EHS and process safety audits.

Huntsman has a corporate EHS Center of Excellence that assists our sites in providing training to ensure safe work practices and compliance with local regulatory requirements. Tasks identified as “EHS critical” require routine operator drills to ensure our capabilities for proper and timely responses.



## Promotion of Worker Health

| GRI 403-6 |

Huntsman provides benefits to employees, including healthcare coverage. The type of coverage is dependent on the plan available to associates in the area where they live.

Huntsman provides benefits to employees, such as employee assistance programs and voluntary health promotional programs. Certain individual sites have developed comprehensive health and wellness promotional programs to encourage health and well-being.

## Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked by Business Relationships

| GRI 403-7 |

Huntsman has developed an EHS Management System that incorporates aspects of occupational health, occupational safety, environmental safety, product EHS, and process safety management.

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**The goal of these programs is to prevent (or mitigate) the impacts that are directly linked to its operations, products, and services.**

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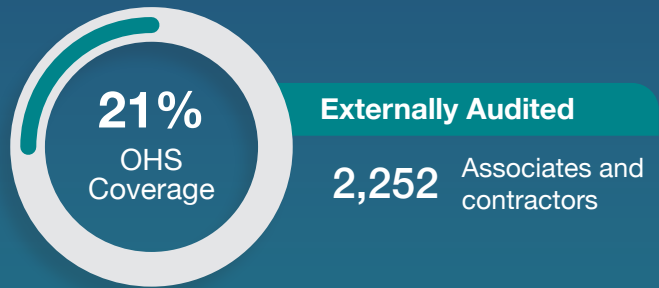
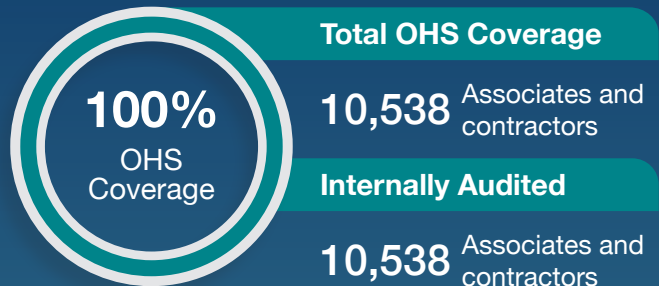


Huntsman's corporate product safety team has developed procedures for product hazard identification, hazard communication, risk assessment, and risk management – specifically, EHS-701: Chemical Hazard Communication, EHS-702: Product Stewardship, EHS-703: Product Risk Assessment, and EHS-704: Distribution Risk Management.



# Workers Covered by an Occupational Health and Safety Management System

| GRI 403-8 |



All of our associates and contingency workers are covered by these systems, as are contractors, with limited exceptions that consist primarily of contractors at our independent work sites, as determined by our guidance, and those individuals who are on our sites temporarily who do not materially interface with our operations and/or over which we do not exert material control over their working conditions or determine their work process.

All sites are subject to internal audits. External audits are conducted as part of our Responsible Care® commitment.

# Work-Related Injuries and Illnesses



| GRI 403-9 | GRI 403-10 | SASB RT-CH-320a.1 |

Huntsman has issued detailed guidance on reporting metrics and definitions in EHS-1109A: EHS Metrics Reporting Methodology. All Huntsman-owned-and-operated sites report associate and contractor exposure hours through an electronic EHS database. Any incidents that meet corporate reporting

requirements are reported by the sites through an electronic EHS database, with corporate support and oversight. Data collected in the EHS database is reported and distributed company-wide on a monthly basis through the Global EHS Scorecard. Injuries and illnesses are categorized according to internal

guidance documents, based on U.S. OSHA standard 29 CFR 1904.7. Additionally, injuries and illnesses are documented as required by the laws in the areas where we operate.

Actions taken to address work-related hazards are addressed in section GRI 403-2.

		Hours Worked <sup>1</sup>	Fatalities		High Consequence <sup>2</sup>		Recordable	
			Count	Rate	Count	Rate	Count	Rate
 <b>Injuries</b>	<b>Associates</b>	17,914,177	0	–	1	0.01	25	0.28
	<b>Contractors</b>	7,624,350	0	–	1	0.03	16	0.42
	<b>Combined</b>	<b>25,538,527</b>	<b>0</b>	<b>–</b>	<b>2</b>	<b>0.02</b>	<b>41</b>	<b>0.32</b>
 <b>Illnesses</b>	<b>Associates</b>	17,914,177	0	–	0	–	6	0.07
	<b>Contractors</b>	7,624,350	0	–	0	–	2	0.05
	<b>Combined</b>	<b>25,538,527</b>	<b>0</b>	<b>–</b>	<b>0</b>	<b>–</b>	<b>8</b>	<b>0.06</b>
<b>Injuries + Illnesses</b>	<b>Associates</b>	17,914,177	0	–	1	0.01	31	0.35
	<b>Contractors</b>	7,624,350	0	–	1	0.03	18	0.47
	<b>Combined</b>	<b>25,538,527</b>	<b>0</b>	<b>–</b>	<b>2</b>	<b>0.02</b>	<b>49</b>	<b>0.38</b>

<sup>1</sup> Full-time, part-time, contract, and temporary workers are included.

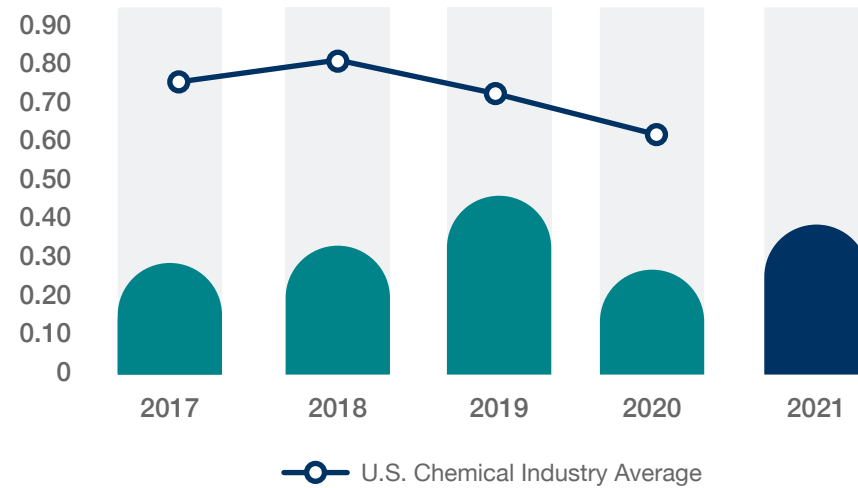
<sup>2</sup> Also called a Life-Impacting or Fatal Event (LIFE), a work-related personal injury or illness that meets defined severity criteria due to its impact on the quality of the affected person's life, whether temporary or permanent.

**In 2021, we had no fatalities, as compared to one fatality of a contractor in 2020.**

From 2020 to 2021, our Total Recordable Incident Rate (TRIR) increased from 0.27 to 0.38. Leading contributors to work-related illness include noise, manual handling/ergonomics, and mental health (work-related stress, depression, or anxiety).

The chart at right shows our TRIR trend from 2017–2021. From 2017 through 2020, Huntsman’s TRIR has been below the American Chemistry Council’s Responsible Care® benchmark for Medium-Sized Companies and based on the U.S. Bureau of Labor Statistics, NAICS 325000 – Chemical Manufacturing. At the time of publication, this metric was not available for 2021.

**Injury and Illness | Total Recordable Incident Rate**



**Hazards Contributing to Life-Impacting or Fatal Events (LIFE)**

All LIFE incidents are formally investigated with corrective actions taken to reduce or eliminate work hazards, using the Hierarchy of Controls.



Examples of these corrective actions include performing a global review of the use of rotating

equipment to eliminate the use of these machines where possible. Huntsman also revised corporate machine guarding requirements to include more stringent administrative controls, such as revised training requirements and more frequent inspections of equipment in areas of high use (e.g., maintenance workshops and laboratories).

Huntsman has further introduced global risk tolerance training to all personnel to identify why

and where our personnel take risks, and to help address line of fire, hazards, and overexertion. For more information on actions taken to address LIFE incidents and other hazards, see reference to GRI 403-2 and the discussion on process safety.

For 2021, at right are the hazards that have caused or contributed to high-consequence LIFE incidents, along with the portion they represent of our two LIFE incidents.

	<b>Energy isolation</b> <b>1</b>
	<b>Work walk surfaces</b> <b>1</b>

# Process Safety

## Management of the Topic

| GRI 3-3 |

Technical failures, human errors, or external factors can lead to loss of primary containment at our manufacturing facilities or during transportation of our products. Failures and errors, in addition to loss of primary containment, could lead to fires and explosions, given the nature of our manufacturing operations.

**We see process safety as critical to assuring our facilities are safe and working as intended, and that our products are properly stored and transported.**

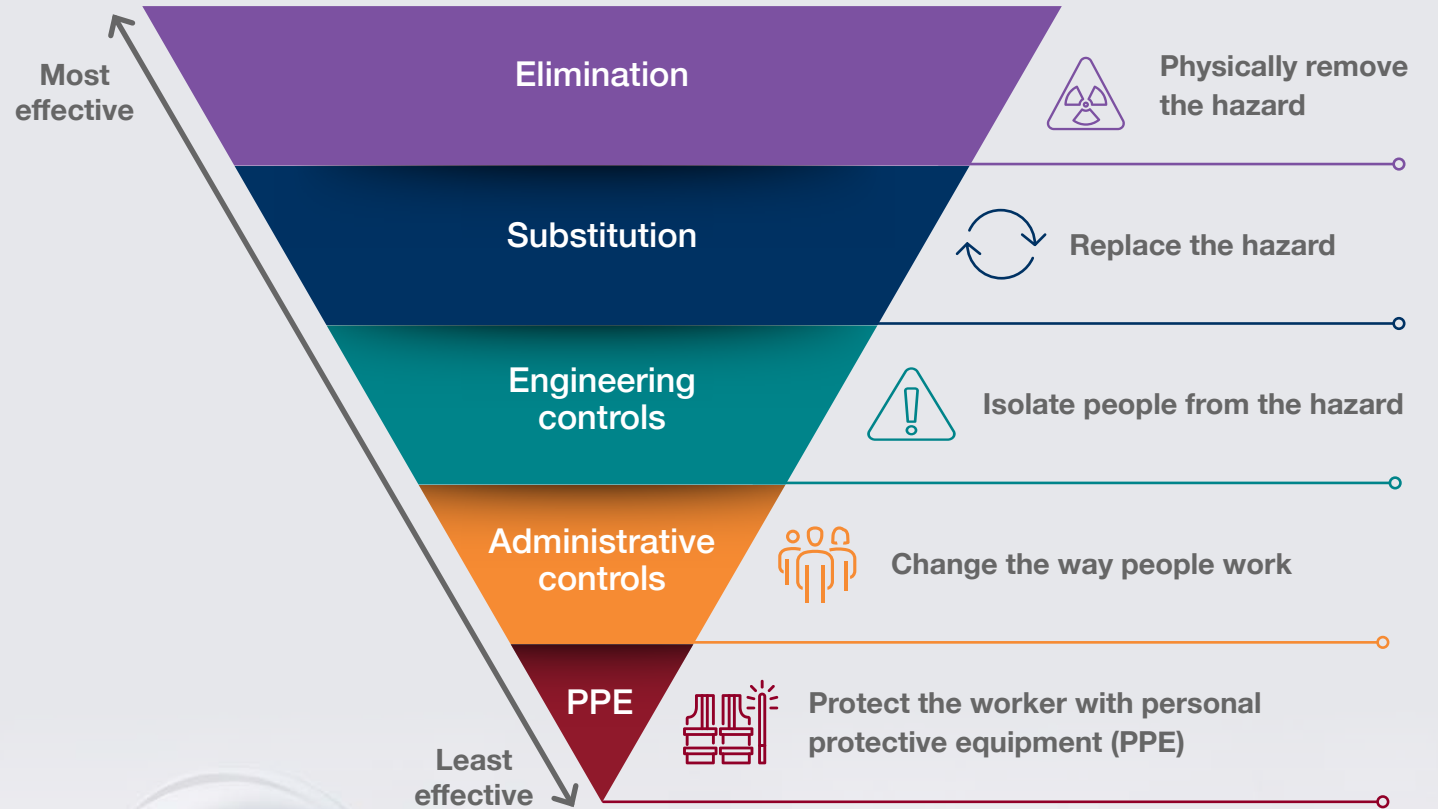
**Process safety risks are managed through several means, including:**

- Applying inherent safety principles in all processes and in our equipment design process
- Designing and installing engineered independent protection layers
- Using procedures and training to assure operating competency
- Utilizing proper personal protective equipment

As the figure at right illustrates, we start with the most effective risk mitigation strategy, which is to eliminate the risks, and then we work through subsequent mitigation strategies to continually improve the safety of our operations.

