



# **ELEMENTS *of*** **OPPORTUNITY**

Accelerating safe and sustainable  
solutions through chemistry.

**2020/21 Sustainability Report**

# Our Sustainability Journey

At Celanese, we are uniquely positioned to improve the world through the power of chemistry. As we embrace this opportunity, we demonstrate our deep sense of responsibility to keep people safe and help protect our planet. This is what sustainability means at Celanese. In this report, we share our progress over the last 18 months while also looking to the future with our new strategic Sustainability Framework, ***Elements of Opportunity***.

REACH OUT

[ESG@celanese.com](mailto:ESG@celanese.com)



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This report covers the operations and activities of Celanese Corporation for the calendar year 2020 (1 January to 31 December) and key sustainability activities in the first half of 2021. It is aligned to the Sustainability Accounting Standards Board (SASB) Chemicals Sustainability Accounting Standard, the Climate Disclosure Project (CDP), the Task Force on Climate-Related Financial Disclosure (TCFD), and the UN Sustainable Development Goals (SDGs). The numbers and percentages contained in this report are for the full year or as of year-end 2020, unless otherwise stated. In some cases, they reflect estimates or approximations and may be based on assumptions. This report also contains statements regarding targets, plans, strategies, and goals that are “forward-looking” and aspirational in nature. Find out more about our **Reporting and Disclosure**.

# CELANESE: THE CHEMISTRY INSIDE INNOVATION™

We are a global technology leader in the production of specialty materials and chemical products used in most major industries and consumer applications. Combining innovation with chemistry, we are proud to make products for a safer, cleaner, and less wasteful world.

Across our Acetyl Chain and Engineered Materials businesses, we are pioneering technologies that can transform lives around the world—from adhesives and building materials to automotive, mobility, and healthcare. And in Acetate Tow, we are closing the loop on materials from production and consumption, catalyzing circular economies of the future.

**Our Vision** Improving the world and everyday life through our people, chemistry, and innovation.

**Our Corporate Values**



people



safety



customers



quality



community



shareholders

## GLOBAL FOOTPRINT

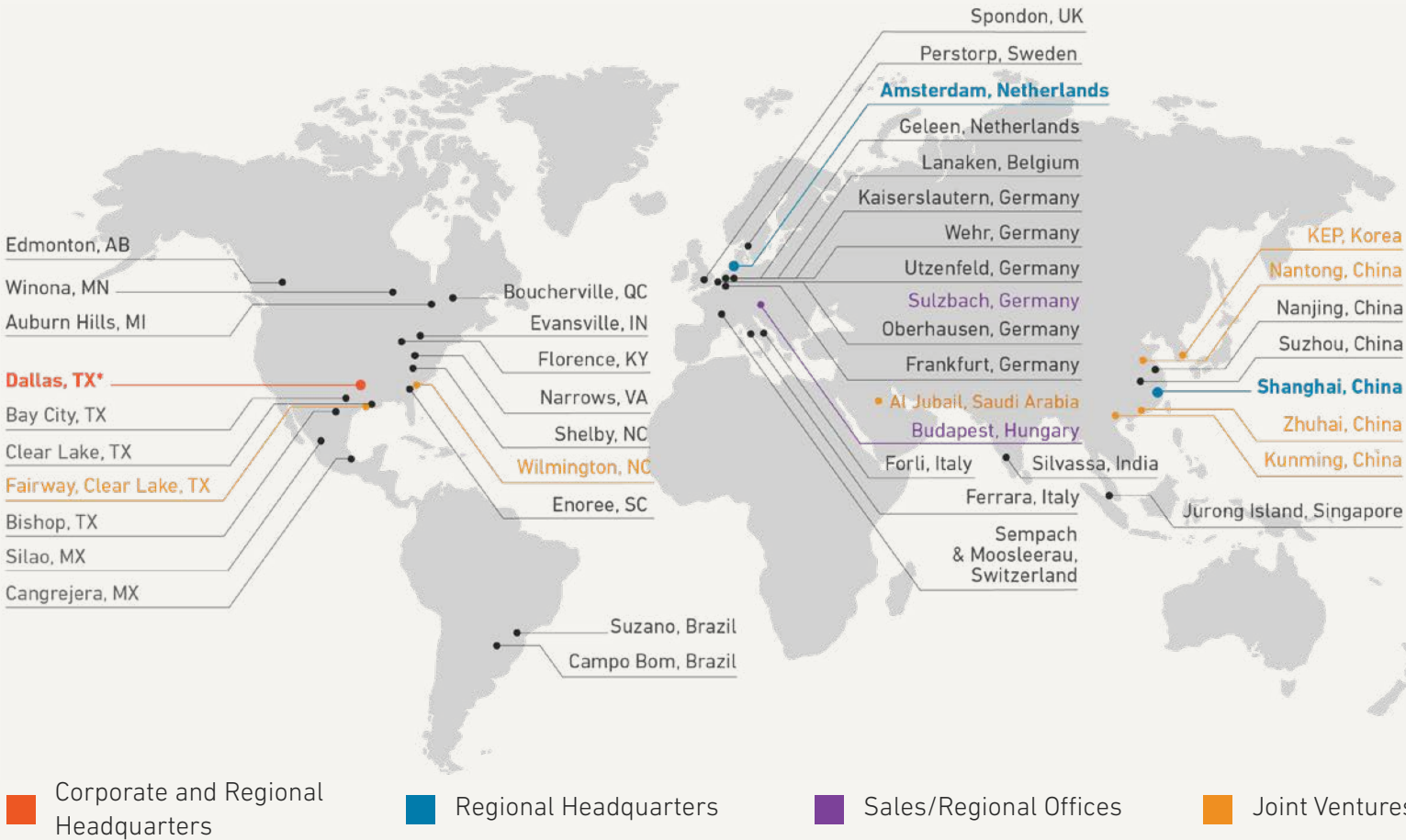
While we call Dallas home, our differentiated chemistry solutions and specialty materials are produced across the Americas, Europe, and Asia.

....

**S&P 500, NYSE-traded company**

**~7,600 employees worldwide**

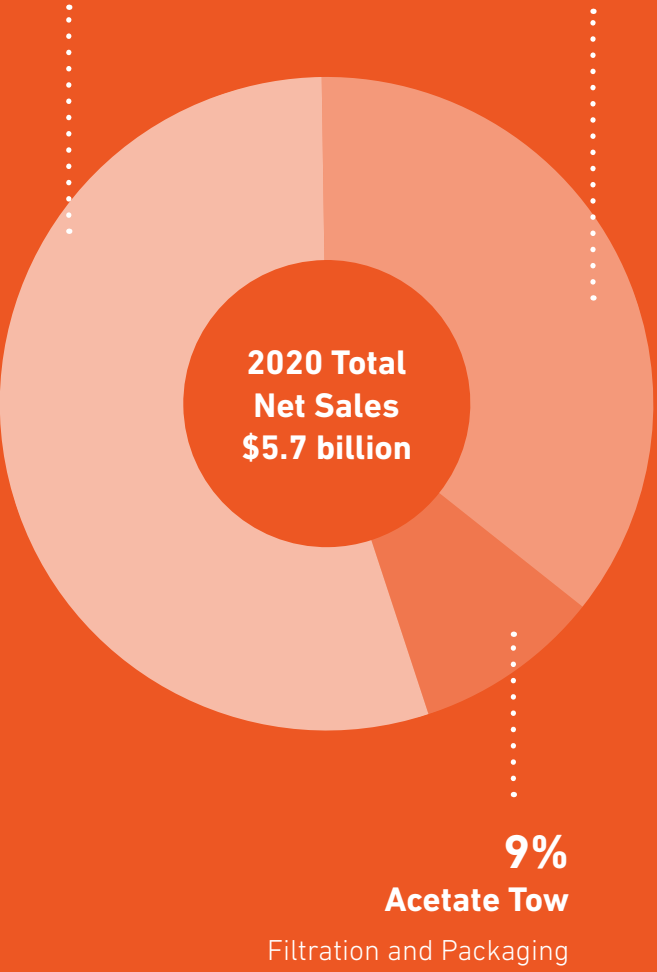
- 43% North America
- 40% Europe
- 15% Asia
- 2% Rest of World



## THREE LEADING BUSINESSES

**55% Acetyl Chain**  
Paints & Coatings, Adhesives, Textiles, Packaging, and Pharma

**36% Engineered Materials**  
Automotive, Medical, Electronics & Electrical, Industrial, Appliances, and Food Ingredients



Find more about:

[Celanese](#)

[Our Sustainable Customer Solutions](#)

[Investor Relations](#)

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*A Message from*  
**OUR CHAIRMAN AND CEO**

**Our 2020/21 Sustainability Report reflects a great deal of passion and energy across our enterprise, and I am delighted that you are interested in what we have to share. What follows captures our accelerated progress over the last year as we delivered more innovation to help us improve our world and everyday life.**

For us, sustainability is not only the right path but the smart path, as we expand our portfolio to achieve more sustainable ways of living. In doing so, we meet growing customer demand and drive market innovation. We also attract and retain diverse talent, and we work to optimize our operations toward low-carbon goals. Our sustainability strategy is based on three pillars: Advancing safe and sustainable customer solutions, investing in our people and communities, and helping to preserve the environment. Our work across these pillars is driven by a 30-member-strong Environmental, Social, and Governance (ESG) Council, which is chaired by our Senior Vice President and General Counsel and whose work is reported to the Executive Leadership Team, the Board, and its Committees. Over the last 18 months, its members have worked hard to target the issues that matter to our stakeholders, while reporting transparently in line with international principles, such as those of the Sustainability Accounting Standards Board (SASB). They have also enabled us to share our story thus far on our new [\*\*Sustainability website\*\*](#).

**Sustainable Solutions for a Better World**

Providing safe and sustainable solutions for our customers is an opportunity to innovate at our best. Whether it's technologies that "close the loop" on resources and waste, engineering lightweight vehicle parts, or designing components for life-saving healthcare—across all three Celanese businesses, we're finding answers to some of the world's most complex questions. In fact, today sustainable solutions represent approximately one-third of our net sales, and this proportion continues to grow in 2021. With this opportunity comes a deep sense of continued responsibility to keep people safe and preserve the environment. We can be proud of our heritage of close supplier and customer partnerships that make this happen across the value chain. In 2020, we launched a Supplier Diversity Program with its own governance council. It serves as an example of how we're leveraging these partnerships to extend our values more broadly.

**People Are Our Greatest Asset**

The six Celanese values start with people, and our first [\*\*Human Capital Report\*\*](#), launched earlier this year, outlines our progress in building a diverse and empowering workplace culture. I am pleased to report that half of my fellow Celanese Board of Directors members are women. We strive to continue to build diversity and inclusion at all levels of the organization. This is why we established a Diversity, Equity, and Inclusion (DE&I) Council last year, and it's why we are empowering more employee-led diversity groups across Celanese. We're also joining with industry organizations, such as the Society of Women Engineers, the National Society of Black Engineers, and the American Institute of Chemical Engineers, to scale and deepen our diversity efforts.

The headwinds of the pandemic were widespread and unprecedented in 2020. We quickly focused on new protocols to help keep our employees safe, and we adjusted our manufacturing operations to meet new customer demands. During this challenging time, I have been humbled by the dedication, "can do" attitude, and generosity of spirit demonstrated by our people, who gave nearly 119,000 hours of their time to serve others. This period has also tested our emergency preparedness and safety systems,

which I am glad to say have held firm during both the pandemic and the unprecedented weather challenges that impacted our facilities along the Texas Gulf Coast in February 2021.

**Contributions to a More Sustainable World**

As a Company of scientists and engineers, we will always look to the analytics when it comes to solving problems. Our investment in a new environmental data tracking system is providing enhanced analytics to help drive important decision making in areas such as climate, water, energy, and waste. With climate change, the world faces significant challenges, and at Celanese, we know we have a key role to play—both through our portfolio of sustainable solutions and in our manufacturing processes. Across our facilities, we are finding innovative ways to reduce energy intensity, purchase or generate renewable electricity, and turn process waste into sustainable fuel. Innovations like these can be seen at our combined heat and power unit at our site in Lanaken, Belgium; our waste-to-energy system in Nanjing, China; and in Clear Lake, Texas, where we'll source a third of our future electricity from solar and recently launched a carbon dioxide capture and methanol conversion project.

As we look to the future, we have a clear internal roadmap of the steps ahead, which includes gathering more data and tracking key metrics important to our sustainability efforts. We are pleased to present them in our first-ever sustainability report aligned to industry best practices. Expanding our product portfolio and advancing our manufacturing processes more sustainably defines our future. While we've been making strides at Celanese for a long time, we know that operating sustainably presents us with a significant opportunity to be even better than ever before. Along the way, we are creating more value for shareholders, customers, and society at large.

*Warm regards,*



**LORI J. RYERKERK**  
CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER



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Highlights of Our  
ESG PROGRESS

We continue to innovate for a sustainable future, embracing opportunities to enhance our operations and to generate new Celanese solutions—all while working to keep our people and communities safe. Here are some key highlights from the past 18 months:

01 ADVANCING SAFE AND SUSTAINABLE CUSTOMER SOLUTIONS

Launched new sustainable solutions including:

- POM ECO-B, a chemically identical alternative to traditional POM made from mass-balance bio-based feedstocks, which can be used in numerous consumer applications
- BlueRidge™ cellulosic pellets, a bio-based compostable alternative to single-use plastics, which can be used for straws, cutlery, and thermoformed lids

Broadened our base chemicals sustainable offerings with UL-certified recycled acetic acid to enhance integrated downstream product options for customers wanting to reduce the carbon footprint of their products

02 INVESTING IN OUR PEOPLE AND COMMUNITIES

Published our first-ever **Human Capital Report**, which highlights our progress on Diversity, Equity, and Inclusion

Created a Diversity, Equity, and Inclusion Council

Published our first formal **Human Rights Policy** and **Anti-Discrimination Statement**

Focused on growing our culture of respect through open dialogue opportunities on timely DE&I topics such as race

Created a **Supplier Diversity Program** and published a supplier diversity economic impact report

Enhanced our supplier risk evaluation and monitoring program, starting with strategic suppliers that represent approximately 50% of our 2020 spend



03 PRESERVING THE ENVIRONMENT

Set reduction targets for energy, water, and waste. **See Environmental Section**

Published a Climate Policy supporting multilateral approaches that promote efforts to address climate change holistically. **See Climate Section**

Announced two significant steps to reduce the carbon footprint of our integrated chemical facility at Clear Lake, Texas, which is the largest acetic acid plant in the world:

- Signed a renewable energy contract to purchase approximately one-third of energy needs from solar power
- Our Fairway Methanol joint venture will turn approximately 60% of currently vented process CO<sub>2</sub> from the entire Clear Lake site into sustainable methanol (beginning 2022)

Invested in an environmental tracking tool, which will align our first reporting to the Sustainability Accounting Standards Board (SASB) Chemical Industry Standards and the Task Force on Climate-Related Financial Disclosures (TCFD). See **SASB Disclosure** and **TCFD Disclosure**

04 OPERATING WITH INTEGRITY

Strengthened and clarified oversight by our Board of Directors and committees for each of our identified ESG priority issues. See **Sustainability Governance**

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Essential Elements

In 2020, we introduced a new strategic Sustainability Framework, *Elements of Opportunity*, to help us accelerate safe and sustainable solutions through chemistry.