Our Process Safety Standard EHS-400 outlines global requirements to identify and manage risks associated with process safety incidents and how they may impact the environment.

## Risk Mitigation Strategies





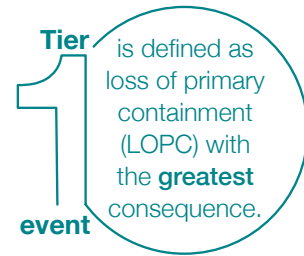
**Our 2025 Horizon Goals include:**

<p><b>0</b></p> <p>Tier 1 Process Safety Incident Counts</p>	<p><b>&lt; 0.15</b></p> <p>Tier 2 Process Safety Incident Rate</p>
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Process Hazard Assessment (PHA) procedures identify process safety hazards and the appropriate safeguards to prevent or mitigate impacts to the environment from loss-of-containment events.

As we strive for continual improvement in process safety, we have placed considerable focus on improving process safety culture. The chemical industry has recognized the importance that culture plays in determining the overall success of a process safety management program. In an organization, with a positive process safety culture, there exists a high degree of trust and transparency at all levels of the organization, coupled with highly effective management systems. Huntsman has developed a series of process safety cultural leadership workshops to align process safety core values and behaviors from the executive level to the frontline worker level. Workshop participants develop a personal action plan that drives sound process safety principles and practices, provides clear leadership actions and behaviors required to move the culture toward operational excellence, and instills an understanding and passion for their role in process safety management systems.

Process safety performance is based on API RP 754: Process Safety Performance Indicators for the Refining and Petrochemical Industries. The API RP 754 standard provides a consistent means of evaluating process safety performance across the industry.



**Huntsman initiated the API-754 methodology beginning in 2016.**

$$\frac{(\text{Tier 1} + \text{Tier 2}) \times 200,000}{\text{Total Associates \& Contractors Hours Worked}}$$

We also track the Process Safety Incidents Count (PSIC) and calculate a Process Safety Incident Severity Rate (PSISR), which is defined as the cumulative (annual) severity-weighted rate of process safety incidents and is calculated as:

$$\frac{\text{Total Severity Score for all PS Incidents} \times 200,000}{\text{Total Associates \& Contractors Hours Worked}} = \text{PSISR}$$

We began collecting the PSISR for Tier 1 events in 2019. In previous years, this data was not tracked. Information around the root cause and corrective actions implemented is maintained at the local site level, and is not currently tracked for corporate reporting.

We track chemical releases and spills at a corporate level across all Huntsman-owned-and-operated facilities.

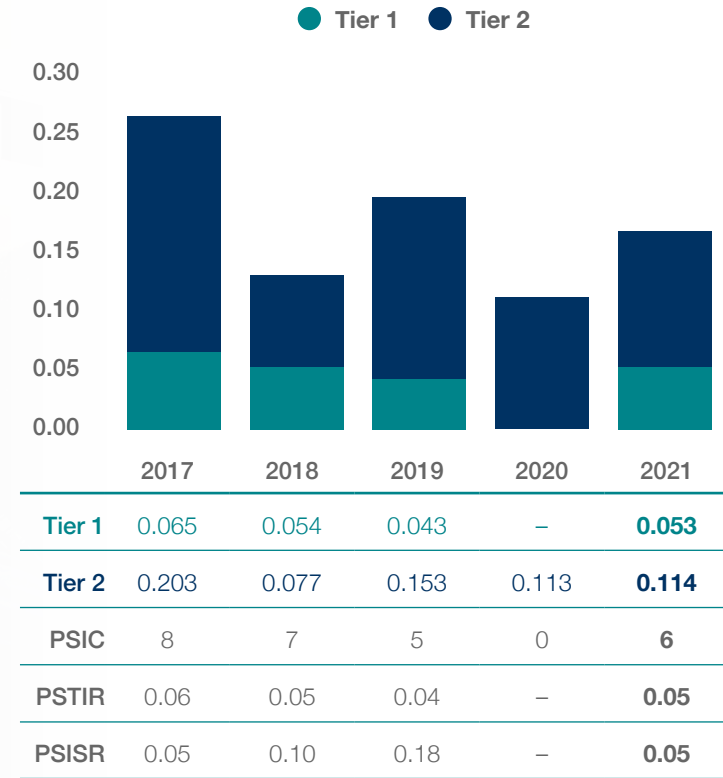
# Incident Data

| SASB RT-CH-540a.1 | SASB RT-CH-540a.2 |



## Process Safety | Incident Rate

| SASB RT-CH-540a.1 |



From 2020 to 2021, our Tier 1 count increased from 0 to 6, and our Tier 1 incident rate increased from 0 to 0.053. Our Tier 2 count increased from 12 to 13, and our Tier 2 incident rate increased slightly from 0.113 to 0.114.

From 2020 to 2021, our Process Safety Incidents Count increased from 0 to 6, and both our Process Safety Total Incident Rate and Process Safety Incident Severity Rate increased from 0 to 0.05.

The following tables show our transport incidents and significant distribution incidents.

### Transport Incidents

| SASB RT-CH-540a.2 |

Incidents reported according to the U.S. Department of Transportation 5800 report	18
Incidents reported based on the European agreement concerning the International Carriage of Dangerous Goods by Road (ADR) criteria	0
Other transport incidents, based on nationally recognized definitions, or consistent with the International Council of Chemical Associations (ICCA) Guidance for Reporting Performance	2

### Significant Distribution Incidents

A fatality or injury leading to intensive medical treatment, a hospital stay of at least one day, or an absence from work of more than three days	0
Any release of more than 200 kg/L of dangerous goods or more than 1,000 kg/L of non-dangerous goods	3
Any damage of more than 50,000 USD (including environmental cleanup) resulting from a transport incident	2
An incident leading to direct involvement of authorities and/or emergency services, evacuation of people, or closure of public traffic routes for at least three hours	2

## Loss of Primary Containment

| GRI 306-3 |

The table at right presents incidents that resulted in chemical spills or loss of material from primary containment that Huntsman has classified as significant. A spill is defined by GRI as “an accidental release of a hazardous substance that can affect human health, land, vegetation, water bodies, and ground water.” We designate a spill as “significant” when the spill is not specifically allowed by a government-issued authorization such as a permit, license, or consent, and when the spill is not contained on site. Air emission incidents and volumes are tracked under Air Emissions.

Our 2021 incident count was 6, which was an increase from 2 in 2020. Volumes released in 2021 were 29,709, up from 20,121 in 2020. The increase was driven by a single incident at our Petfurdo, Hungary site, where 28,660 pounds of diglycolamine (DGA) being sent to a storage tank was lost and entered a neighboring company’s site. Subsequent analysis of the waste treatment plant showed no contamination to the environment.

### Releases and Spills

Regions	Number of Incidents	Amount Released (lb)
Americas	5	1,049
Asia Pacific	0	–
Europe, Africa, Middle East	1	28,660
<b>Total</b>	<b>6</b>	<b>29,709</b>

# Community Relations

## Management of the Topic

| GRI 3-3 | GRI 413 | SASB RT-CH-210a.1 |



At Huntsman, we believe it is our responsibility to make a difference in the lives of others in our communities.

We support a variety of social causes that follow the United Nations Sustainable Development Goals, including:

 Good Health & Well-Being	 Quality Education	 Reduced Inequalities
 Zero Hunger	 Zero Poverty	 Clean Water & Sanitation

We encourage personal involvement from our employees, and focus on helping those within our communities. Examples of our investment of Huntsman resources in our local communities can be found in the Communities section of this report.

**We are also committed to strong community relations where we operate. We're a founding member of Responsible Care®, the industry's environmental, health, safety, and security performance initiative.**

The Responsible Care® program helps member companies elevate the safety of their employees, support local communities, and protect the environment – all while enhancing operational performance.

At our major sites, we participate in community advisory panels (CAPs) and local emergency planning committees (LEPCs). We also engage with local first responders. Where applicable, we engage with local work councils and other labor organizations.

In addition to the CAP and LEPC forums, our community outreach efforts include our corporate crisis plan and our site emergency response plans, which outline our engagement in the event of an

incident or crisis. As a Responsible Care® company, we also operate a 24/7 Care Line phone number at our company headquarters that community members can call to report concerns. Communities can also access our website for information on our facilities and operations.

We monitor the effectiveness of our community engagement through feedback we receive from our CAP and LEPC activities, as well as through social media monitoring and website analytics.

Details regarding our operating locations can be found on our website at [Huntsman Locations](#).

# Product Stewardship

## Management of the Topic

| GRI 3-3 | SASB RT-CH-410b.2 |

**Product stewardship demonstrates our commitment to the safe handling of potentially hazardous chemicals at every stage of their life cycles, from the sourcing of raw materials, through manufacture and use, to eventual disposal.**

At Huntsman, product stewardship is an integrated process for identifying, managing, and minimizing the environmental, health, and safety impacts at every stage of a product's life cycle. Our commitment to safer and more sustainable products enhances public confidence, keeps our customers and consumers safe, and ensures our reputation as a responsible and sustainable company.

Huntsman regularly evaluates its products for substances of concern throughout the life cycle to help with future portfolio planning and prioritization of R&D efforts to support the development of alternative chemicals as required to meet regulatory and market demands.

### The Huntsman Portfolio

The Substances of Very High Concern (SVHC) list under REACH is one of the widely recognized lists specifying substances of concern that presents current and future potential risk of regulatory action.

**The safety of our associates, business partners, customers, and consumers is our top priority.**

We implement strong product stewardship programs to ensure that all products we make can be safely transported, stored, and used by our customers.

To this end, we have several active programs addressing the use of SVHCs across our businesses.

Products are considered on a case-by-case basis, including assessing the use of the substance, along with existing and potential risk management options, ease of substitution, and product benefits. We work with regulators, customers, suppliers, and value chain partners to make these assessments and to develop suitable risk mitigation plans that could include phase out, reformulation, or development of alternatives.

### Proactive Screening and Development of Alternatives

We evaluate new product developments against defined Substances of Concern (SoC) lists at various stages in the development process, including at stage gate reviews. **Our Product EHS teams have developed an SoC risk evaluation tool specifically for this purpose.** Our R&D teams look for SoC issues at all stages of the development process as part of the selection of the preferred technical solution and when screening new raw materials from suppliers. A formal hazard assessment is completed by our Product EHS teams during the new product introduction process. **Products with significant SoC impact may be eliminated or new product development projects terminated** based on an SoC assessment or



if the business case for further development is not viable.

In some cases, if there are no viable or sustainable alternatives, we may still choose to launch a product that contains SoCs, which may require regulatory approval and be either manufactured or used under strictly controlled conditions. Huntsman safety data sheets (SDSs) are available in multiple languages and accessible to all registered Huntsman customers on our online service portal. Customers can access product safety information through multiple channels, including:

- Sales contacts
- Division-specific online service portals, such as Texnet for Textile Effects
- Contact links at our website: [Huntsman Contacts](#)

Huntsman associates are trained on product safety, relevant to their roles and responsibilities. Designated product stewards are equipped to train associates, customers, distributors, and transporters.

We offer our customers training on Huntsman's product stewardship, along with in-depth training on safety data sheets, regulatory compliance, and safe use of products in customer applications.



# Product Stewardship Data and Compliance

| [GRI 416-1](#) | [GRI 416-2](#) | [GRI 417-1](#) | [GRI 417-2](#) | [GRI 417-3](#) |  
| [SASB RT-CH-410b.1. \(1\)](#) | [SASB RT-CH-410b.1. \(2\)](#) |

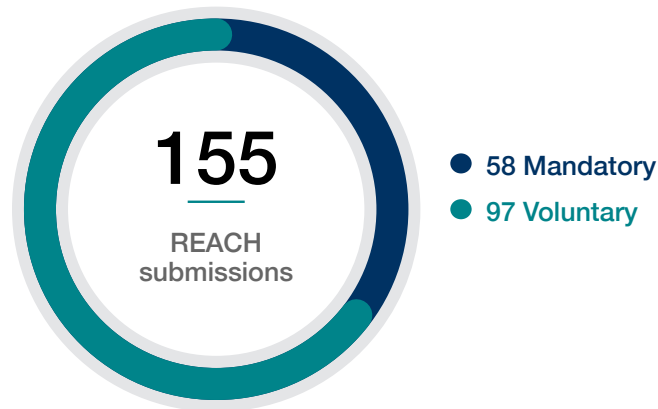
Huntsman has over 30,000 finished products and raw materials that are sold or used. We evaluate our products, using our New Product Introduction process or our Hazard Communication processes.

One example of how Huntsman continually reviews and evaluates our substances for improvement is through our Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) review process. We are required to update REACH dossiers for certain substances in our portfolio every year, due to reviews conducted by the European Chemicals Agency (ECHA), based on new evaluations or new health science data.

**In 2021, we updated 58 substances as a part of this mandatory process. We went beyond what was required by ECHA and updated an additional 97 products.**

Updates included adding use case and exposure scenarios and incorporating advances in science and descriptions for read-across data applicability. In total, Huntsman updated 155 REACH dossiers in 2021, an increase from 107 REACH dossiers in 2020.

## 2021 Updated REACH Submissions



In 2021, we updated more than 77,000 safety data sheets. Roughly 70% of our products contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and Category 2 Health and Environmental Hazardous Substances.

**The publishing of at least 30 product safety summaries is one of the targets of Horizon 2025**, our business strategy for environment, health, and safety (EHS). This target is aligned with the American Chemistry Council's Responsible Care® initiative. The product safety summaries are not intended to replace the information included on the safety data sheet, the product safety label, and other safe use and handling literature for the chemical substances.

As of the end of 2021, we have published 14 product safety summaries. A list of these product safety summaries can be found at: [Product Safety Summaries](#).

In 2021, we did not identify any incidents of non-compliance with regulations and/or voluntary codes related to health and safety impacts of our products.

All of our products are assessed for compliance with labeling regulations. **In 2021, we did not identify any incidents of non-compliance with regulations and/or voluntary codes concerning our product information and labeling.** Additionally, we did not identify any incidents of non-compliance with regulations and/or voluntary codes concerning our marketing communications, including advertising, promotion, and sponsorship in 2021.



# Employee Engagement and Development

## Management of the Topic

| GRI 3-3 |

People are the foundation of Huntsman.

At Huntsman, we pride ourselves on being a people-oriented organization. Our family-like atmosphere is cultivated by our diverse groups of team members around the world.

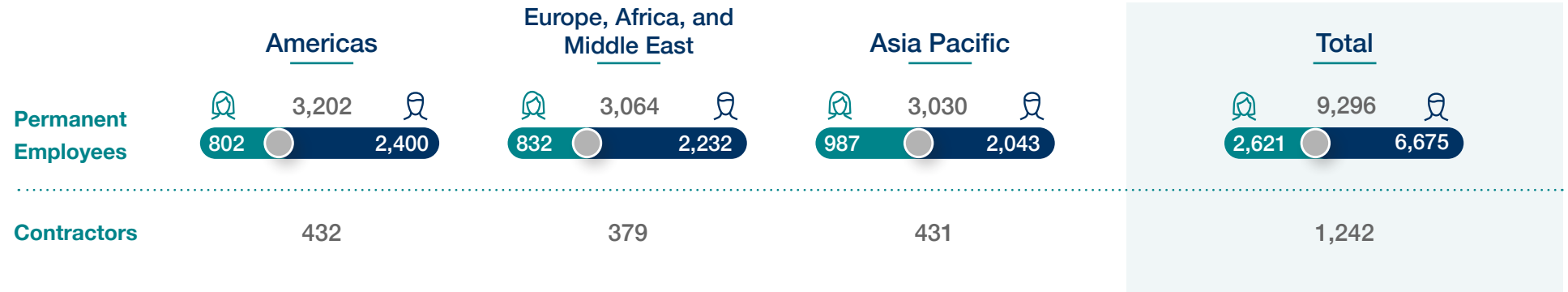
We welcome the talent, experience, and fresh ideas that employees at all stages of their careers, from interns to seasoned professionals, bring to Huntsman.

In return, we offer employees the opportunity to become an integral part of a dynamic, industry-leading company, where safety and ethics always come first.

## Employee Data

| GRI 2-7 | GRI 2-8 |

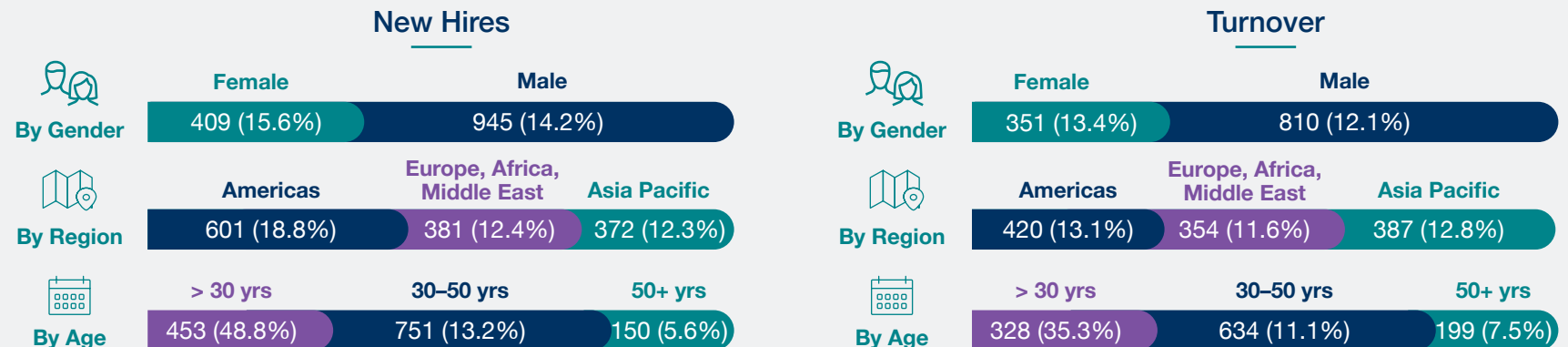
The table at right provides a breakdown of our employees by region and gender, and of our contractors by region, based on headcount as of December 31, 2021.



## New Employee Hires and Turnover

| GRI 401-1 |

The table at right provides a breakdown of our 2021 new hires and of those associates who left Huntsman, by gender, region, and age. The count is presented, along with the percentage of the count within a particular group.



# Benefits

| GRI 202-1 | GRI 202-2 | GRI 401-2 | GRI 405-2 |

Our policy is to competitively compensate our associates and to appropriately motivate associates to provide value to our shareholders.

Our compensation philosophy is to align both near-term and long-term incentives with our strategic objectives and to take into account market forces, best practices, and the performance of our company and our employees. We offer employees benefits that vary by country and are designed to meet or exceed local laws and to be competitive in the marketplace. Examples of benefits offered in the U.S. include:



We sponsor several contributory and non-contributory defined benefit plans, covering employees primarily in the **U.S., the UK, the Netherlands, Belgium, and Switzerland**, but also covering employees in several other countries. We fund the material plans through trust arrangements (or local equivalents) where the assets are held separately from us. We also sponsor unfunded post-retirement plans that provide medical and, in some cases, life insurance benefits covering certain employees in the U.S. and Canada.

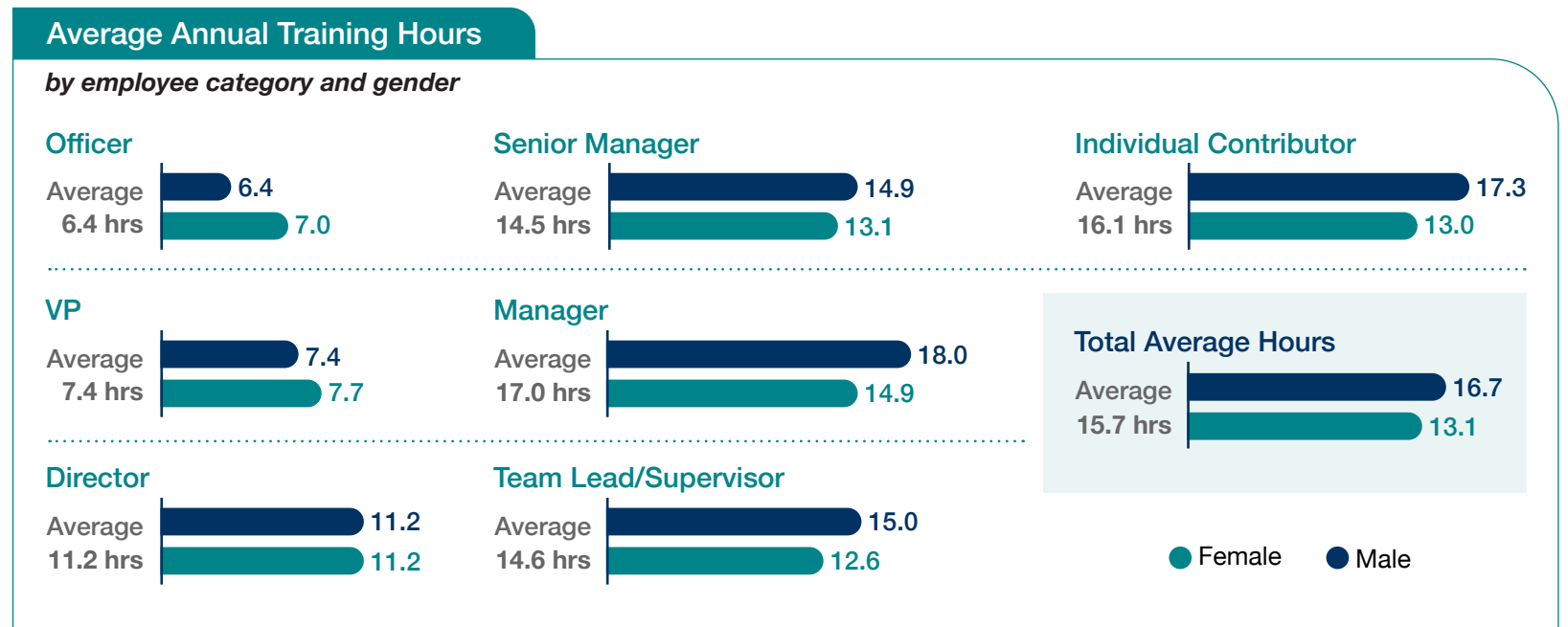
# Training and Development

| GRI 404-1 |

Huntsman provides associates with training and development to further enhance their professional skills. These training and development courses include topics such as EHS, compliance, soft skills, technical skills, and leadership development.