Under each pillar of *Elements of Opportunity*, we have identified priority issues through stakeholder engagement and alignment to chemical industry best practices.

**ELEMENTS *of* OPPORTUNITY**

Accelerating safe and sustainable solutions through chemistry.

**We are uniquely positioned to improve the world through the power of chemistry.**

As we embrace this opportunity, we demonstrate our deep sense of responsibility to keep people safe and help protect our planet.

OUR ASSESSMENT APPROACH

In 2019, extensive research and consultation was undertaken by our ESG Council. This involved mapping standards and metrics from SASB, GRI, the American Chemistry Council (ACC), and the European Chemical Industry Council (Cefic), alongside analysis of sustainability intelligence reports from key rating agencies. Having created our Sustainability Framework against these best practices, we sought feedback from shareholders on our overall ESG initiatives in 2020 and early 2021. Shareholders were interested in our approach to climate, workforce diversity, Board composition and skillsets, sustainable products, and the impact of COVID-19 on the business and workforce.

To inform our strategy, these findings were reviewed by our ESG Council and its 10 expert committees, each of which were made up of employees from across the Company with specific topical expertise and experience aligned to our priority issues. The proposed list of priority issues was approved by the Executive Leadership and reviewed with our Board of Directors. As we move forward in our ESG journey, we will continue to evaluate, develop, and refine our ESG strategy based on evolving science, customer, investor, and regulatory feedback.

01

*Advancing Safe and Sustainable*  
**CUSTOMER SOLUTIONS**

Innovating the sustainable solutions our customers need today to protect our tomorrow

- Circular Economy
- Innovating for Health and Well-being
- Improving Sustainable Living
- Chemical Safety
- Supplier Risk Management

02

*Investing in Our*  
**PEOPLE AND COMMUNITIES**

Empowering our people and communities to thrive in a changing world

- Human Capital
- Workforce Health and Safety
- Process Safety and Emergency Preparedness
- Community Relations

03

*Preserving the*  
**ENVIRONMENT**

Applying an actionable science-based approach to improve the sustainability of our operations

- Climate
- Air
- Energy
- Water
- Waste

04

*Operating with*  
**INTEGRITY**

Conduct business with high standards of integrity and ethical conduct

- Corporate Governance
- Political Engagement
- Risk Management
- Compliance Policies and Employee Training

Contributions to the  
**BIGGER PICTURE**

Through our *Elements of Opportunity* priorities, we are committed to making a tangible and meaningful contribution to six out of 17 United Nations Sustainable Development Goals. In aligning with industry and multilateral principles, we continue to demonstrate a broad and growing contribution to addressing some of the world’s most pressing challenges to sustainable development. Celanese is promoting:



**GOOD HEALTH AND WELL-BEING**

- Focusing on employee programs that address physical, emotional, and financial wellness to provide a rewarding, engaging, and inclusive workplace
- Improving patient care and comfort by helping our customers pick materials that allow component re-design for weight reduction and miniaturization of healthcare products, like continuous glucose-monitoring devices for diabetes care
- Creating medical grade polymers and solutions for a broad array of medical devices that improve medical treatment and patient health, such as orthopedics, insulin pumps, inhalers, and injection pens
- Producing VitalDose® EVA controlled release long-acting drug delivery solutions across many clinical segments, such as oncology, infectious disease, central nervous system disorders, ophthalmology, and women’s health
- Developing novel polymers to expand design possibilities for our customers as they find new ways to improve patient care with cutting-edge medical technologies



**CLEAN WATER AND SANITATION**

- Engaging in a global Water Management Program that identifies local water risks and supports sustainable water management practices at our plants
- Participating in Operation Clean Sweep® to help prevent plastic pellets from entering our waterways
- Creating solutions such as BlueRidge™ cellulosic pellets as a sustainable plastic alternative to straws, cutlery, and thermoformed lids
- Improving our water management manufacturing processes to reduce waste and usage



**INDUSTRY, INNOVATION, AND INFRASTRUCTURE**

- Continuing to develop light-weighting solutions for automobile fuel efficiency and supporting electric vehicle safety with our flame-retardant nylon technology
- Stimulating economic growth and diverse businesses through our supplier diversity program
- Investing in cleaner and more sustainable industrial processes, such as heat capture and sustainable methanol production
- Supporting better 5G connectivity with our Zenite® LCP solutions that help minimize signal loss and signal crosstalk



**REDUCED INEQUALITIES**

- Strengthening employee cultural awareness through nine Employee Resource Groups intended to inspire, develop, and increase visibility, representation, and promotion of members
- Cultivating partnerships with women and Black engineering societies and Historically Black Colleges and Universities to support STEM education, scholarship programs, and access to talent
- Holding respectful workplace workshops, unconscious bias training, and roundtable discussions on race with senior leaders
- Creating a Diversity, Equity, and Inclusion Council led by a Celanese senior leader



**RESPONSIBLE CONSUMPTION AND PRODUCTION**

- Creating an award-winning, lifecycle cost evaluation checklist that our engineers use to consider energy efficiency in new project design
- Implementing comprehensive waste programs, including innovations that turn hazardous waste to energy
- Managing the risk profile of the chemicals we manufacture and reviewing downstream chemicals for risk-reduction opportunities
- Communicating our expectations of suppliers to adopt environmentally sound practices
- Being named an ENERGY STAR® Partner of the Year for the sixth year in a row, and the Sustained Excellence award designee for the fourth consecutive year by the U.S. Environmental Protection Agency (EPA)



**CLIMATE ACTION**

- Reducing ~3,100 mt of CO<sub>2</sub> annually at our Lanaken, Belgium, site from a new combined heat power emissions unit
- Reducing our carbon footprint by using approximately 60% of currently vented process CO<sub>2</sub> at our entire Clear Lake, Texas, facility for the production of sustainable methanol (beginning in 2022)
- Purchasing renewable solar energy to provide approximately 33% of our electricity needs for our Clear Lake, Texas, facility
- Investing in an enhanced environmental data tracking system to help identify meaningful ways to reduce CO<sub>2</sub> and improve our environmental footprint

# SUSTAINABILITY GOVERNANCE

Transparent, robust governance guides our sustainability strategy, just as it guides our business.

## OUR BOARD OF DIRECTORS

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Our Board of Directors oversees our sustainability strategy and performance. They bring a depth of expertise in chemicals, healthcare, technology, and risk management, with four directors having extensive chemical manufacturing industry experience, eight bringing experience in innovation-focused businesses, eight having government and regulatory experience, and seven having expertise in overseeing and managing risks.

In early 2021, the Board strengthened and clarified its oversight, reviewing each of our identified priority issues and aligning a specific committee or the full Board to each. The enhanced oversight framework is outlined in the diagram below.

## THE ESG COUNCIL

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Chaired by the Senior Vice President and General Counsel and consisting of a cross-functional team of senior leaders from each function and region, the ESG Council meets monthly to develop our strategy and make recommendations to executive leadership on key developments. The Council, with the input from our 10 expert committees with experience across ESG priority topics, has made recommendations on best practice standards and reporting, while supporting key performance indicators (KPIs) and goals for our priority issues. The Council has also led the Sustainability website redevelopment, as well as the creation of this report. The Council will continue to recommend new or updated targets and reporting as regulations, technology, and stakeholder interest continue to evolve.

## STAKEHOLDER ENGAGEMENT

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In our efforts to make a positive impact across our priority issues, we regularly engage in dialogue with our customers, employees, shareholders, suppliers, and communities. For example, we provide through our outreach program a forum for shareholders to provide feedback on our approach to sustainability priority issues by communicating directly with management and Board members. This shareholder feedback has informed our climate policy and disclosures, our approach to governance, and other developments. Going forward, we plan to further engage our customers, employees, shareholders, suppliers, and communities strategically across our priority issues.

Find out more about our wider [Corporate Governance](#).



*A View from*

**OUR LEADERS**



**A. LYNNE  
PUCKETT**

....

SENIOR VICE PRESIDENT, GENERAL COUNSEL, AND  
ESG EXECUTIVE SPONSOR

“ The sustainability conversation is constantly evolving, and Celanese has adopted a learning approach throughout the process, resulting in our establishment of an ESG framework. What hasn’t changed is the Company’s recognition that sustainability touches all of our stakeholders—investors, customers, employees, communities—and is reflected in our efforts to promote safety and protect our environment as a responsible corporate citizen.

We are actively engaging with our industry trade groups such as ACC in the U.S. and Cefic in Europe to help advance a science-based decision-making process rather than one which could result in unintended consequences to our industry or negatively impact product performance for our customers. We will be carefully analyzing the enhanced SASB and TCFD-aligned data, particularly on climate. That data will help us make thoughtful decisions on future strategies and the disclosure of further targets as we balance the responsibilities and opportunities ESG represents.

**We are proud to share with you our sustainability journey and progress, and we welcome your feedback on how we’re doing.”**



**TOM  
KELLY**

....

SENIOR VICE PRESIDENT, ENGINEERED MATERIALS AND  
ESG COUNCIL MEMBER

“ Celanese Engineered Materials are making a difference in almost all of our lives. Whether it’s helping us to drive more safely and more fuel efficiently or transforming access to cutting-edge orthopedics, diabetes treatments, and women’s healthcare solutions, customer interest for sustainable offerings continues to grow. Indeed, our four sustainable growth programs are around future mobility, medical and pharma, connectivity, and sustainability. With a new 5G economy, the opportunities for future materials innovation are potentially limitless. It’s an exciting time to be in this sector, and there is so much more we can do to apply science for an even better world.”



**JOHN  
FOTHERINGHAM**

....

SENIOR VICE PRESIDENT, ACETYLS AND  
ESG COUNCIL MEMBER

“ Our leading acetyl technologies are proof of our continued commitment to innovation and productivity. They also improve lives by making the world cleaner, safer, and greener. Take EcoVAE®, the latest in our family of high-tech ingredients within low-odor and low-to-near-zero emission interior paints and coatings. In developing low-cost technologies like these, we’re making sustainability part of our customers’ value chain. Staying competitive means innovative thinking, high-quality chemistry, and a vigilance to our Environmental, Health, and Safety Policy and Guiding Principles.”

A woman with blonde hair, wearing a green puffer jacket, a red and white striped shirt, and a brown beanie, is sitting in the back of a dark-colored SUV. A golden retriever is sitting next to her. The car's rear hatch is open, and the background shows a forest of tall evergreen trees. The scene is set in a natural, outdoor environment.

*“We have built up our T&I organization to help customers meet their sustainability objectives through our pipeline of recycled and biodegradable solutions. Our goal: reduce carbon impact while providing superior performance.”*

—PEDRO VAN HOECKE

VICE PRESIDENT T&I, GLOBAL ENGINEERING MATERIALS AND ESG COUNCIL MEMBER

*Advancing  
Safe and Sustainable*  
**CUSTOMER  
SOLUTIONS**

*Advancing Safe and Sustainable*

# CUSTOMER SOLUTIONS

In our journey to Innovate for a Sustainable Future, we embrace the challenge to help solve some of the world’s most pressing problems through chemistry and engineering. With this opportunity comes the responsibility to uphold rigorous chemical safety and environmental standards, and to partner with others in our value chain to do the same.

At Celanese, we are focused on investments and innovations that expand our sustainable product offerings to accelerate our growth for a sustainable future. We are investing in projects that will increase our energy efficiency, reduce our water use, recover and reuse waste heat, and increase our purchase of renewable energy and more sustainable raw materials. Through our sustainable products, we are helping our customers reduce their carbon footprints. We are also improving lives by helping to solve medical and mobility challenges, with Celanese improving patient care through transformative technologies for medical and drug delivery devices, and advancing passenger safety and comfort through innovative solutions for the autonomous vehicles of the future.

Our responsibility begins by promoting the safe manufacture, handling, and use of our products. From supplier to end-product user, we take an active role in advocating for chemical safety and working to mitigate wider risks across the value chain. In the last year, we have extended these supplier relationships to establish a Supplier Diversity Program and have recently launched a Supplier Risk Evaluation and Monitoring Program.

## HIGHLIGHTS

- APPROXIMATELY ONE-THIRD OF REVENUE DERIVED FROM SUSTAINABLE SOLUTIONS, WHICH INCLUDES BIO-BASED MATERIALS AS WELL AS SOLUTIONS THAT SUPPORT LIGHT-WEIGHTING, ENERGY EFFICIENCY, AND ELECTRIC VEHICLE APPLICATIONS
- POM ECO-B, ECOVAE®, AND BLUERIDGE™ LAUNCHED FOR A CIRCULAR ECONOMY
- RECENT ELOTEX® ACQUISITION, ENABLING MORE SUSTAINABLE CONSTRUCTION PRODUCT OFFERINGS
- ENHANCED SUPPLIER RISK EVALUATION AND MONITORING PROGRAM



### Quality and Global Certifications

We are committed to quality throughout the customer experience. Our focus is on meeting our customers’ requirements and their evolving need for sustainable products. We strive to deliver differentiated value spurred by employee engagement and empowerment, and through strong relationships with our suppliers and other partners. To learn more, see our [Quality Guiding Principles](#) and details regarding [global certifications](#) for specific facilities and product lines.

# CIRCULAR ECONOMY

Celanese is innovating to meet growing customer demands for materials made from products with a lower carbon footprint, and recyclable or compostable products that “close the loop” on production and consumption. We are proud of our growing array of sustainable offerings.

Our chemistry platform is well suited for the transition to renewable and bio-based feedstocks, and we are making progress in all three of our core businesses. These are just a few of the ways in which Celanese chemistry can improve the world and everyday life. For further information, see our [SASB Response](#).