Huntsman develops associates who are in, or will assume, supervisory or management positions in the organization to ensure that they feel comfortable dealing with employee-related matters, such as setting objectives, making career development plans, coaching, and providing performance management. This training is made available in local languages.

The table at right shows average annual training hours, by employee category and gender.



## Development and Transition Assistance Programs

| GRI 404-2 |

At Huntsman, we have built a culture of high performance and continuous learning and development. It is important that our associates continue to grow the skills, knowledge, experience, and behaviors that relate to their current and future job requirements.

**We foster career growth through training, mentoring, and job rotations. Our programs identify and develop employees for future roles by offering courses in language training, personal effectiveness, team management, leadership, and more.**

Huntsman provides a range of learning and development resources through its My Learning & Development portal. Resources include career and learning development planning frameworks, competency frameworks, performance and development feedback, e-learning, academies, and global training programs.

Employees who retire or are separated from Huntsman are offered support services including career coaching, resume reviews, networking assistance, and interview preparation.

## Performance Reviews

| GRI 404-3 |

Most eligible associates of Huntsman are, in partnership with their supervisors, required to participate in an annual Performance Development Program (PDP) assessment. In addition, numerous training and development courses are offered to associates, both live and online, with the intention of developing the soft and technical skills of our associates.

The table below shows the percentage of employees receiving regular performance and career development reviews by employee category and gender.



### Percentage of Employees Receiving Regular Performance and Career Development Reviews

by employee category and gender

#### Officer



#### Senior Manager



#### Individual Contributor



#### VP



#### Manager



#### Average Review Rate



#### Director



#### Team Lead/Supervisor



● Female ● Male

# Diversity, Equity, and Inclusion

## Management of the Topic

| GRI 3-3 |

Treating everyone with respect is a company value that applies to each of us. We are committed to creating an environment reflecting the diversity of the communities in which we do business. We make all employment decisions based on job-related qualifications and without regard to race, color, religion, gender, age, disability, national origin, sexual orientation, and any other protected status in each of the countries in which we operate.

This value is reinforced in our Business Code of Conduct and in our Human Rights Policy.

A diverse workforce stimulates conversation, innovation, creativity, and problem solving. Huntsman unites people from various cultures and backgrounds who offer unique ideas and perspectives that help to build a stronger company. We value our team environment where people treat each other with integrity and respect.

To achieve the objectives of our policies, we:

- **Provide guidance and training** on compliance with the policy and reporting of any suspected violations
- **Encourage reporting of suspected violations** of this policy through the same channels established for reports made under the Business Conduct Guidelines
- **Investigate suspected violations** by a team established by the Corporate Compliance Manager with appropriate corrective or other actions taken

- **Periodically conduct a policy audit** in accordance with the Corporate Compliance Program audit requirements, and, when necessary, update the policy or its procedures and guidance with respect to its effectiveness. Huntsman may seek an independent audit at any time in any manner that the Nominating and Governance Committee of the Board of Directors deems appropriate
- **Report the company's human rights performance** to the Board of Directors on an annual basis (at a minimum)



## Diversity Data

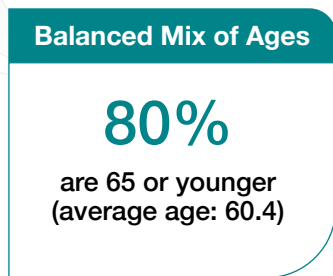
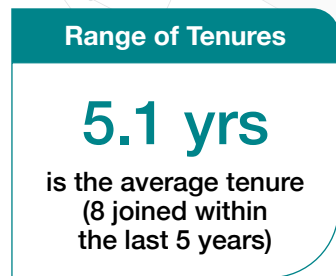
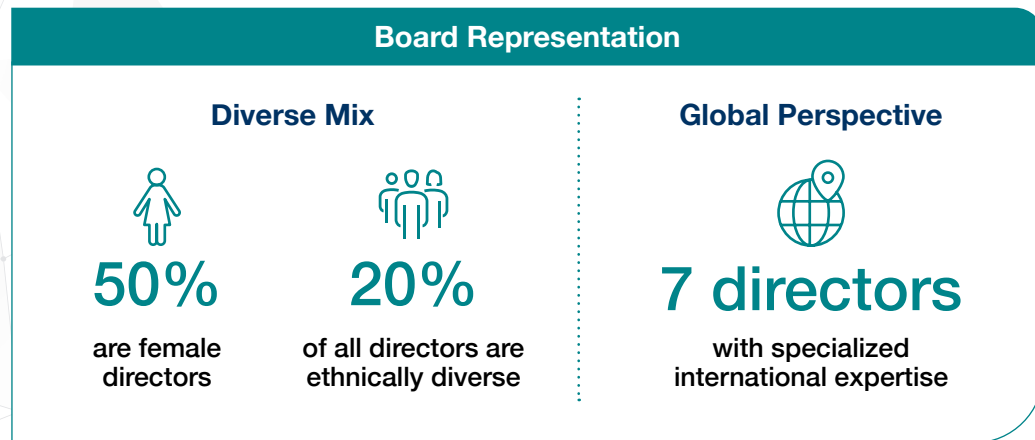
| GRI 405-1 |

### Director succession for our Board of Directors is a thoughtful, ongoing process at Huntsman Corporation.

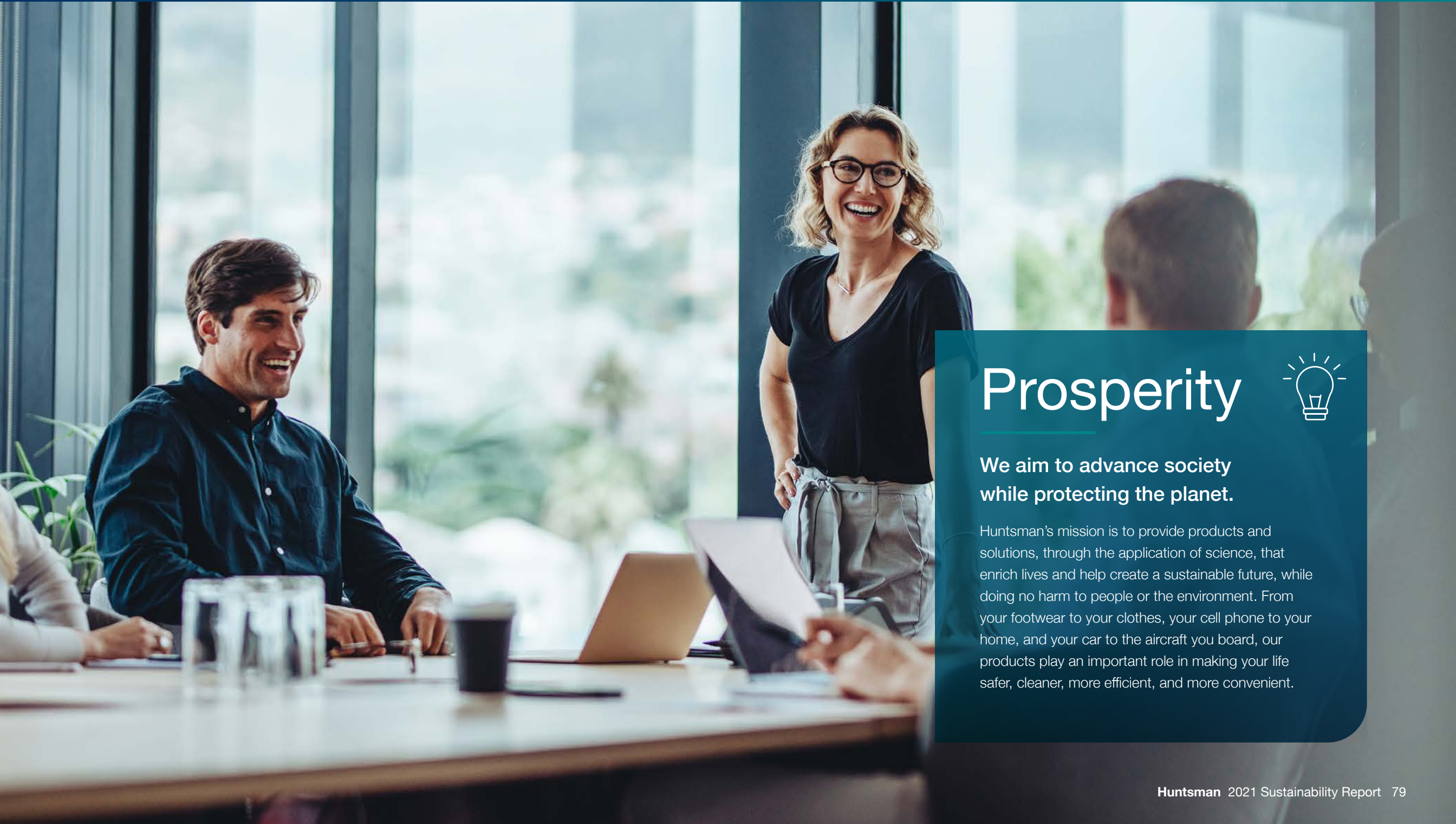
Our Board evaluates desired attributes, considering our strategy and evolving needs. As part of our Board’s multi-year director succession and refreshment process that began at the end of 2017, we have added eight new independent directors (including four women, two ethnically diverse directors, and one veteran) to the Board. Four of five Board committees will have women chairs, effective at the Annual Meeting, and our Lead Independent Director and Non-Executive Vice Chair is female.

Our Board consists of a highly qualified, diverse group of leaders in their respective fields, and is representative of an effective mix of deep company knowledge and fresh perspectives. The following graphic illustrates the diverse and well-rounded range of attributes, viewpoints, and experiences of our 10 directors.