## CELANESE PRODUCTS

POM ECO-B	A chemically identical alternative to traditional POM made from mass-balance bio-based feedstocks
BlueRidge™ Cellulosic Pellets	A bio-based compostable solution for single-use plastics
Automotive Light-Weighting Solution	Technologies that replace metal to make vehicles lighter and more fuel efficient
ECOMID®	Nylon-based materials made from post-consumer and post-industrial recycled feedstocks
Emulsions with Renewable Feedstocks	Emulsions made from sustainable feedstocks used in Paints & Coatings
Emulsions Based on Recycled Content	Vinyl-based emulsions containing recycled content for a variety of applications such as carpet tiles and adhesives
Lithium Battery Separators	Battery solution technologies for electric vehicles and other battery-powered consumer products
Aesthetic and Color Polymer Solutions	Eliminating costly and pollutive painting, coating, and finishing steps in many applications like automotive
Elotex® RDP	Redispersible polymer powders improving the efficiency of cement adhesives and other construction materials
Clarifoil®	Bio-based compostable film for packaging applications

### RENEWABLE FEEDSTOCKS

Raw materials from bio-based or recycled sources to reduce environmental impact



### ENERGY AND RESOURCE EFFICIENCY

Alternative products that require less energy or resources to perform the same function



### CLOSED-LOOP PRODUCTS

Products that can be reused and restored into new materials and products through composting or recycling



CIRCULAR ECONOMY

*in Action*

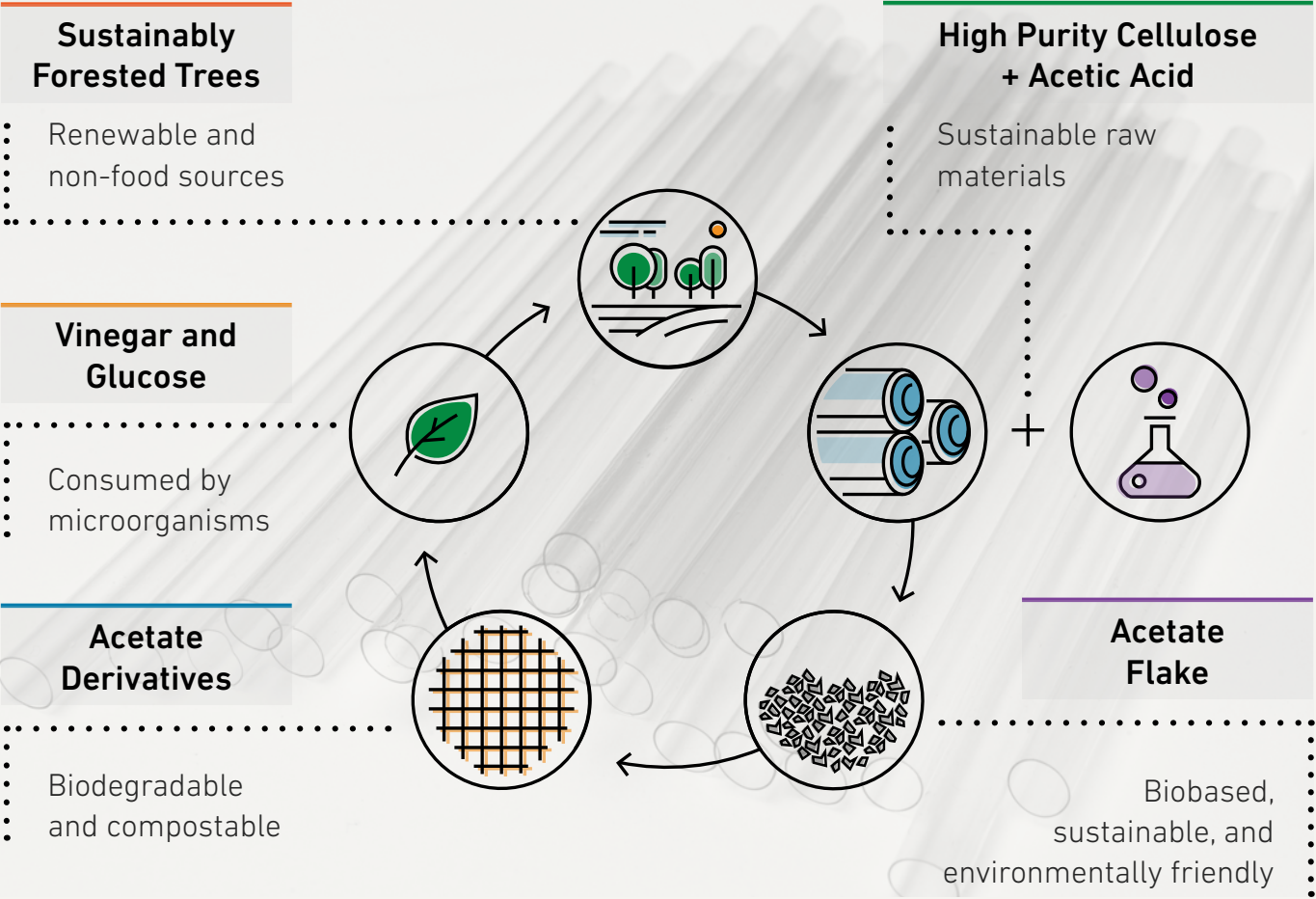
# THE NEXT STRAW: SUSTAINABLE PLASTIC ALTERNATIVES

In 2020, we launched **BlueRidge™ Cellulosic Pellets**, a biodegradable alternative to single-use plastics in food packaging. The naturally transparent material is sold in pellet form and is made from cellulose acetate, derived from high-purity, sustainably forested wood pulp, and functionalized with acetic acid, commonly known as vinegar. The end product, while chemically similar to paper, can be processed into a wide range of applications, including straws, cutlery, thermoformed lids, and other products using conventional plastic processing machinery. BlueRidge™ materials are broadly biodegradable, ultimately breaking down into glucose and vinegar, which are readily consumed in nature.

Find more about our [2021 CDP Forests Response](#).

*“We’ve studied how developments in sustainability impact the markets we serve and how we can better meet these growing demands, and we see the challenge of single-use plastic waste as one we are uniquely positioned to help tackle in a novel and significant way.”*

—LORI J. RYERKERK, CELANESE CHAIRMAN AND CEO



**ELOTEX®**  
uses less water and energy than standard concrete mixes

# CONCRETE OBJECTIVES: EFFICIENT AND LASTING CEMENT SOLUTIONS

The cement sector is the one of the largest industrial sources of pollution, accounting for an estimated 88% of the emissions associated with the average concrete mix. According to the U.S. Environmental Protection Agency (EPA), the industry emits more than 500,000 tons per year of sulphur dioxide, nitrogen oxide, and carbon monoxide.<sup>1</sup> Our acquisition in 2020 of Nouryon’s redispersible polymer powders business offered under the Elotex® brand helps address this challenging problem. Used by

the construction industry in dry mix mortar, Elotex® uses less water and energy than conventional mortar ingredients while being more durable. These powders improve cement adhesives, which also enable the use of lower amounts of cement in the construction or retrofitting of buildings. We are proud to add Elotex® to our sustainable product offerings, and we are focused on growing this business to help reduce the impact of cement to the environment.

<sup>1</sup><https://www.epa.gov/enforcement/cement-manufacturing-enforcement-initiative>

# INNOVATING FOR HEALTH AND WELL-BEING

In line with our vision to improve the world and everyday life, our customers have placed their trust in us for decades to design, develop, and manufacture materials that improve healthcare. Our growing portfolio includes solutions and technologies for multiple applications in drug delivery, medical devices, orthopedics, advanced surgical instruments, and connected devices.



## Solutions for Life: Advances in Medical Devices

We innovate to continuously add medical grade products and solutions to our portfolio, taking into account the special requirements of medical technology by providing polymer grades with exceptionally high quality and compliance with specified regulatory criteria. In doing this, we are expanding design possibilities as our customers find new ways to improve patient care with cutting-edge medical and pharmaceutical material solutions.

*“Celanese’s medical and pharmaceutical business works closely with its customers to create innovative drug-eluting implants, inserts, and transdermal films delivering biologics and small molecules to meet the goals of patient-centric therapies, improved medicine, and better healthcare economics.”*

—LAURA BRAND, VICE PRESIDENT OF CELANESE’S MEDICAL AND PHARMACEUTICAL BUSINESS

Our continual product optimization has made our medical grades of GUR® ultra-high molecular weight polyethylene the most frequently used materials for articulating bearing surfaces in orthopedic surgical implant technology. We’re the only medical grade ultra-high molecular weight polyethylene supplier qualified today for use in knee and hip implants. And one of our most recent GUR® innovations is being used in the tips of COVID-19 test kits. We’re also the leading supplier of medical grade polymers for inhalers and injection pens. The multiple medical solutions we offer to address critical needs across medical inhaler types and their components improve patient experience and device usability, and help deliver effective and efficient treatment. Our liquid-crystal polymers portfolio includes medical technology liquid-crystal polymer grades tested according to current standards specified by the medical device and pharmaceutical industries. And the ability of our liquid-crystal polymers to make very small but high-strength parts makes them ideal in such applications as insulin pumps and other wearable medical devices.

In-home medical treatment is growing in many parts of the world, a trend accelerated by the COVID-19 pandemic. We meet this need by developing medical solutions centered around improving patient comfort and convenience, which helps increase patient adherence to treatment plans. One way that we do this is by helping our customers pick materials that allow component re-design for weight reduction and miniaturization of healthcare products and components without sacrificing mechanical performance. For example, our materials are used in continuous glucose-monitoring devices, which report blood glucose levels every few minutes, empowering patients to take preventive action.

## Solutions for Life: Advances in Drug Delivery

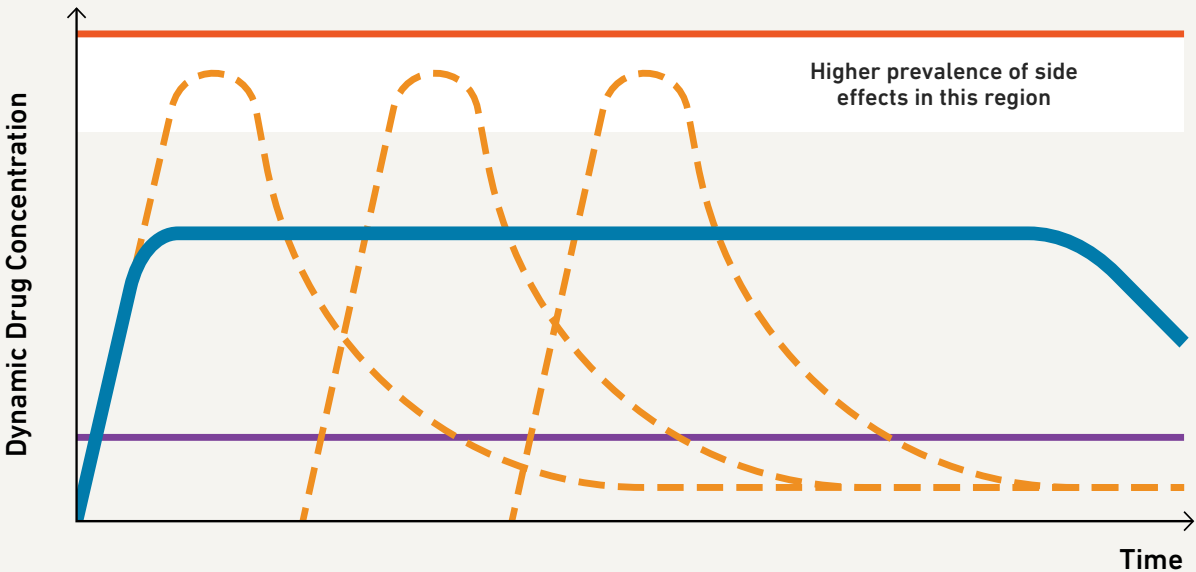
Our VitalDose® ethylene vinyl acetate (EVA) technology platform provides reliable controlled-release performance in long-acting dosage indications. This is a key enabling technology for drug-eluting implants and devices. Therapeutics in these forms address unmet clinical needs across multiple segments, including those in oncology, ophthalmology, infectious disease, and women’s health. The safe and effective controlled release capabilities of our VitalDose® EVA help solve fundamental challenges pharmaceutical companies face when developing drug delivery applications, such as patient compliance and frequency of dosage.

VitalDose® EVA provides consistent drug delivery for patients over many months.



## CONTROLLED RELEASE DYNAMICS

- Maximum Effective Concentration
- Minimum Effective Concentration
- Conventional Formulation
- VitalDose® Controlled Release Solution



# IMPROVING SUSTAINABLE LIVING

Our customizable engineered materials such as GUR® or POM ECO-B, which can be tailored for specific customer needs, can enhance mobility and connectivity while reducing environmental impacts in automotive applications. From high-speed connectors, control units, and sensors to better powertrains for electric vehicles, we are playing a critical role in improving vehicle safety, driving range, and the recharging time for batteries.



## Vehicles of Change: Imagining the Cars of the Future

Market analysts expect the share of pure electric, hybrid electric, or fuel cell electric vehicles to reach 40% of total car production by 2025. This trend is triggered by tightening regulations and rising customer demand. As a leader in polymer selection, testing, design, and application development in the auto sector, we are well-positioned with our durable plastics to support this ongoing trend to light-weighting and electrical vehicle support.

## LIGHTER AND SAFER

### Electrical Vehicle Powertrain

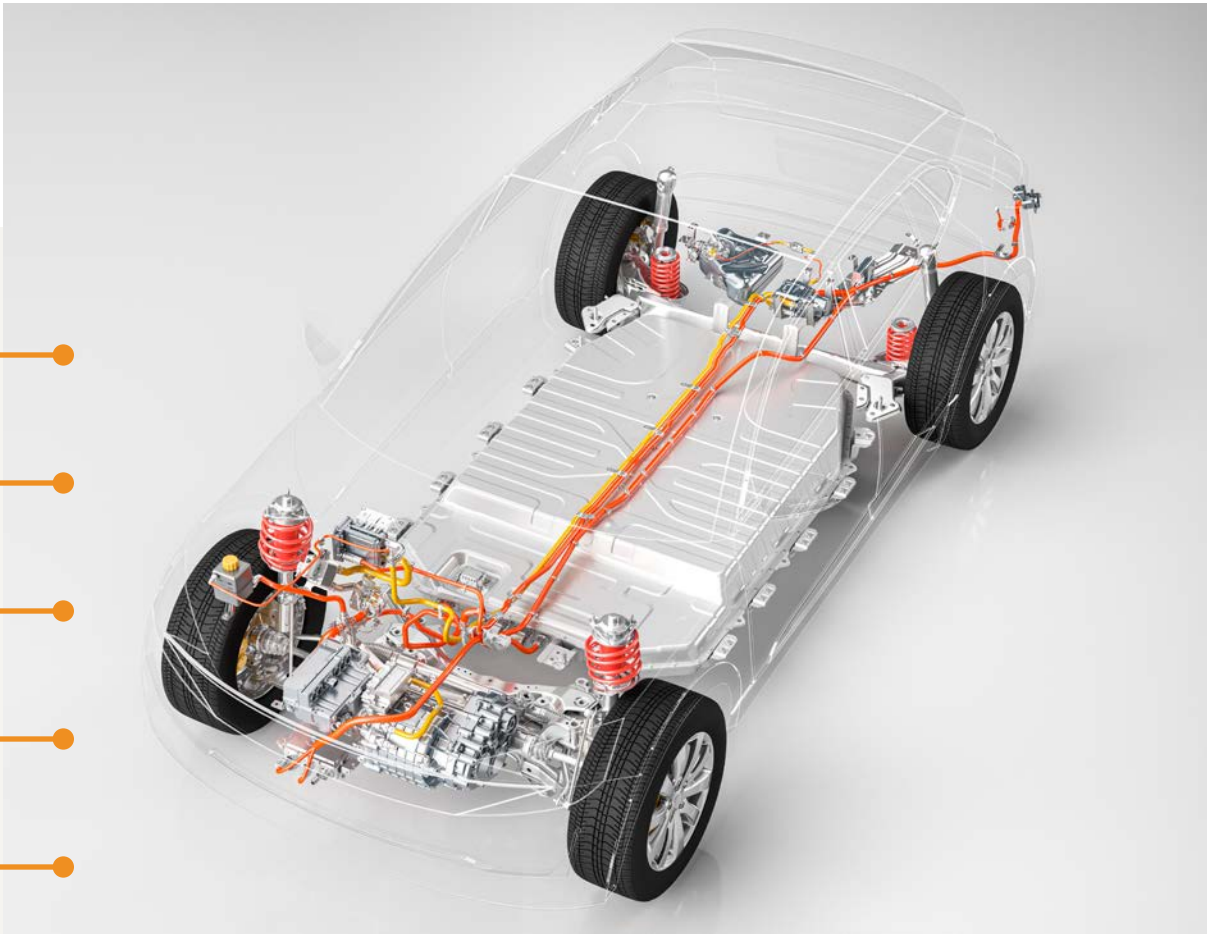
Thermal Management

E-Motor

Battery

Connectors

Power Electronics



From the bumper and engine to electronic displays, Celanese engineered thermoplastics not only increase the fuel efficiency of vehicles, but they also improve safety, reliability, performance, and passenger comfort. We are now responding to the growing demand for autonomous driving and improved driver experiences with a complementary portfolio of high-performance polymer solutions. These will be used in the multiple cameras and visual sensors required to assist the driver, alongside such interior features as heads-up displays.

To support the increasing demand for electrical vehicles, we are investing in a new GUR® ultra-high molecular weight polyethylene production line at our Bishop, Texas, manufacturing facility. It will add an additional 15kt per year of GUR® production capacity by the start of 2022 to support the growing lithium-ion battery separator supply needs of our customers. Additionally, GUR® capacity is being expanded in Europe by approximately 34kt, slated to go online in 2024 to support the growing European electrical vehicle market. With our flame-retardant nylon technology and nylon recycling capabilities, we are also addressing electric vehicle safety and sustainability by helping to make batteries more flame retardant and, therefore, safer.

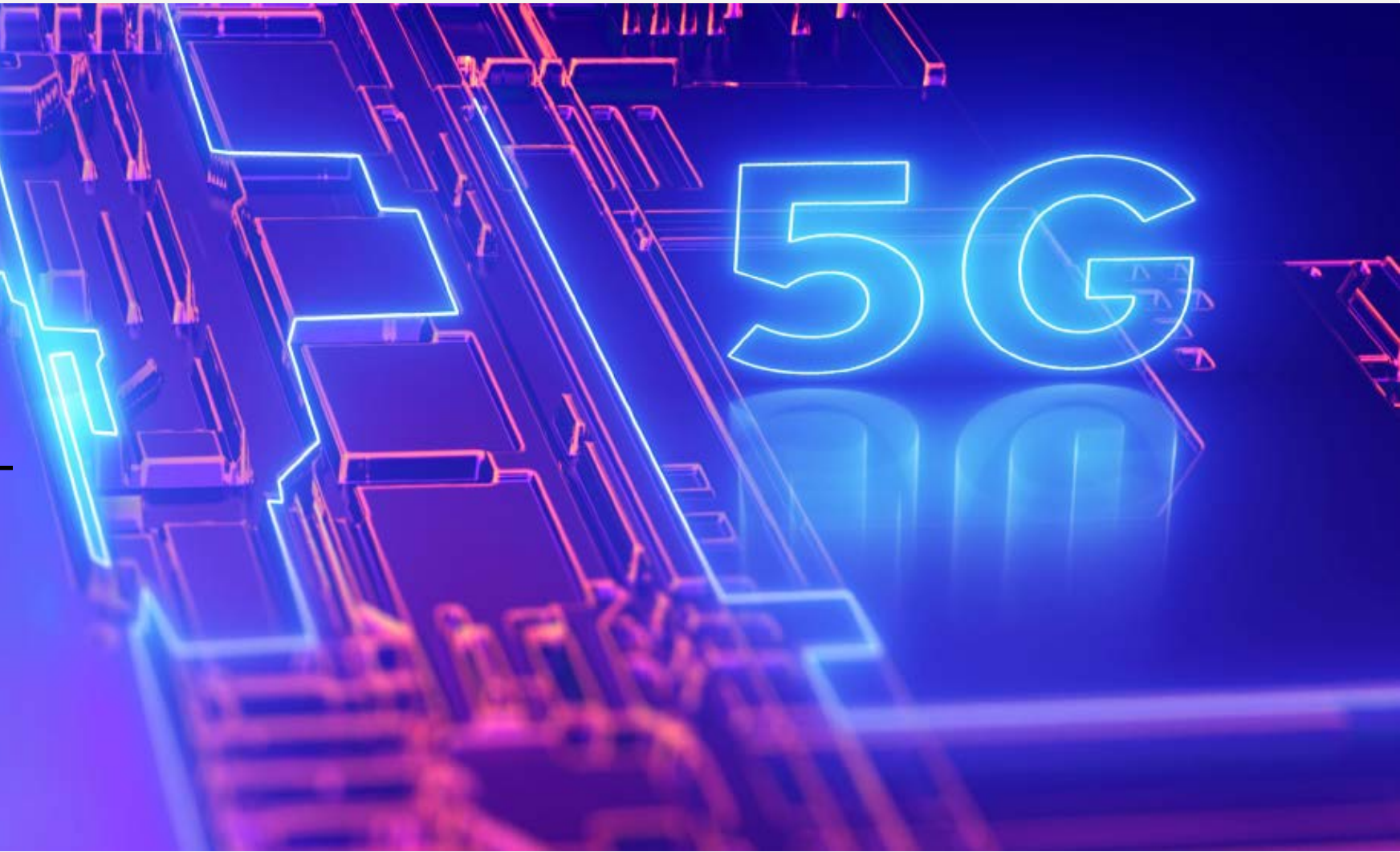
We also continue our rich history of meeting our customers' light-weighting needs. Our functionalized polyphenylene sulphide (PPS) and liquid crystal polymer (LCP) are making our polymers the solution of choice for many connectivity applications.

IMPROVING SUSTAINABLE LIVING

*in Action*

BROADENING  
THE NETWORK: IMPROVING  
INFRASTRUCTURE THROUGH  
BETTER CONNECTIVITY

We are customizing our LCP to meet unique design requirements to address the emergence of higher-frequency 5G transmission. With our functionalized PPS and LCP solutions, super-high-frequency 5G waves can pass through our polymers with minimal distortion or signal loss. We are the polymer of choice for applications like antenna frames in 5G base stations, as well as high-speed connectors in mobile phones. These solutions help make the development of infrastructure more accessible across society—yet another way we’re finding new sustainability-focused opportunities to enhance our product uses.



LOW CARBON COPY:  
POM ECO-B CUTS CARBON FOOTPRINT IN HALF

Demand for materials with renewable content and lower environmental impact is growing across customer segments. Last year, we launched a new sustainable polyacetal (POM) product offering. With POM ECO-B, customers can realize a reduction in carbon dioxide emissions in their end-use products and advance toward their renewable content goals. With up to 97% bio-content via a mass-balance approach (certified by the

International Sustainability and Carbon Certification), it reduces CO<sub>2</sub> per kilogram of POM polymer by more than half without any impact on properties or need for requalification. POM ECO-B is currently used in numerous applications in the automotive industry, medical, personal care, appliances, and furniture.

# CHEMICAL SAFETY

We take very seriously our responsibility to promote the safe handling and use of our products. Across the product value chain, we are active in safety education, and we engage our supply chain in our values and priorities to mitigate wider risks to communities. We are committed to managing the risk profile of the chemicals we manufacture and reviewing downstream applications for risk-reduction opportunities.

Our approach is to identify and mitigate potential risks before making chemicals available for commercial use, including a health and safety assessment of raw materials, product formulations during each product’s research and development phase, and likely downstream uses. We also provide our customers with information on how to use our products in accordance with chemical regulations and in a safe manner. We are especially diligent about vetting materials destined for use in highly regulated industries, such as healthcare and pharmaceuticals. For example, we deliver Food and Drug Administration compliant engineering thermoplastics to trusted customers in the pharmaceutical industry for use in drug delivery systems like inhalers, insulin injection pens, and syringes.



## Product Safety

Using the ACC’s Product Safety Code as a guide, Celanese has a significant Chemical Safety and Regulatory communication program. Along with Safety Data Sheets, we offer Technical Data Sheets, Safe Handling Guides, and Regulatory Summaries for our hazardous chemicals. In addition, we answer technical and regulatory questions of our customers to support their safe handling and compliant use. We collaborate with the ACC in publishing **Chemical Safety Facts** and use information written in a non-technical and easy-to-understand manner. Reviews of formaldehyde, acetic acid, and vinyl acetate, among others, are posted at that site.

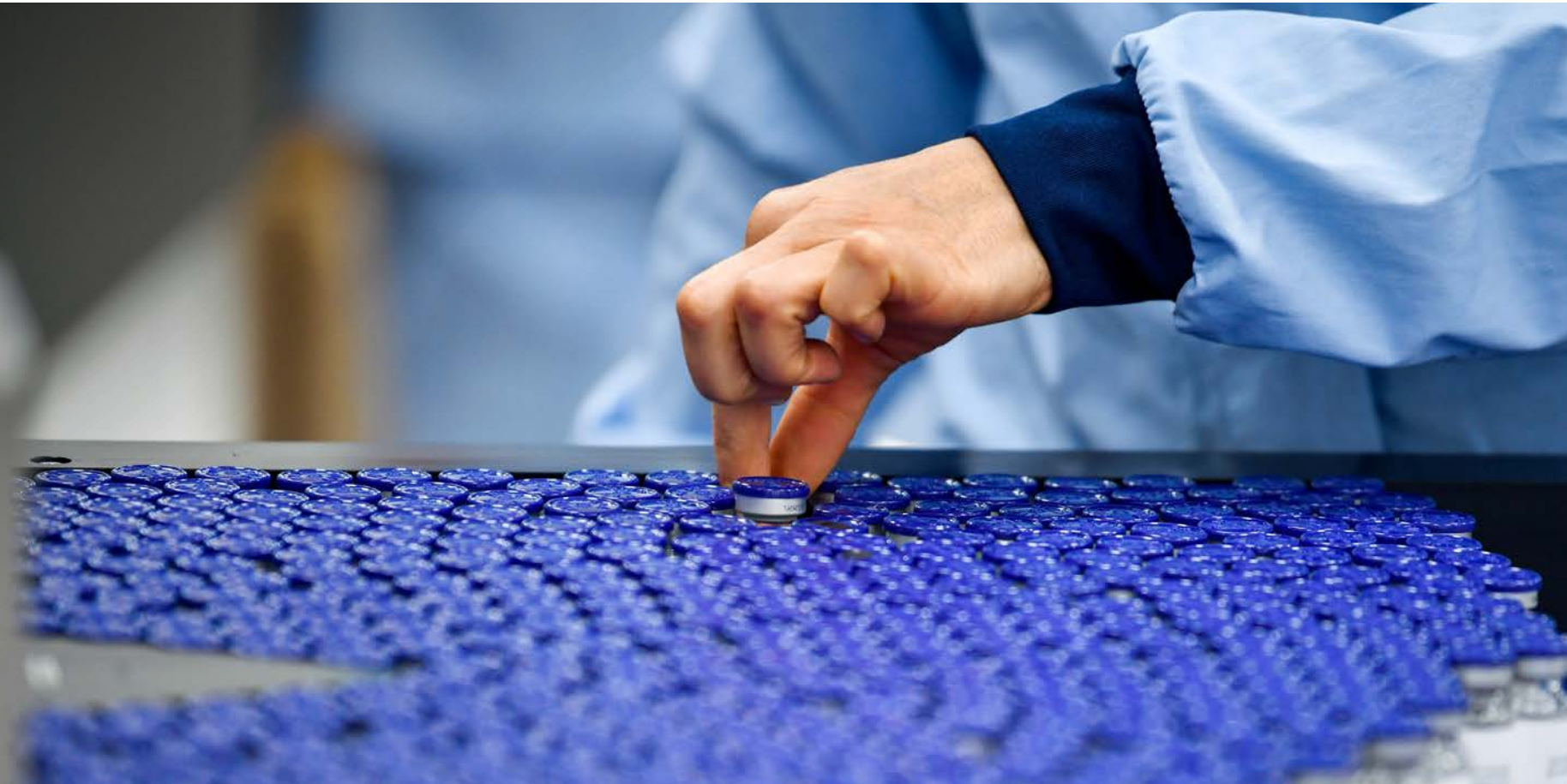
Neither Celanese Corporation nor any of its controlled subsidiaries have performed research using human stem cells or fetal tissue in the past three years, and we do not fund or participate in external studies that use human stem cells or fetal tissue. We engage in limited animal testing through accredited third-party labs to promote product safety and address product stewardship requirements or when required by government authorities.

## Compliance and Advocacy

We have a dedicated global team devoted to managing chemical registrations and risk assessments globally, including REACH in Europe, K-REACH in Korea, Chemical Management Plan in Canada, and Environmental Protection Agency (EPA) Risk Assessments in the U.S. We join and lead consortia to supply current safety and use information for accurate reviews and decisions.

Senior Celanese professionals work in national and international industry organizations to advocate for safe, sustainable chemicals. With our peers in industry, we share best practices and lessons learned to continuously improve the product stewardship of chemical and specialty materials industries worldwide.

For further information, see our [SASB Response](#).