In addition to diversity at the highest levels of the organization, the following table shows diversity in each employee category by gender, age group, and U.S. ethnic minority status:



Employee Category	Gender		Age			U.S. Ethnic Minority	
	Female	Male	< 30 yrs	30–50 yrs	50+ yrs	Minority	Non-Minority
Officer	11.1%	88.9%	0.0%	33.3%	66.7%	0%	100%
VP	19.4%	80.6%	0.0%	30.6%	69.4%	26.7%	73.3%
Director	21.0%	79.0%	0.0%	47.5%	52.5%	17.4%	82.6%
Senior Manager	26.5%	73.5%	0.0%	49.4%	50.6%	23.6%	76.4%
Manager	32.9%	67.1%	0.2%	66.2%	33.6%	26.5%	73.5%
Team Lead/Supervisor	20.0%	80.0%	2.8%	64.7%	32.5%	34.5%	65.5%
Individual Contributor	29.5%	70.5%	13.6%	61.5%	24.9%	30.6%	69.4%
<b>Overall</b>	<b>28.2%</b>	<b>71.8%</b>	<b>10.0%</b>	<b>61.3%</b>	<b>28.7%</b>	<b>29.3%</b>	<b>70.7%</b>



# Prosperity



**We aim to advance society while protecting the planet.**

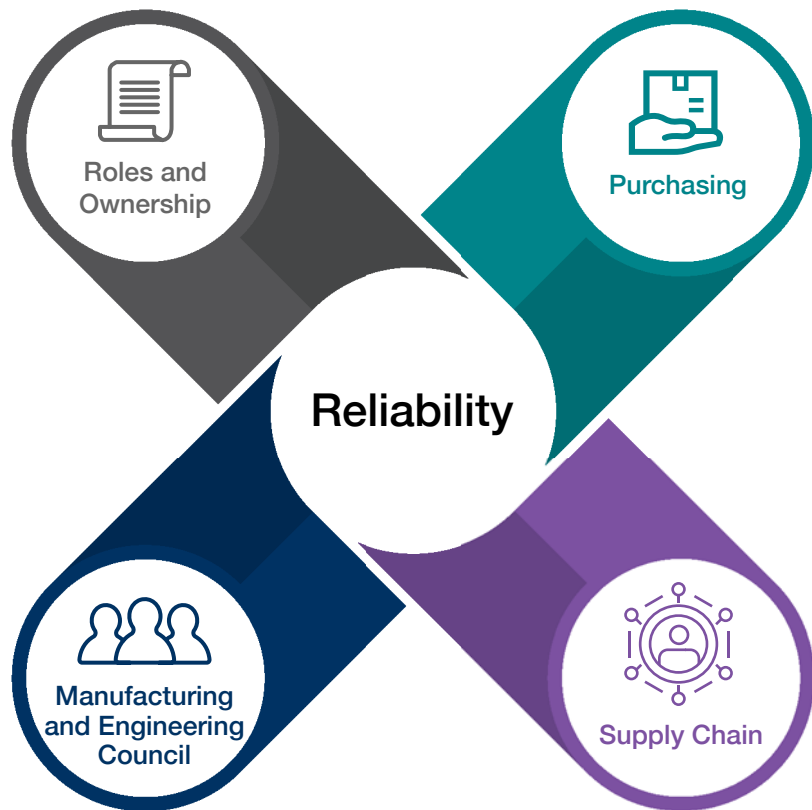
Huntsman's mission is to provide products and solutions, through the application of science, that enrich lives and help create a sustainable future, while doing no harm to people or the environment. From your footwear to your clothes, your cell phone to your home, and your car to the aircraft you board, our products play an important role in making your life safer, cleaner, more efficient, and more convenient.

# Reliability

## Management of the Topic

| GRI 3-3 |

We see reliability as critical to meeting customer needs, delivering commercial results, and, ultimately, driving the success of our business. Several aspects comprise reliability including roles and ownership, purchasing, supply chain and our Manufacturing and Engineering Council.



## Roles and Ownership

Plant managers at each of our facilities oversee site operations, and manufacturing leads for each division have accountability and oversight of the operations strategy of the division. We manage logistics, including raw material input and shipments of products to customers as outputs, with a dedicated supply chain group that works closely with corporate purchasing teams that handle raw material purchases and vendor management.



## Purchasing

Purchasing plays a key role in reliability. An understanding of our supply chain risks and opportunities is crucial to operations of our site facilities. For example, in 2017, we experienced a significant disruption to parts of our supply chain in China due to shutdowns related to enforcement for non-compliance with environmental regulations. Suppliers were either directly or indirectly impacted with minimal notice. Strengthening our understanding of that part of our supply chain has improved the assurance of our product delivery.

Our sourcing strategies for key materials and services further assure delivery of best-in-class reliability. For example, sole sourcing can pose a reliability risk; however, some items may require sole sourcing due to logistics, geography, or economics. While we can never fully eliminate interruptions, we continually assess the viability of sources across the value chain to minimize impacts and improve our overall reliability, customer satisfaction, and profitability.



## Supply Chain

| GRI 204-1 | GRI 308-1 | GRI 414-1 |

Reliability is also critical for our supply chain teams as they support business plans. The supply chain teams balance customer demand with our supply capability to ensure that we meet our customers' needs. The teams focus on customer alignment, organizational responsiveness, network resilience, and financial benefit.

We proactively track and trace our logistics capability to improve reliability. While our regional teams are implementing slightly different platforms across the globe, they have the shared overarching goal of increasing visibility of transportation, augmenting responsiveness for our customers, improving the performance of logistics service providers to deliver orders “on time and in full,” and reducing lead times and inventory. This approach may include the use of local suppliers in our significant locations of operation.

Huntsman works collaboratively across divisions to ensure maximum learning in the supply chain. Huntsman has established a Supply Chain Council that identifies critical supply chain areas where there is benefit in driving common goals and activities. In 2021, the Council concentrated on people development – leveraging both common internal and external training, harmonization of job profiles, and the identification of required competencies within the supply chain to ensure future success within the function.

Huntsman has a Vendor Code of Conduct that reinforces our commitments to environmental and social performance of our business, including our supply chain partners. In the future,



Huntsman plans to use the EcoVadis platform to assess the relative sustainability performance of our supply chain partners, from onboarding through contract termination, to identify risks and corrective actions, if any, that may be required. As we deploy the EcoVadis assessment, we will be able to report on the percentage of suppliers screened in the reporting period.

## Manufacturing and Engineering Council

We formed the Manufacturing and Engineering Council (MEC) ten years ago. The MEC is comprised of executives responsible for leading and continuously improving Huntsman's manufacturing and engineering systems, processes, tools, and organizational capability and culture within our manufacturing sites. Safety, engineering, and operational excellence are key responsibilities for the MEC. The MEC is led by the Senior Vice President of EHS and Manufacturing Excellence, and meets on a quarterly basis.

## Reliability in Action

### Polyurethanes Division

Through its Global Reliability Improvement Program (GRIP), our Polyurethanes division continues to deliver predictable production capability and to build a continuous improvement culture across four major sites in the U.S., the United Kingdom, the Netherlands, and China. GRIP consists of five elements to deliver sustainable reliability:

#### Technical Pillars:

- Asset Health
- Operational Excellence
- Supplier Reliability

#### Enabling Foundations:

- People
- Leadership & Culture and Performance Management

The GRIP governance model includes the global groups and site teams led by assigned transformation officers and initiative owners. Together, these teams use agile, 12- to 14-week sprints to develop, plan, and implement improvements targeted to improve reliability and deliver on business commitments.

In 2021, the GRIP operational excellence scope was expanded beyond routine operations in MDI production to include turnaround excellence, along with process improvements in variants and polyol operations.

# Cybersecurity

## Management of the Topic

| GRI 3-3 |

**Cybersecurity is a critical business issue and one that is continuously changing. We rely on information technology systems across our operations to manage our supply chain and financial information, as well as various other processes and transactions.**

Our ability to effectively manage our business depends on the security, reliability, and capacity of our information and operational technology systems, as well as specific protection of the company's intellectual property and other sensitive business information. Huntsman has invested, and continues to invest, in technology security initiatives and disaster recovery plans that help to protect against significant risks to our information technology systems and data. We have put in place security measures designed to protect against the misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, and disruption of our operations. Our information security systems and processes are constantly reviewed, tested, updated, and enhanced as needed. This includes monitoring of third- and fourth-party risk, conducting cyber risk assessments to ensure that the third parties have appropriate controls in place.

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**Education is an essential part of protection, and we strive to reinforce a cybersecurity-aware culture within Huntsman.**

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All Huntsman employees are required to complete an annual cybersecurity course that is regularly updated based on the latest types of attacks and security best practices. In addition, high cyber risk job roles and teams receive specialized training. Internal phishing awareness exercises and campaigns are included as part of this education.

In addition to our cybersecurity efforts, data privacy is a subject that has frequently changing rules and regulations in countries where we do business. For example, the European Union's General Data Protection Regulation, Brazil's General Data Protection Law (Lei Geral de Proteção de Dados), and,

in the U.S., the California Consumer Privacy Act require companies to meet new regulations regarding the handling of personal data. Huntsman continuously monitors and updates data protection efforts as required.

Effective cybersecurity requires constant vigilance and regular updating of systems and processes. Huntsman takes threats seriously, and we continue to work to improve our systems and processes so they provide the most effective security possible to protect our technology systems, data, and operations.

# Product Innovation

## Management of the Topic

| GRI 3-3 | SASB RT-CH-410a.1 | TCFD Strategy B |

**Innovation is at the heart of Huntsman and is in our motto, “Enriching lives through innovation.”**

For 50 years, our employees have been using science and ingenuity to create innovations that play a critical role in the everyday lives of many millions of people. We work in deep partnership with our customers to create solutions that help make people’s lives more sustainable, effective, and comfortable.

Our products comprise a broad range of chemicals and formulations, which we market globally to a diversified group of consumer and industrial customers. Our products are used in a wide range of applications, including those in adhesives, aerospace, automotive, construction products, durable and non-durable consumer products, electronics, insulation, medical, packaging, coatings and construction, power generation, refining, synthetic fiber, textile chemicals and dyes industries.

Growth in our differentiated products has been driven by the substitution of our products for other materials and by the level of global economic activity. We work closely with our customers to develop innovations that improve the performance and sustainability of our products.

### Reoriented Toward Emerging Demand for Differentiated Chemical Products

		Polyurethanes	Performance Products	Advanced Materials	Textile Effects
<b>Energy Conservation, Alternative Energy, and Storage</b>	High-performing insulation	🌿	🌿		
	Smarter, more efficient power grid			🌿	
	Electric vehicle battery solvents and motor encapsulation		🌿	🌿	
	Wind energy (resins, hardeners, and adhesives)		🌿	🌿	
	Lightweighting (transportation, industrial)	🌿	🌿	🌿	
	Low energy consumption in processing		🌿	🌿	🌿
	High-performance polyurethanes panel insulation used in cold chain / food preservations	🌿			
<b>Emissions Reduction</b>	Polyurethanes pipe insulation used to improve industrial insulation and to drive emissions reduction	🌿			
	Low-VOC-emission products	🌿	🌿	🌿	🌿
<b>Waste Reduction</b>	Cleaner fuels and natural gas treating		🌿		
	Water-reducing and zero-discharge dyes and inks				🌿
	Upcycling of PET (e.g., plastic bottles) to polyester polyols	🌿			

Many of our products are designed for use-phase resource efficiency such as fuel additives and lubricants, lightweighting, or improving textile production processes. While sustainability broadly covers multiple aspects of society, we selected the United Nations Sustainable Development Goals (SDGs) as a globally accepted standard, and we have therefore defined sustainability as products that contribute to one or more of the SDGs.

Proprietary protection of our processes, apparatuses, and other technology and inventions is important to our businesses.

**We own approximately 3,080 unexpired patents, and have approximately 1,055 patent applications (including provisionals) currently pending.**

We also rely on unpatented proprietary know-how, along with continuing technological innovation and other trade secrets, to develop and maintain our competitive position.

# Direct Economic Performance

Direct Economic Value Generated and Distributed | **GRI 201-1** |

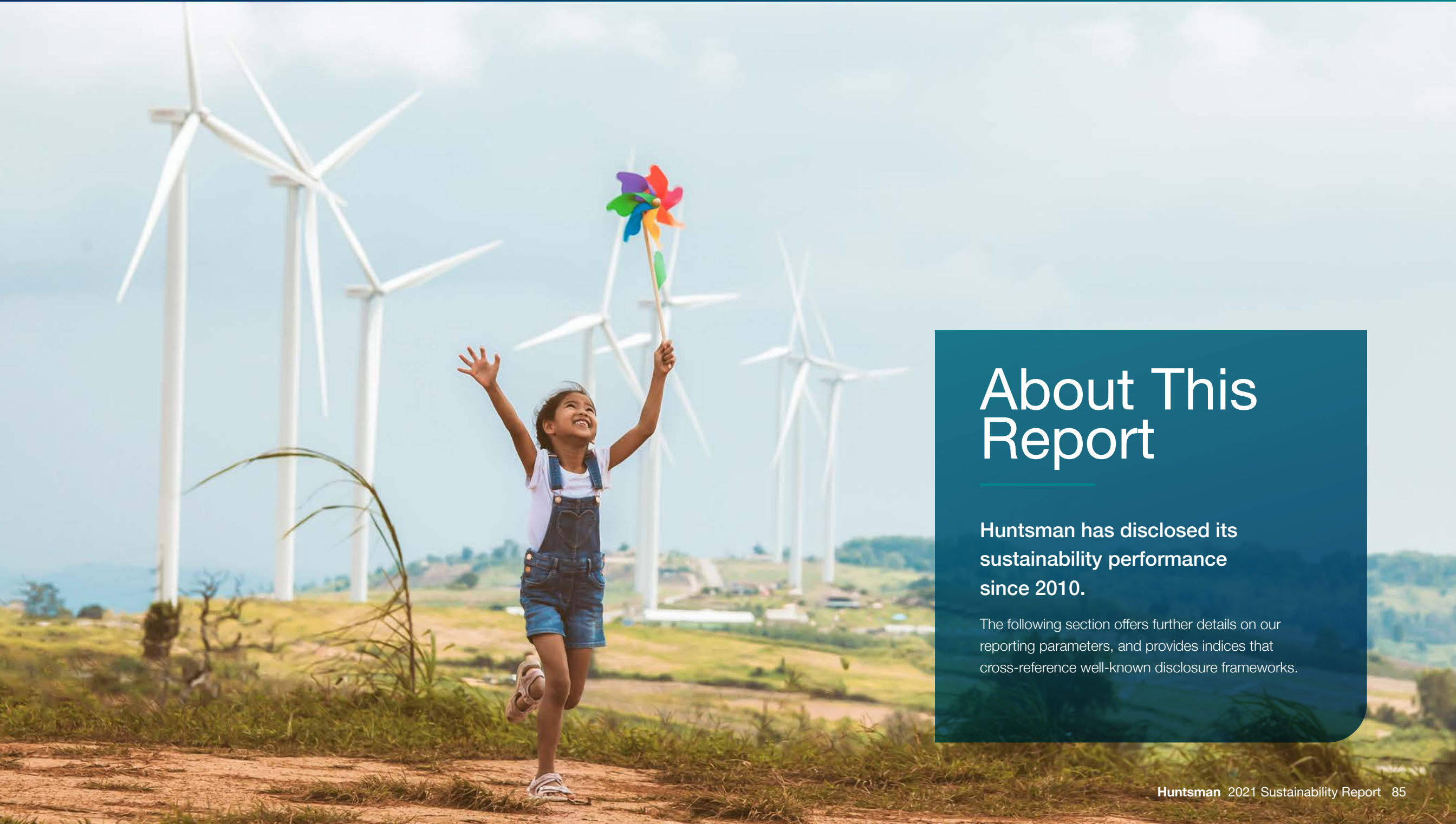
Recycled Input Materials Used | **GRI 301-2** |

For additional details on financial data, please refer to our 10-K for the year ended December 31, 2021.

☞ USD, in millions	2021	2020	2019
<b>Revenues</b>	\$8,453	\$6,018	\$6,797
<b>Operating Costs</b>	\$6,737	\$5,017	\$5,252
<b>Employee Wages and Benefits</b>	\$949	\$815	\$1,076
<b>Payments to Providers of Capital<sup>1</sup></b>	\$226	\$230	\$261
<b>Payments to Government<sup>1</sup></b>	\$209	\$46	(\$38)
<b>Community Investments<sup>2</sup></b>	\$2	\$2	\$2
<b>Economic Value Retained</b>	\$330	(\$92)	\$244

<sup>1</sup> Moved to accrual basis consistent with GRI 201-1

<sup>2</sup> Community investments represent those that are tracked and reported centrally and may not include all donations from individual sites.



# About This Report

**Huntsman has disclosed its sustainability performance since 2010.**

The following section offers further details on our reporting parameters, and provides indices that cross-reference well-known disclosure frameworks.

# Reporting Parameters

| [GRI 2-2](#) | [GRI 2-3](#) | [GRI 2-4](#) | [GRI 2-5](#) | [CDP C0.2](#) | [CDP C0.4](#) | [CDP C.5](#) | [CDP C.10](#) | [TCFD Metrics and Targets A](#) | [TCFD Metrics and Targets C](#) |

Huntsman has reported in accordance with the GRI Standards (2021) for the period January 1 through December 31, 2021, in line with our financial reporting period, unless stated otherwise in this report.

We have provided a consistent treatment of identified material topics, and have aligned these topics and other disclosures to the World Economic Forum’s taxonomy of Stakeholder Topics. Huntsman is also reporting in accordance with Sustainability Accounting Standards Board (SASB) standards and the Task Force on Climate-related Financial Disclosures (TCFD) framework, and has cross-referenced the CDP Worldwide global disclosure system. We report our sustainability performance on an annual basis.

All of the entities in our financial reporting are included in our sustainability reporting. A list of Huntsman’s entities can be found [here](#).

The report includes data related to all Huntsman enterprises where we have operational control (more than 50%) and to joint ventures where we have management control.

The data reported have been obtained primarily from our financial management reporting systems; various human resources information systems; and the Huntsman corporate reporting systems for environmental, health, and safety performance indicators.

We are confident in the overall reliability of the data reported, but recognize that some of these data are subject to uncertainty, inherent to limitations associated with measuring, calculating, and estimating data.

Minor corrections in historic data may be due to data errors or other approved reasons. Each year, energy consumption and environmental emission estimates are recalculated and revised for all years in the annual sustainability report, as attempts are made to improve both the analyses (by using better methods or data) and the overall usefulness of the report. As a result, figures may include updates to data published in the past.

Restatements to data to figures previously reported are made to assure consistency and enable comparability between reporting periods.

We make restatements when material changes in our business or disclosure parameters could influence the analysis of the changes in our impacts over time. The source of these material changes could be due to, but is not limited to, changes in:

- a) Reporting boundary

- b) Methodology, most notable our measure of production to better align with best practices
- c) Our business due to acquisitions, divestments, and mergers, to assure comparable reporting over time periods
- d) Improvements in data accuracy
- e) Errors made in previous reporting periods.

There is no materiality threshold for the above-named changes. For acquisitions, divestments, and mergers, that occur in the reporting year, we adjust measures for the entire reporting year and all previous years.

In this reporting cycle, we made adjustments to our historical numbers for changes in methodology, acquisitions, and errors in previous reporting periods. Methodological changes included further centralization of Scope 1 and Scope 2 calculations. Acquisition adjustments related to our CVC and Gabriel acquisitions which closed in early 2021. Errors included proper capture of process emissions at certain sites. These adjustments were applied to all historical figures to assure comparison across time.

We also changed our measure of production from final sales and intermediates to final sales only. We believe this adjustment better aligns our reporting with best practices and with measuring impacts per unit of products delivered to our customers.

This change in production measure had the effect of **reducing our production by more than 2.5 times** and **increasing our intensity measures by more than 2.5 times**. We have restated our prior year production and intensity measures, including our 2019 base year, to assure comparability of performance over reporting periods.

All financial figures disclosed in this report are in U.S. dollars (USD).

Limited assurance has been provided by a third party for operational greenhouse gas emissions (Scope 1 and Scope 2) and water consumption. A link to the third-party report can be found [here](#).

Please contact us at [sustainability@huntsman.com](mailto:sustainability@huntsman.com) with any questions or comments about this report.

# Performance Data



Prosperity	Unit	2021	2020	2019
Revenues	\$ million	\$8,453	\$6,018	\$6,797
Net Income	\$ million	\$1,104	\$1,066	\$598
Adjusted Net Income <sup>1</sup>	\$ million	\$784	\$218	\$353
Adjusted EBITDA <sup>1</sup>	\$ million	\$1,343	\$647	\$846
Capital Expenditures	\$ million	\$342	\$249	\$274
Adjusted Free Cash Flow <sup>1</sup>	\$ million	\$279	\$285	\$382
Income Tax Benefit (Expense)	\$ million	(\$209)	(\$46)	\$38
Total Products/Co-Products	\$ million tonnes	\$2,738	\$2,602	\$2,614
Environmental Reserves <sup>2</sup>	\$ million	\$5	\$4	\$4
EHS Capital Expenditures	\$ million	\$45	\$28	\$42
Debt	\$ million	\$1,550	\$2,121	\$2,389
Net Debt <sup>3</sup>	\$ million	\$509	\$528	\$1,864
Equity	\$ million	\$4,559	\$3,673	\$2,824

## Planet<sup>4</sup>

	Unit	2021	2020	2019
Total Energy Consumption	Gigajoules (GJ)	16,248,959	13,726,886	14,789,568
Total Greenhouse Gas (GHG) Emissions	mmt CO <sub>2</sub> e	1,120,686	1,080,739	1,184,281
Total Air Emissions <sup>5</sup> (excluding GHG)	tonnes	1,815	1,828	1,875
Total Water Discharge (Chemical Oxygen Demand)	tonnes	3,813	3,841	5,410
Total Non-Hazardous Waste Generated	tonnes	273,894	528,748	617,450
Total Hazardous Waste Generated	tonnes	68,492	57,836	63,033

## People

	Unit	2021	2020	2019
Regular Full-Time Associates	FTE	9,296	8,980	10,063
U.S.-Based Associates	FTE	2,430	2,201	2,931
Non-U.S. Associate	FTE	6,866	6,779	7,132
Contractors <sup>6</sup>	FTE	1,242	1,044	1,471
Total Recordable Incident Rate		0.38	0.27	0.46
U.S. Chemical Industry Average		N/A	0.61	0.73
Fatal Work-Related Accidents (Associates)		0	0	0
Fatal Work-Related Accidents (Contractors)		0	1	0

**Note:** The Chemical Intermediates and Surfactants businesses, which were sold to Indorama Ventures on January 3, 2020, are treated as discontinued operations in all periods shown.

<sup>1</sup> Reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures are provided through the "Non-GAAP Reconciliation" link available in the "Financials" section on our website at [www.huntsman.com/investors](http://www.huntsman.com/investors).

<sup>2</sup> Pursuant to U.S. Securities and Exchange Commission (SEC) regulations, the company accrues liabilities (reserves) relating to anticipated environmental cleanup obligations, site remediation/reclamation and closure costs, and material monetary sanctions (i.e., enforcement penalties), which are recorded and can be reasonably estimated.

<sup>3</sup> Net Debt calculated as total debt, excluding affiliates, less cash of \$1,041 million, \$1,593 million, and \$525 million in 2021, 2020, and 2019, respectively.