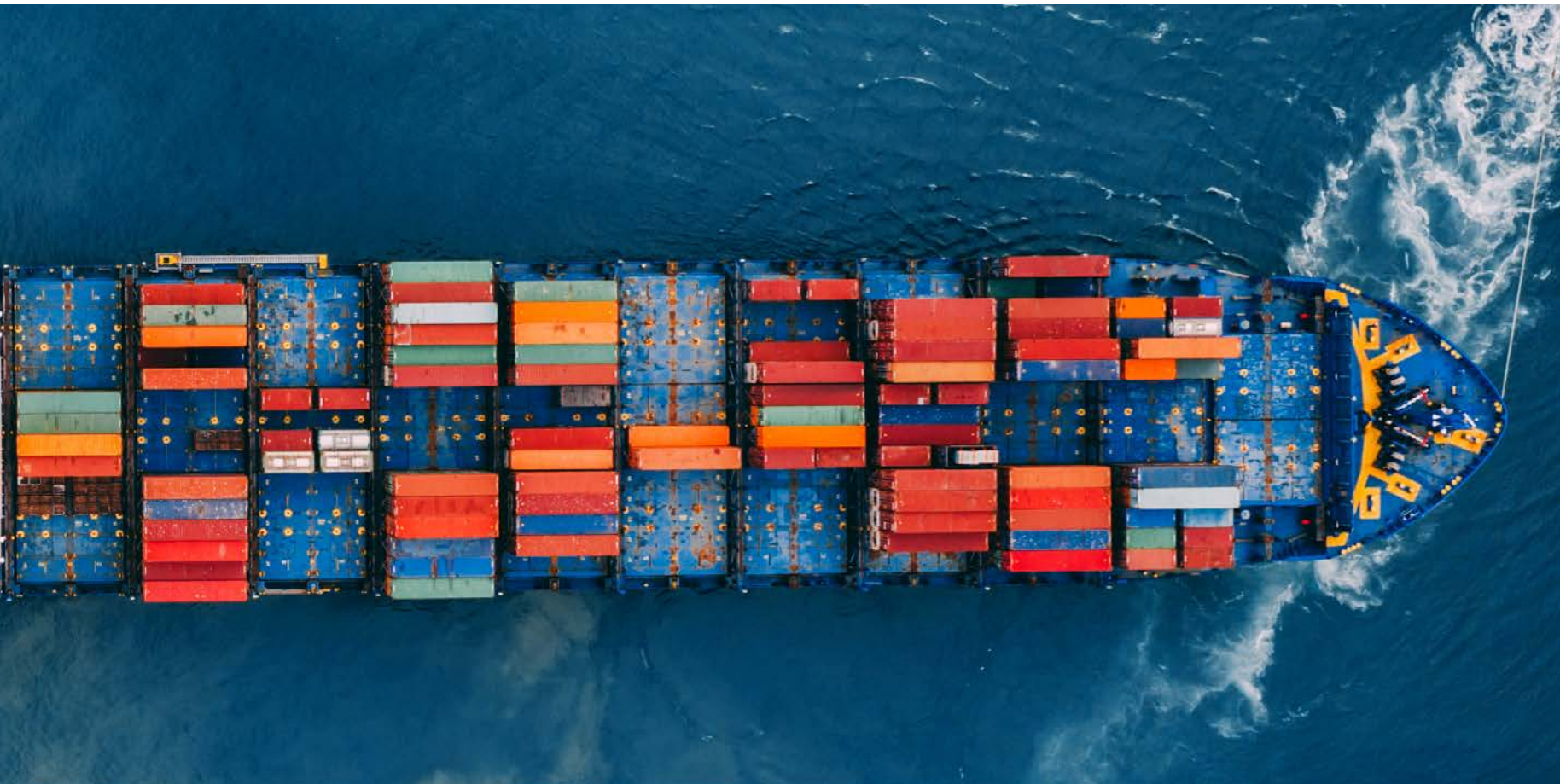


# SUPPLIER RISK MANAGEMENT

Our supply chain activity stimulates economic growth, increasing capacity and supporting technology advancements for the benefit of all. We also place high expectations on our suppliers to encourage the adoption of environmentally sound practices. We harness the opportunities to accelerate safe and sustainable solutions by supporting our suppliers.

We expect our suppliers, vendors, and contractors to follow the same high ethical and legal standards that Celanese follows. In our **Third-Party Code of Conduct**, published in 2020, we make clear our expectations on critical areas of corporate responsibility, including quality, environmental performance, human rights practices, and conflict minerals policies.

We are exploring ways to expand sustainability and supplier diversity further in our vendor selection and qualification process, and we've launched a supplier risk evaluation and monitoring program, starting with strategic suppliers that represent approximately 50% of our 2020 spend.



## Modern Slavery

As a socially responsible Company, Celanese strives to uphold the highest standards of integrity and ethics and to comply with all applicable laws, rules, and regulations. We are committed to promoting human rights and fair working conditions, including those of our partners. To promote our standards, we have put in place a comprehensive business conduct policy outlining expectations for employees and our subsidiaries. We provide awareness training, promote an ethics hotline, and go to great lengths to disseminate our expectations that our supply chain strictly follows the law.

We understand that the risk of modern slavery is not static, and we will continue our efforts to mitigate that risk. In order to assess the effectiveness of our measures, Celanese reviews important indicators such as staff training level, actions to strengthen supply chain auditing and verification, steps taken to educate our high-risk suppliers, as well as investigations into reports of modern slavery and respective remedial actions. Find more about our **Policy on Modern Slavery**.

## Conflict Minerals

Promoting sustainability along the entire lifecycle of a product demands that we scrutinize multiple aspects of our manufacturing process and supply chain, including where we procure minerals. We strive to minimize use of those minerals that are deemed conflict minerals, and we maintain business relationships only with suppliers and manufacturers in countries that are conflict-free. Find more about our **Conflict Minerals Policy**.

SUPPLIER RISK MANAGEMENT

*in Action*

SOURCING FOR SUCCESS:  
INVESTING IN A DIVERSE  
SUPPLY CHAIN

In 2020, we launched a Supplier Diversity Program to enhance the development and inclusion of diverse-owned businesses in our supply chain. With its own dedicated Supplier Diversity and Inclusion Council to oversee and advise on this work, the program is designed to create opportunities for small businesses and those owned by people of color, women, and veterans.

<b>\$168.7M</b>	<b>777</b>	<b>\$48.1M</b>
PRODUCTION IMPACT	JOBS SUPPORTED	WAGES EARNED

In 2020, our Supplier Diversity Program supported \$48 million in wages earned through small businesses and those owned by people of color, women, and veterans. The cumulative revenue of all businesses impacted by our supplier diversity program in 2020 was \$168.7 million. The economic impact assessment we have undertaken highlights how spending with small and diverse businesses sets off a series of additional benefits to subcontractors, which in turn shapes a net positive impact on the economy.

As members of the National Minority Supplier Development Council (NMSDC) and the Women’s Business Enterprise National Council (WBENC), we are helping to advance the agenda of providing equitable access to capital and procurement opportunities for businesses owned by women and people of color. By partnering with advocacy groups and business associations like NMSDC and WBENC, we seek to provide education about our procurement process and information about proposal opportunities to diverse-owned businesses.

.....

*“There is a multiplier effect when we source from an underrepresented business. We are helping to break down barriers and bring economic benefits to the community.”*

—ASHLEY DUFFIE

VICE PRESIDENT, PROCUREMENT, SUPPLIER DIVERSITY AND INCLUSION COUNCIL EXECUTIVE SPONSOR, AND ESG COUNCIL MEMBER





*“Around the globe, our employees help us improve the world and everyday life. Through them, we can support our communities, promote a diverse and respectful workplace, and remain focused on integrity and respect for people everywhere.”*

—VANESSA DUPUIS  
CHIEF HUMAN RESOURCES OFFICER AND ESG COUNCIL MEMBER

*Investing in Our*  
**PEOPLE AND  
COMMUNITIES**

Investing in Our

# PEOPLE AND COMMUNITIES

People are at the center of the Celanese vision and values, and our spirit of innovation is rooted in a rich diversity of talent. We strive to promote a culture of safety, respect, and inclusion where employees, our greatest asset, can expect to thrive and grow. We extend this ethos to our community partnerships.

From recruitment to retirement, our goal is that our employees can look ahead to fulfilling careers—whoever they are or whatever their background. Our commitment to diversity, equity, and inclusion at all levels of the organization is rooted in a culture of respect and belonging. This includes working to uphold human rights.

In our communities, we are proud to kindle a desire to do good. Alongside the Celanese Foundation, our employees are encouraged to give their time to programs that promote safety and support prosperity, educational opportunities, cultural life, and environmental protection.

*“Diversity strengthens entire companies, not just individuals.”*

—ASHLEY ANDREW, SENIOR DIRECTOR, TALENT MANAGEMENT AND DIVERSITY, EQUITY, AND INCLUSION



## HIGHLIGHTS

- NAMED A TOP NOTEWORTHY COMPANY BY DIVERSITYINC FOR ACHIEVEMENTS IN HUMAN CAPITAL DIVERSITY METRICS, LEADERSHIP ACCOUNTABILITY, TALENT PROGRAMS, WORKPLACE PRACTICES, SUPPLIER DIVERSITY, AND PHILANTHROPY
- PUBLISHED INAUGURAL HUMAN CAPITAL REPORT
- BROADENED OUR “DIVERSITY AND INCLUSION” STRATEGY TO INCLUDE “EQUITY”
- CREATED A GLOBAL DE&I COUNCIL
- 55% OF BOARD MEMBERS ARE WOMEN, 43% OF SENIOR EXECUTIVES ARE WOMEN, AND 29% OF U.S. MANAGERS ARE PEOPLE OF COLOR
- RECEIVED A PERFECT CORPORATE EQUALITY INDEX SCORE OF 100 FROM THE HUMAN RIGHTS CAMPAIGN FOUNDATION FOR THE THIRD CONSECUTIVE YEAR
- ~50% REDUCTION IN WORKFORCE HEALTH AND SAFETY TOTAL RECORDABLE INCIDENTS FROM 2014 TO 2020
- RECEIVED RESPONSIBLE CARE® AWARDS FOR OUTSTANDING COVID-19 RESPONSE AND FACILITY SAFETY FOR 8 FACILITIES
- ~82% REDUCTION IN PROCESS SAFETY INCIDENTS OVER THE PAST 10 YEARS
- COMPLETED SEVERE WEATHER ASSESSMENT ACTIONS FOR 8 CELANESE HIGH- AND MEDIUM-RISK FACILITIES IN 2020
- MORE THAN \$1.5 MILLION DONATED BY THE CELANESE FOUNDATION
- ~119,000 HOURS OF EMPLOYEE, FAMILY, AND FRIENDS VOLUNTEERING IN THE SERVICE OF OTHERS

# HUMAN CAPITAL

At Celanese, we place great emphasis on attracting and developing diverse talent. A workplace culture of respect and empowerment for all employees is fundamental to this, and to driving innovation and business growth.



## A Diverse Business Is an Innovative Business

In 2020, we took two key steps to further our DE&I journey: (1) we broadened our strategy to improve accountability and better promote equity in pay and opportunities, and (2) we published a Human Rights Policy that includes DE&I and anti-harassment statements. Our DE&I support structure now includes:

- A **Global DE&I Council**, which is an advisory committee composed of 18 employees from multiple international functions and job levels, and is led by an executive leadership team member.
- **Employee Resource Groups** led by employees to inspire, develop, and increase representation of diverse groups, while strengthening cultural awareness and competence for all employees.
- An **Anti-Discrimination Statement**, a **Business Conduct Policy**, and an **Equal Opportunities Policy** that expressly prohibit discrimination, harassment, and retaliation.

- A **Supplier Diversity Program** to champion minority-owned businesses in our supply chain.
- Confidential channels for employees to report concerns, including potential violations of Company policies or the law. These include an **Ethics Helpline**, which is available 24/7 and accessible by phone or the web.

## Open Dialogue on Diversity, Equity, and Inclusion

Across the globe, we have hosted Respectful Workplace Workshops, which provide a forum for open discussion about how to advance diversity, inclusion, engagement, and a safe work culture. Also, hundreds of employees participated in unconscious bias training.

Small group conversations were held about race relations, which were facilitated by leaders of our Black Employee Resource Group, and our CEO Lori Ryerkerk held roundtable discussions with Black/African American employees to hear their experiences and to discuss how we can continue to advance our DE&I efforts.

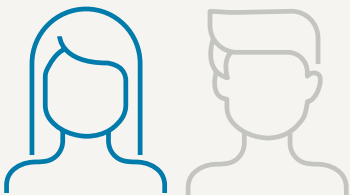
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### Our DE&I Efforts

## WE ARE ACHIEVING RESULTS

There is always more we can do to make our workforce more fully reflect the rich diversity of our communities, and we are committed to intensifying our efforts further.

Download our [Human Capital Report](#).



55%  
BOARD MEMBERS  
WHO ARE WOMEN



43%  
SENIOR EXECUTIVES  
WHO ARE WOMEN



29%  
U.S. MANAGERS WHO  
ARE PEOPLE OF COLOR



43  
AVERAGE  
EMPLOYEE AGE



6%  
OVERALL  
ATTRITION RATE\*



50%  
GLOBAL EMPLOYEES  
REPRESENTED BY UNIONS,  
WORK COUNCILS, OR BOTH

\*6% women attrition rate, 6% people of color attrition rate, 5% Hispanics attrition rate, and 4% Asians attrition rate.

OVERVIEW

CUSTOMER SOLUTIONS

PEOPLE AND COMMUNITIES

ENVIRONMENT

INTEGRITY

REPORTING AND DISCLOSURE

Retention and Recruiting

Attracting and retaining talented people is critical in the chemical industry, which relies on science, technology, engineering, and math (STEM) expertise. We proactively recruit from diverse sources, including the National Society of Black Engineers and the Society of Women Engineers. We have also partnered with the American Institute of Chemical Engineers to underwrite the Future of STEM Scholars Initiative, a national industry-wide program that provides scholarships for students at Historically Black Colleges and Universities, connecting them to internships, leadership development, and mentoring opportunities.

Our recruiting strategy is built on intentionality, accountability, and a defined approach with measurable outcomes. Our managers are empowered and encouraged to assemble a diverse pool of candidates for every open position, and we have established diversity recruiting processes for select sites and teams within the organization. We also reaffirm our goal of pay equity, regardless of gender or race/ethnicity, and to regularly conduct an analysis utilizing an external third party to confirm we are making equitable decisions.

Career Enablement and Leadership Development

Our Talent Management Strategy aims to provide a consistent, efficient, and measurable approach to recruitment and retention, while also delivering effective performance management and supporting professional development. The strategy includes an annual global talent planning process to assess current and future needs across the organization. This enables senior leaders to make more informed decisions and high-impact action plans to support the development of a diverse pipeline of successors for critical roles. We report to our Board of Directors on the progress of our strategy and initiatives, including sharing key metrics around employee development, diversity, talent pipelines, and executive succession planning.

All roles at Celanese exist within a Global Career Framework, which highlights career opportunities, removes artificial barriers, and empowers employees to map out a career journey and gain new experiences within their current role or a new role. Performance is measured through results and demonstrating Leading@Celanese attributes, competencies, and related behaviors that we believe make a great leader, including thinking and acting strategically, delivering value through initiation and execution, and leadership attributes like authenticity, flexibility, and valuing diversity.