<sup>4</sup> Environmental data is based on 72 manufacturing facilities reporting emissions and energy data.

<sup>5</sup> Air emissions are releases of volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter, and other contaminants.

<sup>6</sup> Number of full-time equivalents (FTE) based on annual reported hours worked by contractors in our safety statistics program and 2,000 hours per FTE.

# Sustainability Indices

## Statement of Use

Huntsman has reported in accordance with the GRI Standards (2021). We have provided a consistent treatment of identified material topics, and have aligned these topics and other disclosures to the World Economic Forum’s taxonomy of Stakeholder Topics. We do not list our material topics in order, but instead have grouped topics according to the World Economic Forum’s sustainability themes of “Planet-People-Prosperity-Principles of Governance.” The GRI index is provided in this report for convenience to enhance readability and assist with locating topics.

Additionally, Huntsman is also reporting in accordance with Sustainability Accounting Standards Board (SASB) standards and the Task Force on Climate-related Financial Disclosures (TCFD) framework, and has cross-referenced the CDP Worldwide global disclosure system.

## GRI Index

Huntsman has reported in accordance with the GRI Standards (2021). The GRI index is provided below to assist with locating topics. In addition to providing the sections and page numbers for

topics, we have included, where applicable, cross-references to both the United Nations Sustainability Development Goals (SDG) and the United Nations Global Compact (UNGC).

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>The Organization and Its Reporting Practices</b>					
2-1	Organizational details	Who We Are			9
2-2	Entities included in the organization’s sustainability reporting	Reporting Parameters			86
2-3	Reporting period, frequency, and contact point	Reporting Parameters			86
2-4	Restatements of information	Reporting Parameters			86
2-5	External assurance	Reporting Parameters			86
<b>Activities and Workers</b>					
2-6	Activities, value chain, and other business relationships	Who We Are; <b>About Huntsman Corporation (HUN); Investor Day 2021</b>	8	6	9
2-7	Employees	Employee Engagement and Development			74
2-8	Workers who are not employees	Employee Engagement and Development			74



Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Governance</b>					
2-9	Governance structure and composition	Governance – Sustainability Governance; <b>Governance Documents</b>	5,16		30
2-10	Nomination and selection of the highest governance body	Governance – Sustainability Governance; <b>Governance Documents</b>	5,16		
2-11	Chair of the highest governance body	Governance – Sustainability Governance; <b>Governance Documents</b>	16		30
2-12	Role of the highest governance body in overseeing the management of impacts	Governance – Sustainability Governance; <b>Governance Documents</b>	16		30
2-13	Delegation of responsibility for the management of impacts	Governance – Sustainability Governance; <b>Governance Documents</b>			31
2-14	Role of the highest governance body in sustainability reporting	Governance – Sustainability Governance; <b>Governance Documents</b>			31
2-15	Conflicts of interest	<b>Governance Documents</b>	16		
2-16	Communication of critical concerns	<b>Governance Documents</b>			
2-17	Collective knowledge of the highest governance body	<b>Governance Documents</b>			
2-18	Evaluation of the performance of the highest governance body	<b>Governance Documents</b>			
2-19	Remuneration policies	<b>Governance Documents</b>			
2-20	Process to determine remuneration	<b>Governance Documents</b>	16		
2-21	Annual total compensation ratio	<b>Annual Meeting and Proxy Materials</b>			
<b>Strategy, Policies, and Practices</b>					
2-22	Statement on sustainable development strategy	A Letter from the Chairman, President, and Chief Executive Officer			6
2-23	Policy commitments	Governance – UNGC Communication on Progress; <b>Governance Documents</b>	16	10	32-35
2-24	Embedding policy commitments	Governance – UNGC Communication on Progress; <b>Governance Documents</b>			32-35
2-25	Processes to remediate negative impacts	<b>Governance Documents</b>			
2-26	Mechanisms for seeking advice and raising concerns	<b>Governance Documents</b>	16	10	
2-27	Compliance with laws and regulations	<b>Governance Documents</b>	8,16	8	
2-28	Membership associations	Governance – Membership associations			35
2-29	Approach to stakeholder engagement	Governance – Stakeholder engagement			36
2-30	Collective bargaining agreements	Governance – UNGC Communication on Progress	8	6	33

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Material Topics</b>					
3-1	Process to determine material topics	Materiality			38
3-2	List of material topics	Materiality			39
3-3	Management of material topics	Disclosed for each material topic			
<b>Economic Performance</b>					
201-1	Direct economic value generated and distributed	Performance data	2, 5, 7, 8, 9		84
201-2	Financial implications and other risks and opportunities due to climate change	Task Force on Climate-related Financial Disclosures (TCFD) Index	13		TCFD Index
201-3	Defined benefit plan obligations and other retirement plans	<b>Financial Reports</b>			
<b>Market Presence</b>					
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	Employee Engagement and Development – Benefits			75
202-2	Proportion of senior management hired from the local community	Employee Engagement and Development – Benefits			75
<b>Indirect Economic Impacts</b>					
203-1	Infrastructure investments and services supported	Communities	2, 5, 7, 9		23
203-2	Significant indirect economic impacts	Communities	8, 10, 17		23
<b>Procurement Practices</b>					
204-1	Proportion of spending on local suppliers	Reliability	12		81
<b>Anti-Corruption</b>					
205-1	Operations assessed for risks related to corruption	Huntsman conducts an annual risk assessment of its businesses, which includes risks relating to corruption.	16, 10		
205-2	Communication and training about anti-corruption policies and procedures	In addition to our Code of Business Conduct, our internal policies include training on anti-corruption. Each year, 100% of regular full-time and part-time, limited-term and Huntsman-paid employees worldwide are required to complete online Code of Business Conduct training. Employees with more sensitive roles are required to take additional training.	16, 10		
205-3	Confirmed incidents of corruption and actions taken	Where any incident of corruption was identified, appropriate disciplinary action was taken in conformance with applicable laws. In addition, Huntsman has internal policies that include training on anti-corruption.	16, 10		

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Anti-Competitive Behavior</b>					
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Any legal actions that are material for anti-competitive behavior, anti-trust, or monopoly practices would be disclosed in Huntsman's filings with the U.S. Securities and Exchange Commission, and all such actions would generally be a matter of public record.			
<b>Tax</b>					
207-1	Approach to tax	Financial Reports			
207-2	Tax governance, control, and risk management	Financial Reports			
207-3	Stakeholder engagement and management concerns related to tax	Financial Reports			
207-4	Country-by-country reporting	Financial Reports			
<b>Materials</b>					
301-1	Materials used by weight or volume	Circularity			59
301-2	Recycled input materials used	Circularity			59
303-3	Reclaimed products and their packaging materials	Circularity			59
<b>Energy</b>					
302-1	Energy consumption within the organization	Energy Management	7, 8, 12, 13	8, 9	47-48
302-2	Energy consumption outside the organization	Energy Management	7, 8, 12, 13	8, 9	48
302-3	Energy intensity	Energy Management	7, 8, 12, 13	8, 9	49
302-4	Reduction of energy consumption	Energy Management	7, 8, 12, 13	8, 9	49
302-5	Reductions in energy requirements of products and services	Energy Management			49
<b>Water and Effluents</b>					
303-1	Interactions with water as a shared resource	Water Management			50
303-2	Management of water discharge-related impacts	Water Management			51
303-3	Water withdrawal	Water Management			52-53
303-4	Water discharge	Water Management			52-53
303-5	Water consumption	Water Management			52-53
<b>Emissions</b>					
305-1	Direct (Scope 1) greenhouse gas emissions	Greenhouse Gases	3, 12, 13, 14, 15	7, 8	42

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<a href="#">305-2</a>	Energy indirect (Scope 2) greenhouse gas emissions	Greenhouse Gases	3, 12, 13, 14, 15	7, 8	<a href="#">43-44</a>
<a href="#">305-3</a>	Other indirect (Scope 3) GHG emissions	Greenhouse Gases	3, 12, 13, 14, 15	7, 8	<a href="#">44</a>
<a href="#">305-4</a>	GHG emissions intensity	Greenhouse Gases	13, 14, 15	8	<a href="#">45</a>
<a href="#">305-5</a>	Reductions of GHG emissions	Greenhouse Gases	13, 14, 15	8, 9	<a href="#">45</a>
<a href="#">305-6</a>	Emissions of ozone-depleting substances (ODS)	Air Quality	3, 12	7, 8	<a href="#">54</a>
<a href="#">305-7</a>	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Quality	3, 12, 13, 15	7, 8	<a href="#">54-55</a>
<b>Waste</b>					
<a href="#">306-1</a>	Waste generation and significant waste-related impacts	Waste Management			<a href="#">56</a>
<a href="#">306-2</a>	Management of significant waste-related impacts	Waste Management	3, 6, 12	8	<a href="#">56</a>
<a href="#">306-3</a>	Waste generated	Waste Management	3, 6, 12, 14	8	<a href="#">57</a>
<a href="#">306-4</a>	Waste diverted from disposal	Waste Management			<a href="#">57</a>
<a href="#">306-5</a>	Waste directed to disposal	Waste Management			<a href="#">57</a>
<b>Supplier Environmental Assessment</b>					
<a href="#">308-1</a>	New suppliers that were screened using environmental criteria	Reliability			<a href="#">81</a>
<a href="#">308-2</a>	Negative environmental impacts in the supply chain and actions taken	Huntsman is not aware of any significant impacts in our supply chain with respect to the environment, labor, human rights, or societal issues that occurred in 2021.			
<b>Employment</b>					
<a href="#">401-1</a>	New employee hires and employee turnover	Employee Engagement and Development – Employee Data	5, 8	6	<a href="#">74</a>
<a href="#">401-2</a>	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Engagement and Development – Programs	8		<a href="#">75</a>
<a href="#">401-3</a>	Parental leave	We do not report in detail on the return to work and retention rate after parental leave by gender.	5, 8	6	
<b>Labor Management Relations</b>					
<a href="#">402-1</a>	Minimum notice periods regarding operational changes	Huntsman engages in planning to ensure that employees are treated with respect and dignity regarding operational changes that involve a change in staffing levels or that otherwise affect employment. Labor and employment law requirements, including but not limited to reasonable employee notice of job loss and requirements under collective bargaining agreements, are assessed.	8	3	

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Occupational Health and Safety</b>					
403-1	Occupational health and safety management system	Workforce Health and Safety – Occupational health and safety management system			62
403-2	Hazard identification, risk assessment, and incident investigation	Workforce Health and Safety – Hazard identification, risk assessment, and incident investigation			62
403-3	Occupational health services	Workforce Health and Safety – Occupational health services			63
403-4	Worker participation, consultation, and communication on occupational health and safety	Workforce Health and Safety – Worker participation, consultation, and communication on occupational health and safety			63
403-5	Worker training on occupational health and safety	Workforce Health and Safety – Worker training on occupational health and safety			64
403-6	Promotion of worker health	Workforce Health and Safety – Promotion of worker health			64
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Workforce Health and Safety – Prevention and mitigation of occupational health and safety impacts directly linked by business relationships			64
403-8	Workers covered by an occupational health and safety management system	Workforce Health and Safety – Occupational health and safety management system			65
403-9	Work-related injuries	Workforce Health and Safety – Work-related injuries and ill health			65
403-10	Work-related ill health	Workforce Health and Safety – Work-related injuries and ill health			65
<b>Training and Education</b>					
404-1	Average hours of training per year per employee	Employee Engagement and Development – Employee Data	8	6	75
404-2	Programs for upgrading employee skills and transition assistance programs	Employee Engagement and Development – Programs	8		76
404-3	Percentage of employees receiving regular performance and career development reviews	Employee Engagement and Development – Employee Data	5, 8	6	76
<b>Diversity, Equity and Inclusion</b>					
405-1	Diversity of governance bodies and employees	Diversity, Equity and Inclusion – Diversity Data	5, 8	6	78
405-2	Ratio of basic salary and remuneration of women to men	Huntsman’s bases compensation on business needs and external market competitiveness without regard to gender	8,10	6	75
<b>Non-Discrimination</b>					
406-1	Incidents of discrimination and corrective actions taken	Due to confidentiality constraints, Huntsman does not publicly report the total number of such incidents or any of their corrective actions.			