*“People are the competitive advantage of Celanese. The Celanese culture is an accomplishment everyone shares in, and it will sustain strong results in the future.”*

—SCOTT RICHARDSON

EXECUTIVE VICE PRESIDENT AND CFO



We have several targeted career-enablement programs for our employees to pursue their development goals, including:

-  **A Technical Career Ladder program**, which seeks to provide manufacturing, technology, and innovation employees opportunities to acquire new skills to advance their careers
-  Formal and informal leadership development aligned to our **Leading@Celanese attributes**
-  **A Tuition Reimbursement** program for qualified employees to take undergraduate or graduate courses at approved universities with Celanese helping to offset some of the cost
-  **Online** skill development learning

HUMAN CAPITAL  
*in Action*

#CHOOSETOCHALLENGE:  
EMPOWERING WOMEN’S  
VOICES

In 2021, our annual International Women’s Day celebrations across our global sites were a call to action for accelerating women’s equality. The theme was #ChooseToChallenge, indicating that a challenged world is an alert world, and from challenge comes change. In Asia, participants shared how they #ChooseToChallenge and talked about the influential women in their lives. Keynote speakers and audience participants provided their insights, challenging and calling out gender bias, stereotypes, and inequality, understanding the need to be inclusive at work, and celebrating personal challenges, learnings, and achievements.

These events empower women to raise their voices to injustices and biases. By challenging ourselves, our colleagues, friends, and families, we can help to create an inclusive world.



PARTICIPANTS IN THE #CHOOSETOCHALLENGE EVENT IN SINGAPORE FOR INTERNATIONAL WOMEN’S DAY

*“Our legal team is pleased to partner with Paul Quinn College and its dynamic leader, President Michael Sorrell, as they work to transform the educational experience at Paul Quinn and beyond to other Historically Black Colleges and Universities.”*

—A. LYNNE PUCKETT  
SENIOR VICE PRESIDENT, GENERAL COUNSEL, AND ESG EXECUTIVE SPONSOR

BUILDING THE PIPELINE:  
MENTORING FOR THE FUTURE AT PAUL QUINN COLLEGE

As well as recruiting from diverse sources, we reach out to pools of diverse talent to nurture skills, provide encouragement, and share our experiences. In our hometown of Dallas, Texas, each year our lawyers and legal professionals provide business communication mentoring to students at Paul Quinn College, a local Historically Black University. Two days of online sessions in

2020 replaced in-person interactive mentoring sessions, and the Celanese team of volunteers modeled oral and written business communications skills and shared effective communication tips. Students were challenged to use what they learned the next day in a short presentation they had written to the group.

# WORKFORCE HEALTH AND SAFETY

Safety is one of our six corporate values, and we are committed to a culture that keeps people and communities safe. Beyond physical safety, we are focused on comprehensive well-being—physical, emotional, and financial.

Our No Harm objective is to operate our manufacturing processes without harming employees, contractors, the environment, or the community. We strive toward our vision by working to prevent injuries, process safety incidents, and environmental releases. We continue to learn from any incident and work to implement and improve effective management systems in pursuit of our vision.

When our employees come to work, their safety is paramount to us and our way of doing business. We are working to achieve a goal of zero occupational injuries and zero process safety incidents while engaging our people with systems designed to mitigate risk, drive conformance with regulations, demonstrate leadership, and encourage employees to continually improve year over year. Safety is more than avoiding an injury—it’s about engaging our employees and contractors to use their knowledge, experience, and ideas to improve safety in the future.



SILAO, MEXICO  
celebrating KeepSafe milestones

Our approach is to create a collaborative environment for continuous improvement. This includes enabling frontline leaders to understand how their behavior influences the environment in which people work and to give them the tools to understand the behavior of others. It also means increasing employee and contractor situational awareness through similar tools, learnings, and engagement activities. Driving contractor performance is key to achieving the No Harm culture, and we work hard to build relationships of mutual trust.

Beyond physical safety at our work locations, we want our employees to know that we are focused on their well-being—physical, emotional, and financial. All three are crucial components to fulfill our people strategy of a rewarding, engaging, and inclusive workplace and our ability to deliver quality and reliability in all that we do. Please go to our [Human Capital Report](#) section on Well-Being to learn more about our programs for physical, emotional, and financial well-being.

## Integrated Health and Safety Management System

We maintain an effective and efficient integrated management system that is aligned with the Celanese Environmental, Health, and Safety (EHS) Policy and procedures that define the vision, leadership commitment, and minimum requirements for conducting business in a responsible manner. Through the implementation of the new operating model, we have defined roles and responsibilities to promote engagement, accountability, and strong execution. We have life-critical procedures and permitting requirements that outline the critical aspects to prevent injuries and fatalities. This requires coordinated and effective execution every day by all employees and contractors. When incidents do occur, they are reported and investigated, and learnings are shared to help prevent reoccurrence.

In addition to robust safety protocols, we have a comprehensive exposure assessment process designed to characterize, identify and mitigate risk, and minimize work-related exposures. Networked industrial hygiene professionals identify and execute best practices, share learnings, and promote related programs for awareness.

This process drives qualitative and quantitative risk assessment, resulting in unit and site-specific selection of a hierarchy of controls, including engineering and administrative controls,



FRANKFURT, GERMANY  
celebrating KeepSafe milestones

and personal protective equipment (PPE) that also incorporates respiratory protection and hearing conservation programs, and ergonomic and workplace exposure processes.

Qualitative processes include characterizing the workplace, identifying chemical, biological, physical, ergonomic workplace stressors, exposure routes, safety data sheets and Occupational Exposure Limits (OELs), control and mitigation measures, standard operating procedures, and task reviews describing how work is performed. A quantitative risk process is used to drive an annual sampling plan and periodic reevaluation of risk based on employee feedback, safety committees, reduction of exposure and OELs, and monitoring data.

Our Progress

Since 2017, we have steadily reduced both our total recordable incidents rate (RIR) and lost-time incident rate (LTIR) by 32% and 46%, respectively. This means that, since 2017, we have reduced absolute total recordable incidents of employees and contractors by 39%, even while Celanese has continued to grow.

We won a number of Responsible Care® awards in 2021, including Outstanding COVID-19 Response and Facility Safety Awards for eight sites in recognition of safety performance.

In 2020, approximately 68% of our manufacturing sites recorded zero recordable injuries. Tragically, we did experience two fatalities in 2020, both in Singapore. Following this loss of life, we conducted a rigorous investigation and reviewed our internal life-critical policies and procedures. We have now implemented a Global Stewardship Directive and enhancements to our life-critical procedures to reduce the risk of reoccurrence. Life-critical field execution and risk reduction are key imperatives in our global manufacturing.

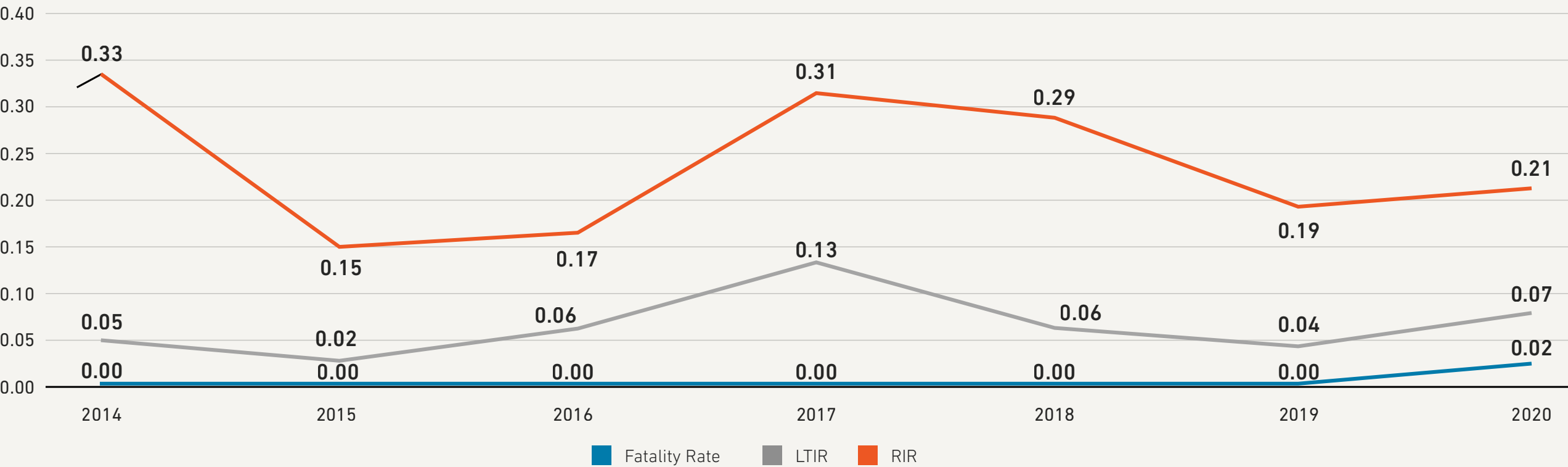


**Responsible Care®**  
Our commitment to sustainability.

As a member of the American Chemistry Council (ACC), we align with industry initiatives on sustainability and strategic enhancements through its **RESPONSIBLE CARE®** program for environmental, health, safety, and security performance.

Recordable

**LOST TIME AND FATALITY RATE**



For further information, see our [SASB Response](#).

WORKFORCE HEALTH AND SAFETY

*in Action*

STRONGER TOGETHER WHILE WORKING APART:  
OUR PRIORITIES DURING COVID-19

When COVID-19 emerged as a global pandemic in 2020, we mobilized rapidly to protect employees and adjust manufacturing operations to meet new demands and challenges while maintaining safety, product quality, and customer service. Our response to protect people and communities is a testament to the Celanese values of people, safety, and community.

We pivoted our production and expanded our supply chain base to prioritize manufacturing products for the medical community. In doing so, we were able to support the increased global demand for our polymer and specialty materials required for vital medical equipment and supplies, PPE shields, respirators, and ventilators. And our Engineered Fabrics Team delivered emulsion polymers for engineered fabrics found in products like pre-moistened disinfectant wipes. To date, we’ve manufactured more than 20 types of specialty material, including those at medical grade, for use in ventilators, respirators, or other critical medical devices and supplies. From Hostaform® and Celanex® to Ateva® and

GUR®, stepping up our capacity has enabled healthcare providers to maintain essential supplies during the most challenging of circumstances.

Our Emergency Preparedness Team instituted an infectious disease and response procedure to manage COVID-19-related health issues. We implemented protocols for personal protective equipment (PPE), social distancing, and close-contact work, and enhanced sanitation and cleaning procedures and measures to restrict global business travel and visitor access to our plants and offices. Collectively, we provided more than 800,000 protective face masks to our manufacturing sites, offices, local hospitals, emergency responders, and nursing homes in the communities where we operate worldwide. We also focused on the well-being of our employees who faced a storm of challenges during the year. Through a combination of additional paid time off, scheduling actions, and expansion of dedicated mental and physical wellness benefits, we sought to support our employees’ total wellness—physically, mentally, and financially—during these difficult times. Frequent communication with employees, customers, and suppliers provided clarity and support where possible during the uncertainties of the pandemic.

HELPED OUR COMMUNITIES



Donated more than 800,000 protective face masks to local hospitals, emergency responders, nursing homes, manufacturing sites, and offices



Contributed \$150,000 to the International Federation of Red Cross and Red Crescent Societies

DELIVERED FOR OUR CUSTOMERS

- Continued to safely operate our manufacturing facilities globally with minimal disruption
- Aligned production facilities with respective demand, including scheduled turnarounds at certain sites
- Closely monitored the transport availability of suppliers
- Prioritized the needs of the medical community by adjusting manufacturing operations and expanding our supply chain base to support the increased demand for polymer and specialty materials required for vital medical equipment and supplies

MOBILIZED TO KEEP OUR  
EMPLOYEES SAFE

- Temporarily closed **the majority of corporate and sales offices** throughout the world; location-specific Site Activation Teams spearheading re-opening based on local circumstances
- Essential on-site employees **exercised social distancing and robust cleaning and hygiene procedures** globally
- Implemented a **comprehensive communication strategy**, which included information portals and regular communications
- Provided **extensive training and education** to employees on COVID-19 safety protocols, including return to the office orientation, signs, and videos
- Developed and implemented infectious disease **response and control procedures**
- Continued to **conduct routine audits** to ensure social distancing, good hygiene, cleaning, and sanitization

Find more about our:

[ACC Outstanding COVID-19 Response Award, Narrows, Virginia](#)

WORKFORCE HEALTH AND SAFETY

*in Action*

KEEPING SAFE:  
CONTINUOUSLY IMPROVING  
LIFE-CRITICAL LEARNING

At Celanese, we are always looking for ways to improve the management of our operations and processes. One way that our Clear Lake, Texas, facility has been demonstrating this drive for continuous improvement is through the development and implementation of a new hands-on training program for work activities that have been deemed to be life critical.

Training covers topics such as work permitting, energy control and isolation, and working at heights. This eight-hour program has been rolled out to all operations, maintenance, and resident contractor personnel at the site to promote consistent application of these critical policies across the site.



# PROCESS SAFETY AND EMERGENCY PREPAREDNESS

At Celanese, we’re committed to continuous improvement in reducing the number and severity of process safety incidents by building competency at all levels, providing a rigorous management system, and making key investments to mitigate risk.

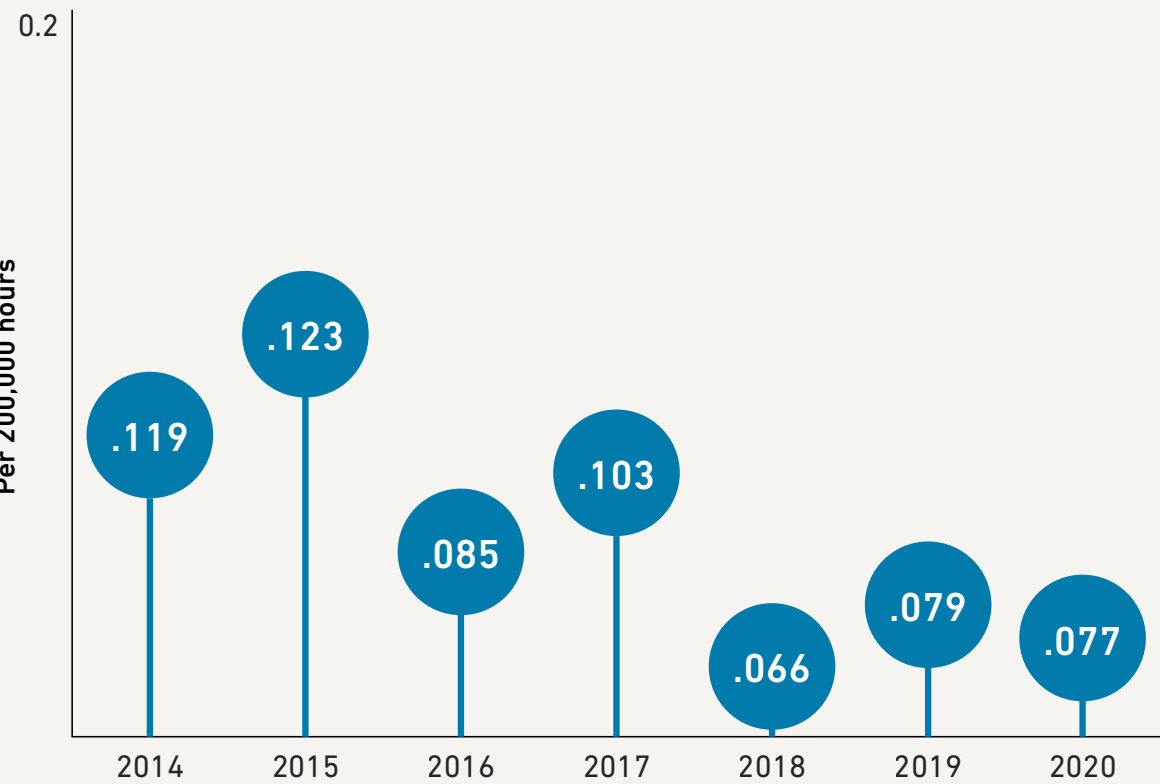
We execute a data-driven strategic plan for process safety that helps us identify and eliminate hazards and minimize risk within a comprehensive process safety management system. In addition, our process safety programs, such as Walk the Line, enable us to learn from our experiences and eliminate incident causes.

Approximately 50 companies in the U.S. have replicated our Walk the Line safety program since 2014.

## TIER 1 & 2 PROCESS SAFETY INCIDENT RATE

Celanese has continuously improved process safety performance, reducing incidents by approximately 82% over the last 10 years.

For further information, see our [SASB Response](#).



Our Walk the Line program addresses cultural and operational discipline and operational readiness causes of process safety incidents. Industry event-sharing data indicates we are helping to reduce process safety incidents in our industry.

We also recently formed a Transportation Stewardship Council for continuous improvement of EHS performance of the transport, handling, and storage of our products to promote our objective to do no harm. The council is presently meeting monthly to bring consistency in reporting incidents so that a longer-term improvement strategy can be developed.

Effective preparedness and management of an emergency or crisis are key elements of our safety program. Our Crisis Management Plan defines roles, functions, teams, and processes in case of a crisis. It augments our emergency response plan, giving us the capabilities and the flexibility to respond to the most unexpected situations. To date, eight high- and medium-risk sites have conducted an innovative severe weather assessment to serve as a guide to mitigate potential risks. Our emergency management plans were put to the test with proactive shutdowns of our Texas facilities when recent extreme cold paralyzed much of the industry along the Texas Gulf Coast. Our Crisis Management Plan helped to minimize potential process safety and environmental impacts, enabling an efficient and safe return to service.

### Our Progress

Our strategic focus has been on reducing human error through conduct of operations improvement, safe operating limits and response, and improving situational awareness. This year, we expanded the scope of our process safety incident reporting to include lower severity Tier 3 LOPC incidents. This will allow us to better identify causal factors and take actions to prevent more severe incidents. In addition, future improvements will be made in hazard identification and risk assessment and intentional competency development at all levels in the organization.

# COMMUNITY RELATIONS

We are focused on empowering our people and communities to thrive in a changing world by promoting safety and supporting prosperity, educational opportunities, cultural life enhancements, and environmental protection.

We support colleague volunteer efforts by providing each employee with 16 hours of paid time off for volunteer activities each year. From serving the homeless and helping organizations providing a path to home ownership, to picking up trash along a river or sorting food at a food bank, we make it easy to schedule and coordinate volunteer activities through our online Giving Hub. We match qualified employee charitable donations and offer Dollars for Hours, rewarding employees for their volunteer time with small grants to be donated to eligible organizations all over the world.

16 hours of paid volunteer time a year for every employee



**AROUND THE WORLD**  
Celanese employees volunteer their time and talents

We continue to be inspired by the reach and impact of the Celanese Foundation, an employee-led 501(c)(3) non-profit focused on creating opportunities for at-risk families in all countries where Celanese has employees. We also continue to partner with local organizations such as Social Venture Partners (SVP) Dallas.

Together, we have piloted a program through which we loan our senior leaders for six weeks to three small non-profits working to make a difference with limited resources. This program, fully funded by Celanese, has helped the non-profits with strategy, human resources, communication, budgeting, planning, and more.

## Our Progress

In 2020, more than 5,600 employees, family members, and friends volunteered approximately 119,000 hours in the service of others. This means that since 2016, we have recorded over 900,000 hours of volunteering, involving approximately 75% of our workforce. Also, during the year 2020, the Celanese Foundation supported more than 900 charities and donated more than \$1.5 million to organizations worldwide, including \$150,000 to the International Federation of Red Cross and Red Crescent Societies to support their work in helping some of the world’s most vulnerable people during the COVID-19 world health crisis.



COMMUNITY RELATIONS

*in Action*

# ANSWERING THE CALL: EMERGENCY RESPONSE COMMUNITY PARTNERSHIP

Celanese Community Advisory Panels are forums for open dialogue among manufacturing facilities and community stakeholders, including our neighbors, local legislators/regulators, community organizations, first responders, school officials, and law enforcement, among others. Through the Community Advisory Panel for our acetate plant in Narrows, Virginia, Celanese teams have been volunteering time and emergency response equipment to help their rural Southwest Virginia neighbors.



Winner of the  
**Outstanding COVID-19 Response  
by the ACC**

Through 2020 and the first quarter of 2021, Celanese teams responded to 207 mutual aid calls from people in Giles County. Callers reported on medical concerns ranging from general illness and COVID-19-related shortness of breath to heart attacks, strokes, and heat stress. They also supported firefighting teams with structural fires, hazardous materials incidents, and fuel leaks. Teams made 14 drone missions to support law enforcement missing person or suspect searches. The Narrows volunteer team is one of many across Celanese, working closely with the community to offer our specialist expertise, time, and equipment when and where it is needed.

When COVID-19 community transmission rates became high or severe, the Narrows plant donated PPE to community first responders, clinics, and the hospital at a time when some first responders had no protection. In partnership with the New River Health District, vaccinations were conveniently provided at our facility for our workforce.



CELANESE VOLUNTEER EMERGENCY RESPONSE TEAM NEAR OUR NARROWS, VIRGINIA, ACETATE PLANT



*“I am proud of the manufacturing improvements and innovations we continue to bring to reduce our impact on the environment while keeping our employees safe and helping our customers meet their sustainability goals.”*

—JON MORTIMER  
SENIOR VICE PRESIDENT, GLOBAL MANUFACTURING AND ESG COUNCIL MEMBER

*Preserving the*  
**ENVIRONMENT**

*Preserving the*

# ENVIRONMENT

Innovating for a more sustainable world is a significant part of what we do. Our focus on reducing consumption of resources and operational improvements to lower our environmental footprint supports our customers’ growing sustainability needs and helps to meet our own sustainability objectives.

As part of our *Elements of Opportunity* journey, our ESG Priority Expert Committees have recommended reduction targets for water, waste, and energy. Since 2020 was an atypical year due to manufacturing disruptions and uneven customer demand resulting from COVID-19, we have chosen to use 2021 as a more representative baseline for these targets. Our investment in a new data tracking system fully operational in January 2020 is providing enhanced analytics to help drive important decision-making in key environmental areas and align our environmental metrics with SASB chemical industry standards and TCFD.

<b>2030 TARGETS*</b>	:	<b>10%</b> REDUCTION IN TOTAL NET ENERGY INTENSITY	<b>10%</b> WATER CONSUMPTION INTENSITY REDUCTION	<b>15%</b> TOTAL WASTE REDUCTION
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With climate change, the world faces significant challenges, and at Celanese, we know we have a key role to play—both through our portfolio of sustainable solutions and in making our manufacturing processes more resource-efficient and sustainable with reduced impact to the environment. Another innovative step has been integrating sustainability into our capital projects at the design stage through award-winning lifecycle assessments. Across our facilities, we are finding innovative ways to reduce energy intensity, purchase or generate renewable electricity, and turn process waste into sustainable fuel. These technologies deliver bottom-line efficiencies and improved energy security while reducing our carbon footprint.



\*From a 2021 baseline.

## HIGHLIGHTS

- **FULL BOARD OF DIRECTORS OVERSEES OUR CLIMATE POLICY AND STRATEGY**
- **MONITORED HAZARDOUS AIR POLLUTANTS (HAPS) IN 2020 FOR FUTURE DISCLOSURE AND TARGET SETTING**
- **MORE THAN 230 ENERGY-EFFICIENCY PROJECTS DELIVERED ~\$24 MILLION IN SAVINGS FROM 2019 TO 2020**
- **INVESTED IN PROJECTS TO INCREASE ENERGY EFFICIENCY AND IMPROVE RELIABILITY, RECOVER AND REUSE WASTE HEAT, AND INCREASE THE USE OF RENEWABLE ENERGY AND SUSTAINABLE RAW MATERIALS**
- **~3,100 MT REDUCTION OF CO<sub>2</sub> ANNUALLY AT LANAKEN, BELGIUM, SITE FROM NEW COMBINED HEAT POWER UNIT**
- **ENERGY STAR® PARTNER OF THE YEAR DESIGNATION IN 2021 FOR THE SIXTH CONSECUTIVE YEAR, AND THE SUSTAINED EXCELLENCE AWARD FOR THE FOURTH CONSECUTIVE YEAR**
- **~160,000 MMBTU PER YEAR HEAT RECOVERY AND REUSE FROM HAZARDOUS WASTE INCINERATOR PROJECT IN NANJING, CHINA**
- **COMMITTED TO OPERATION CLEAN SWEEP PLEDGE FOR ENGINEERED MATERIALS USED IN EUROPEAN AND U.S. FACILITIES**

### EHS Policy and Guiding Principles

Our EHS Policy and Guiding Principles are the basis of our strategic approach to improving our environmental performance. At our operations, we strive to deliver continual improvement in energy, waste management, air emissions, and water usage. More than 50% of our operations are ISO-14001 certified. See details for specific facilities regarding [global certifications](#).

# CLIMATE

Climate change is one of the most pressing issues of our time. As a Company committed to improving the world, we are well-positioned to develop solutions that reduce GHG emissions. At the same time, we have a responsibility to work to reduce the footprint of our own operations. This commitment to reduce emissions starts with our full Board of Directors, which oversees our Climate Policy and strategy. We recognize that fuel, electricity, and steam generation compose a majority of our total emissions, and we are therefore focusing on ways to reduce these impacts.



## Metric Calculations

Starting with realigning our data analytics and reporting to globally recognized standards, we have calculated Scope 1 GHG emissions using The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, as a guide. The organizational boundaries for this report align with the Operational Control approach outlined in the GHG Protocol for Celanese manufacturing facilities. Following Scope 1 Guidance for Direct Emissions, we first conducted a comprehensive inventory of Celanese owned or operated emission sources within Celanese manufacturing facilities. Example sources of Scope 1 emission sources are Celanese onsite combustion and energy sources (e.g., cogeneration units, boilers, furnaces), mobile sources, process emissions (e.g., Kyoto Protocol refrigerants, fugitive emissions, leaks, process emissions), landfills, onsite vent gas abatement sources, waste incinerations, and wastewater

treatment plants. For each Celanese owned or operated manufacturing source, we estimated reported gross Scope 1 emissions using actual or estimated activity rates combined with actual or published emissions factors (e.g., European Environment Agency (EEA), U.S. Environmental Protection Agency (EPA)), default higher heating values for purchased fuels, and global warming potential values from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report.

For gross Scope 2 indirect emissions, we quantified the amount of purchased utilities (e.g., electricity, steam) for Celanese owned or operated manufacturing facilities, excluding administrative locations and certain activities, combined with published or site-specific emission factors of sources of steam and electricity purchased from third parties. Celanese also manufactures steam and electricity for onsite, collocated site partners and electrical grid systems not owned or operated by Celanese. These Scope 1 emissions were calculated for the volume of steam and electricity sold to third parties using the calculation methodologies specified in the GHG Protocol, Allocation of GHG Emissions from a combined heat and power (CHP) plant, where steam and/or electricity is sold. Net Scope 1 and Scope 2 emissions were then quantified by aggregating gross Scope 1 and gross Scope 2 emissions less emissions attributable to utilities sold to external parties.

In the last year, we have invested in a metric tracking software, including training relevant personnel, which means we are now capturing approximately 50% more climate-related data points. Our 2020 environmental metrics reflect this alignment. This comprehensive and robust insight serves as a foundation for analyzing the data, restating our baseline, evaluating a mid-long-range emissions target, and assessing a strategy to meet our reduction goals. Our ESG Council Climate Committee is overseeing this process, and we look forward to reporting back. In the meantime, the Council has approved a new Climate Policy to become the basis of a robust program to identify and implement sustainable and innovative solutions to reduce our carbon impact. This includes developing products that reduce carbon and working with suppliers, government, and other key stakeholders such as the ACC and Cefic to make meaningful progress.

Our next priority is to assess and develop a reduction strategy using our enhanced set of emission sources and commercially available abatement technologies. Celanese is committed to understanding our Scope 3 emissions sources in order to develop a roadmap to identify, quantify, and collect Scope 3 emissions.

## 2020 GROSS SCOPE 1 & SCOPE 2 GREENHOUSE GAS EMISSIONS

Metric Tons (MT)

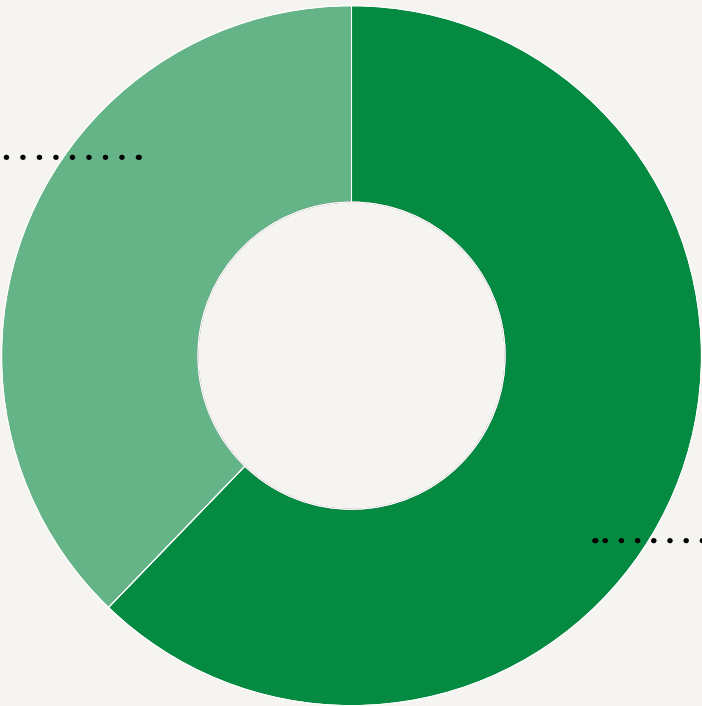
For further information, see our:

[SASB Response and Additional Celanese Stewardship Metrics](#)

[The Task Force on Climate-Related Financial Disclosures \(TCFD\) – First submission](#)

[The Climate Disclosure Project \(CDP\)](#)

38%  
1,371,062 MT  
Scope 2 GHG



62%  
2,275,903 MT  
Scope 1 GHG

CLIMATE

*in Action*

CURBING CARBON:  
TRANSFORMING CO<sub>2</sub> INTO SUSTAINABLE METHANOL

At our integrated chemical manufacturing facility at Clear Lake, Texas, we are continuing to apply world-class green tech innovation to reduce our carbon footprint and support a circular economy.