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Freedom of Association and Collective Bargaining</b>					
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Huntsman complies with all laws designed to preserve the right to exercise freedom of association and collective bargaining. Huntsman has not identified any operations at which those rights are at significant risk.	8	3	
<b>Child Labor</b>					
408-1	Operations and suppliers at significant risk for incidents of child labor	<b>Governance Documents</b>	8, 16	5	
<b>Forced or Compulsory Labor</b>					
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	<b>Governance Documents</b>	8	4	
<b>Security Practices</b>					
410-1	Security personnel trained in human rights policies or procedures	Please refer to our Human Rights Policy at: <b>Human Rights Policy</b>	16	1	
<b>Rights of Indigenous Peoples</b>					
411-1	Incidents of violations involving rights of indigenous peoples	As of December 2021, zero operations have been subject to human rights reviews or impact assessments.		1	
<b>Local Communities</b>					
413-1	Operations with local community engagement, impact assessments, and development programs	Community Relations			<b>71</b>
413-2	Operations with significant actual and potential negative impacts on local communities	Community Relations			<b>71</b>
<b>Supplier Social Assessment</b>					
414-1	New suppliers that were screened using social criteria	Reliability		2	<b>81</b>
414-2	Negative social impacts in the supply chain and actions taken	Huntsman is not aware of any significant impacts in our supply chain with respect to the environment, labor, human rights, or societal issues that occurred in 2021.		2	
<b>Public Policy</b>					
415-1	Political contributions	Please refer to our Business Code of Conduct at: <b>Business Code of Conduct</b>		10	

Disclosure #	Description	Cross-Reference or Response	SDG	UNGC Connection	Pages
<b>Customer Health and Safety</b>					
416-1	Assessment of the health and safety impacts of product and service categories	Product Stewardship – Product Stewardship Data			73
416-2	Incidents on non-compliance concerning the health and safety impacts of products and services	Product Stewardship – Product Stewardship Data			73
<b>Marketing and Labeling</b>					
417-1	Requirements for product and service information and labeling	Product Stewardship – Product Marketing and Labeling		12	73
417-2	Incidents of non-compliance concerning product and service information and labeling	Product Stewardship – Product Marketing and Labeling		16	73
417-3	Incidents on non-compliance concerning marketing communications	Product Stewardship – Product Marketing and Labeling			73
<b>Customer Privacy</b>					
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Huntsman is unaware of any complaints regarding breaches of customer privacy or loss of customer data in 2021.			

## SASB Index

Accounting Metric	Category	SASB Code	Cross-Reference or Response	Pages
<b>Greenhouse Gas Emissions</b>				
Gross global Scope 1 emissions	Quantitative	RT-CH-110a.1	Greenhouse Gases	42
Percentage of gross global Scope 1 emissions covered under emissions-limiting regulation	Quantitative	RT-CH-110a.1	Greenhouse Gases	42
Discussion of greenhouse gas emissions reduction plan and review of performance against reduction targets	Discussion and Analysis	RT-CH-110a.2	Sustainability Goals, Greenhouse Gases	41
<b>Air Quality</b>				
Air emissions of NOx (excluding N <sub>2</sub> O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Quantitative	RT-CH-120a.1	Air Quality	54-55
Air emissions of SOx	Quantitative	RT-CH-120a.1	Air Quality	54-55
Air emissions of volatile organic compounds (VOCs)	Quantitative	RT-CH-120a.1	Air Quality	54
Air emissions of hazardous air pollutants (HAPs)	Quantitative	RT-CH-120a.1	Air Quality	54

Accounting Metric	Category	SASB Code	Cross-Reference or Response	Pages
<b>Energy Management</b>				
Total energy consumed	Quantitative	RT-CH-130a.1	Energy Management	<b>48</b>
Percentage grid electricity	Quantitative	RT-CH-130a.1	Energy Management	<b>48</b>
Percentage renewable	Quantitative	RT-CH-130a.1	Energy Management	<b>48</b>
Total self-generated	Quantitative	RT-CH-130a.1	Energy Management	<b>48</b>
Energy intensity	Quantitative	RT-CH-130a.1	Energy Management	<b>49</b>
<b>Water Management</b>				
Total water withdrawn	Quantitative	RT-CH-140a.1	Water Management	<b>52</b>
Percentage of total water withdrawn in regions with high or extremely high baseline water stress	Quantitative	RT-CH-140a.1	Water Management	<b>52</b>
Total water consumed	Quantitative	RT-CH-140a.1	Water Management	<b>52</b>
Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	RT-CH-140a.2	Water Management	<b>51</b>
Description of water management risks, and discussion of strategies and practices to mitigate those risks	Quantitative	RT-CH-140a.3	Water Management	<b>50-51</b>
<b>Hazardous Waste Management</b>				
Amount of hazardous waste generated	Quantitative	RT-CH-150a.1	Waste Management	<b>57</b>
Percentage recycled	Quantitative	RT-CH-150a.1	Waste Management	<b>58</b>
<b>Community Relations</b>				
Discussion of engagement processes to manage risks and opportunities associated with community interests	Discussion and Analysis	RT-CH-210a.1	Community Relations	<b>71</b>
<b>Workforce Health and Safety</b>				
Total recordable incident rate (TRIR) for direct employees	Quantitative	RT-CH-320a.1	Workforce Health and Safety	<b>65</b>
Total recordable incident rate (TRIR) for contract employees	Quantitative	RT-CH-320a.1	Workforce Health and Safety	<b>65</b>
Fatality rate for direct employees	Quantitative	RT-CH-320a.1	Workforce Health and Safety	<b>65</b>
Fatality rate for contract employees	Quantitative	RT-CH-320a.1	Workforce Health and Safety	<b>65</b>
Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	RT-CH-320a.2	Workforce Health and Safety	<b>62</b>



Accounting Metric	Category	SASB Code	Cross-Reference or Response	Pages
<b>Product Design for Use-Phase Efficiency</b>				
Revenue from products designed for use-phase resource efficiency	Quantitative	RT-CH-410a.1	Product Innovation	<b>83</b>
<b>Safety and Environmental Stewardship of Chemicals</b>				
(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Categories 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Quantitative	RT-CH-410b.1	Product Stewardship	<b>73</b>
Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Categories 1 and 2 Health and Environmental Hazardous Substances that have undergone a hazard assessment	Quantitative	RT-CH-410b.1	Product Stewardship	<b>73</b>
Discussion of strategy to manage chemicals of concern	Discussion and Analysis	RT-CH-410b.2	Product Stewardship	<b>72,73</b>
Discussion of strategy to develop alternatives with reduced human and/or environmental impact	Discussion and Analysis	RT-CH-410b.2	Product Stewardship	<b>72,73</b>
<b>Genetically Modified Organisms</b>				
Percentage of products by revenue that contain genetically modified organisms (GMOs)	Quantitative	RT-CH-410c.1	Does not apply to our products	
<b>Management of the Legal and Regulatory Environment</b>				
Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and Analysis	RT-CH-530a.1	<b>Financial Reports</b>	
<b>Operational, Safety, Emergency Preparedness, and Response</b>				
Process Safety Incidents Count (PSIC)	Quantitative	RT-CH-540a.1	Process Safety	<b>69</b>
Process Safety Total Incident Rate (PSTIR)	Quantitative	RT-CH-540a.1	Process Safety	<b>69</b>
Process Safety Incident Severity Rate (PSISR)	Quantitative	RT-CH-540a.1	Process Safety	<b>69</b>
Number of transport incidents	Quantitative	RT-CH-540a.2	Process Safety	<b>70</b>

# TCFD Index

Disclosure Focus Area	Disclosure	Cross-Reference or Response	Pages	
<b>Governance</b>				
Disclose the organization's governance around climate-related risks and opportunities	<ul style="list-style-type: none"> <li>a) Describe the Board's oversight of climate-related risks and opportunities.</li> <li>b) Describe management's role in assessing and managing climate-related risks and opportunities.</li> </ul>	Sustainability Governance	<b>30-31</b>	
		Greenhouse Gases	<b>41</b>	
		CDP C.1 Governance	<b>30</b>	
		<b>Governance Documents</b>		
<b>Strategy</b>				
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning	<ul style="list-style-type: none"> <li>a) Describe the climate-related risks and opportunities that Huntsman has identified over the short, medium, and long term.</li> <li>b) Describe the impact of climate-related risks and opportunities on Huntsman's businesses, strategy, and financial planning.</li> <li>c) Describe the resilience of Huntsman's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</li> </ul>	Who We Are	<b>12-13</b>	
		Greenhouse Gases	<b>41</b>	
		Product Innovation	<b>83</b>	
		CDP C.2 Risks and Opportunities	<b>12-13</b>	
		CDP C.3 Business Strategy	<b>12-13</b>	
		<b>Investor Day 2021</b>		
<b>Risk Management</b>				
Disclose how the organization identifies, assesses, and manages climate-related risks	<ul style="list-style-type: none"> <li>a) Describe Huntsman's processes for identifying and assessing climate-related risks.</li> <li>b) Describe Huntsman's processes for managing climate-related risks.</li> <li>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into Huntsman's overall risk management.</li> </ul>	Materiality	<b>38</b>	
		Greenhouse Gases	<b>41</b>	
		CDP C.2 Risks and Opportunities	<b>12-13</b>	
		CPD C.12 Engagement	Membership Associations	<b>35</b>
			Stakeholder Associations	<b>36</b>

Disclosure Focus Area	Disclosure	Cross-Reference or Response		Pages
<b>Metrics and Targets</b>				
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.	a) Disclose the metrics used by Huntsman to assess climate-related risks and opportunities in line with its strategy and risk management process.	CDP C.4 Targets and Performance	Sustainability Goals	<b>14-15</b>
			Greenhouse Gases	<b>41</b>
			Energy Management	<b>46</b>
		CDP C.9 Additional Metrics	Energy Management	<b>46</b>
		CDP C.11 Carbon Pricing		
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	CDP C.5 Methodology	Greenhouse Gases	<b>41</b>
			Reporting Parameters	<b>86</b>
		CDP C.6 Emissions Data		<b>42</b>
		CDP C.7 Emissions Breakdown		<b>42</b>
		CDP C.8 Energy		<b>46</b>
		CDP C.10 Verification		<b>86</b>
	c) Describe the targets used by Huntsman to manage climate-related risks and opportunities and performance against targets.	CDP C.4 Targets and Performance	Sustainability Goals	<b>14-15</b>
			Greenhouse Gases	<b>41</b>
			Energy Management	<b>46</b>
		CDP C.10 Verification		<b>86</b>
CDP C.12 Engagement		Membership Associations	<b>35</b>	
	Stakeholder Associations	<b>36</b>		

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Enriching lives through innovation

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