The sustainable methanol facility, operated by Fairway Methanol LLC as a joint venture between Celanese and Mitsui & Co., Ltd, will be able to turn CO<sub>2</sub> by-product (that would otherwise have been emitted into the atmosphere) into methanol, a key raw material in the manufacture of numerous acetyl products, including acetic acid, vinyl acetate monomer (VAM), ethyl acetate, and other derivatives. The process uses minimal energy and generates minimal volatile organic compound (VOC) emissions or waste. Once fully operational in 2023, ~60% of currently vented process CO<sub>2</sub>

from the entire Clear Lake site will be transformed into sustainable methanol. It is expected that this will avoid 180,000 metric tons of CO<sub>2</sub> emissions, the equivalent of taking more than 39,000 cars off the road in a year. The \$50 million investment is also expected to produce significant revenue by increasing our methanol capacity by approximately 130,000 tons a year, at a cost similar to conventional natural gas methanol production.

As a result, we are not only reducing our carbon footprint but also meeting our return threshold by expanding capacity at a similar cost to produce.

*“The work we are doing with recycled CO<sub>2</sub> at our Clear Lake facility is a significant step forward for Celanese in our efforts to preserve the environment and be a responsible community partner in the reduction of carbon waste and emissions.”*

—BRENDA STOUT  
VICE PRESIDENT, MANUFACTURING  
AND ESG COUNCIL MEMBER

SUSTAINABLE MANUFACTURING INITIATIVE AT CLEAR LAKE, TEXAS, FACILITY

METHANOL PRODUCTION FROM RECYCLED CO<sub>2</sub>

....

By-product CO<sub>2</sub> as alternative feedstock for methanol production to be used in a range of end-products.

DISPLACING A TOTAL OF  
**180,000**  
MT CO<sub>2</sub>



  
EQUIVALENT TO  
taking more than

**39,000**  
CARS OFF THE ROAD  
PER YEAR

Find out more about our:

[Solar Power at Clear Lake](#)

[Customer Solutions for a Circular Economy](#)

# AIR

For over a decade, we have been focused on delivering improvements in environmental releases, including reducing VOC emissions.

While we do not release a significant amount of nitrogen oxides (NOx) or sulfur oxides (SOx) in our manufacturing operations, we compile and report NOx and SOx emissions data at relevant facilities to comply with local regulations.



We aggregate air emissions data globally and report it externally as part of our annual ESG metrics to fulfill the SASB and TCFD disclosure requirements. In 2020, we also began assessing and disclosing Hazardous Air Pollutants (HAPs).

## Our Progress

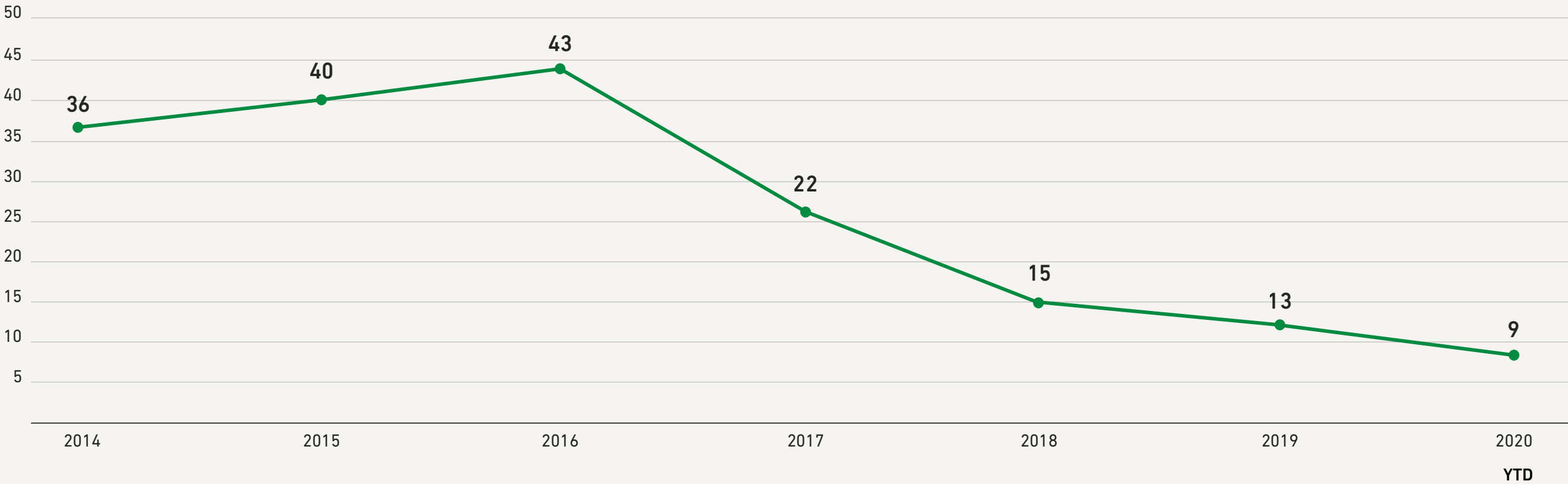
As a result of our investments in manufacturing technologies, we have seen continual reductions in major and significant releases. Overall, these incidents have fallen by approximately 75% between 2013 and 2020.

For absolute air emissions data including NOx, SOx, VOCs, and HAPs, see our [SASB Response](#).

# MAJOR\* & SIGNIFICANT\*\* ENVIRONMENTAL RELEASES

Celanese has demonstrated continuous environmental performance improvement as measured by the release to the environment metric.

\*Major: Quantity of chemical which enters the environment and reaches 100% of the Reportable Quantity within any 24-hour window.  
\*\*Significant: Quantity of a chemical which enters the environment and reaches 15% of the Reportable Quantity within a 24-hour window. In this chart, Significant environmental releases are inclusive of Major environmental releases.



# ENERGY

Along with developing solutions that save energy for our customers, we are deploying energy-efficiency technologies and renewable energy sources to power our manufacturing operations and premises. Celanese has a strong track record over many years of implementing energy-efficiency projects focused on reducing existing non-renewable Scope 1 and 2 energy usage.

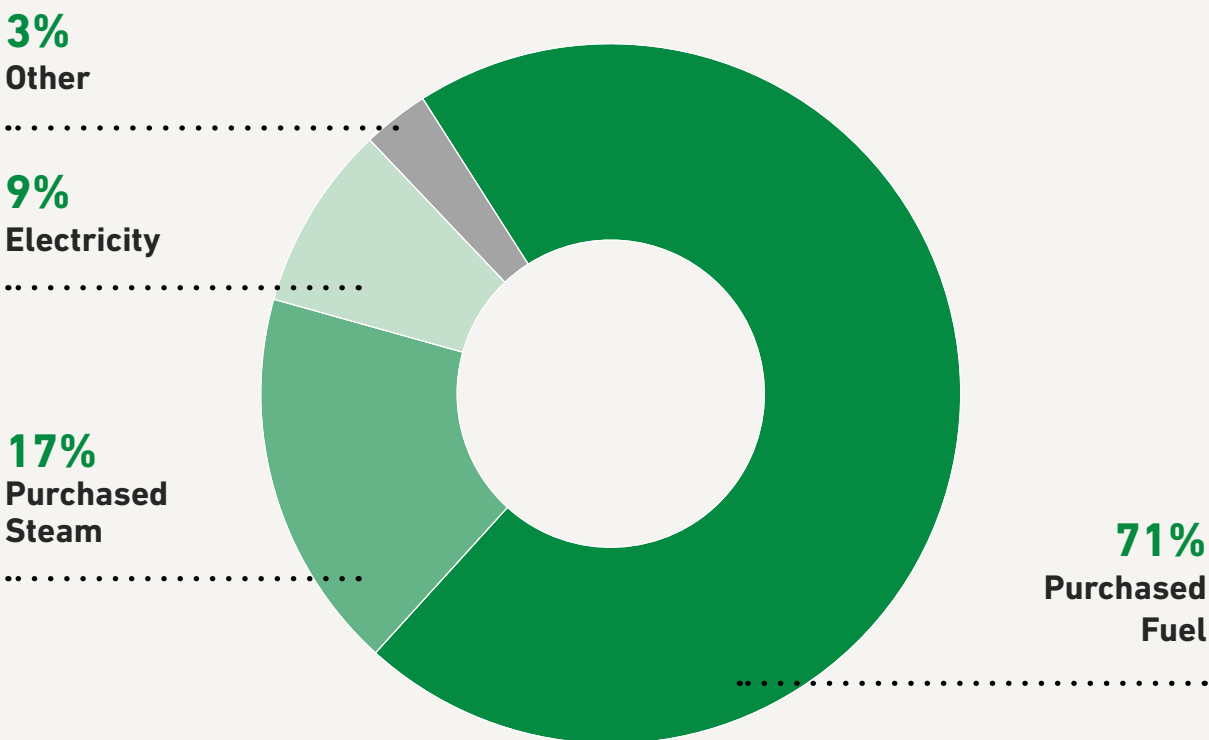
We continue this focus with annual site goals and an enterprise-wide energy **10% intensity reduction goal by 2030,\*** as well as participation in ENERGY STAR® Challenge for Industry program, with four sites achieving the challenge award to date. Additionally, six of our manufacturing and administration sites continue to implement energy management systems certified under ISO-50001.

Celanese energy expert teams continue to evaluate and implement energy-efficiency technologies and initiatives, such as equipment optimization and real-time energy and dashboards, as well as investigating new technology, such as energy storage, micro-grid systems, and smart metering, while establishing procurement strategies to increase our renewable energy.

## 2020 TOTAL ENERGY PURCHASED

For further information, see our: [SASB Response](#)

[Additional Celanese Stewardship Metrics](#)



For example, at our Bishop, Texas, site, a latent heat condenser and three thermo-compressors have achieved 9.35% annual energy savings, while in Narrows, Virginia, optimizing equipment has reduced energy consumption by 6%, all while meeting production targets. With our energy-efficiency initiatives, we also achieve cost savings. From 2019 to 2020, more than 230 energy-efficiency projects resulted in cost savings of approximately \$24 million.

Recent Celanese acquisitions are utilizing renewable energy to reduce GHG emissions. The Moosleerau, Switzerland, site purchases 100% of its electrical power from wind and hydroelectric sources. And in November 2020, with the installation of rooftop solar panels, our Silvassa, India, site has sourced more than 5% of its electricity from renewable energy, with the capability of sending excess power to the grid, if needed.

Also in 2021, the Association of International Chemical Manufacturers (AICM) in China awarded Celanese the Responsible Care Chairman Award for its hazardous waste incinerator project. The objectives of the AICM Responsible Care Award are to commend the excellent practices of member companies in the areas of Responsible Care, Environmental, Health and Safety Improvements, Corporate Social Responsibility, and Sustainability.



We are proud of our ENERGY STAR®<sup>2</sup> Partner of the Year designation in 2021 for the sixth consecutive year—and the Sustained Excellence award for the fourth consecutive year.

### Our Progress

Since 2012, we have been steadily reducing our net energy intensity<sup>3</sup> through a strong energy management program. Overall, total gross energy consumption in 2020 amounted to 51.7 million gigajoules. Please see our [Reporting and Disclosures](#) for further detail.

<sup>\*</sup>For a 2021 baseline.  
<sup>2</sup>Energy Star® is the U.S. government-backed symbol for energy efficiency.  
<sup>3</sup>Metrics are intensity-based per unit of production (pounds or metric tons).

ENERGY

*in Action*

# CATCHING RAYS: HARNESSING SOLAR POWER

In 2020, we signed a renewable energy contract for our Clear Lake acetic acid plant in Texas. We anticipate solar power will meet one-third of the site’s energy needs and will reduce CO<sub>2</sub> by one-third. In daylight hours, it could even meet 70% of the plant’s electricity needs, thereby displacing approximately 66,700 metric tons of CO<sub>2</sub>—that’s the same as taking approximately 14,500 cars off the road every year. This move supports our energy security as well, reducing downtime during grid outages in extreme weather events. The fixed price is also a hedge during seasonal peak summer pricing.

*“Solar power energy is growing significantly as a source of renewable electricity, and we are seeing that the resource availability is providing a better match to meet demand during critical times of the year versus other large, fast-growing, renewable sources.”*

—DARREN COLLINS, VICE PRESIDENT, MANUFACTURING

*“We anticipate the CHP unit investment will save the company over \$1mm a year in energy costs in addition to reducing our carbon footprint—a significant achievement for Celanese and a benefit for our customers, who are focusing on sustainability and seeking suppliers committed to carbon footprint reduction.”*

—JULIAN DUCKMANTON, VICE PRESIDENT, ACETATE TOW AND ESG COUNCIL MEMBER

## SUSTAINABLE MANUFACTURING INITIATIVE AT CLEAR LAKE, TEXAS, FACILITY

RENEWABLE ENERGY SUPPLY

....

142,759

MWH

OF RENEWABLE  
ELECTRICITY  
PURCHASED

DISPLACING A TOTAL OF  
66,700  
MT CO<sub>2</sub>

EQUIVALENT TO  
taking more than

14,500

CARS OFF THE ROAD  
PER YEAR

Signed a renewable energy contract to supply ~33% of the annual electricity consumption at the site.

# POSITIVE ENERGY: ENERGY SAVINGS FROM BELGIUM TO TEXAS

In 2020, our Lanaken, Belgium, and Bishop, Texas, plants both received ENERGY STAR® Challenge for Industry awards for their plant-wide energy intensity reductions of more than 10% in less than five years (10.3% at Lanaken and 10.6% at Bishop). To further drive energy efficiency, the Lanaken plant commissioned a new combined heat and power (CHP) unit capable of generating the entire electrical plant load, as well as some of its steam requirements.

Approximately 3,100 metric tons of CO<sub>2</sub> saved annually with combined heat and power at the Lanaken, Belgium, plant.

The unit is expected to save approximately 3,100 metric tons of CO<sub>2</sub> per year. As part of a comprehensive energy improvement plan, the site also installed new air compressors, an energy efficient chiller, and a nitrogen generator.

ENERGY

*in Action*

POWERING CHANGE:  
SUSTAINABILITY BY DESIGN

When scoping and designing a new capital project, our project engineers now include energy-efficiency criteria in their lifecycle cost evaluations. This innovative step change has been recognized by the Department of Energy (DoE) in a Better Plants Award and by the American Chemistry Council (ACC) in an Energy Efficiency Award.



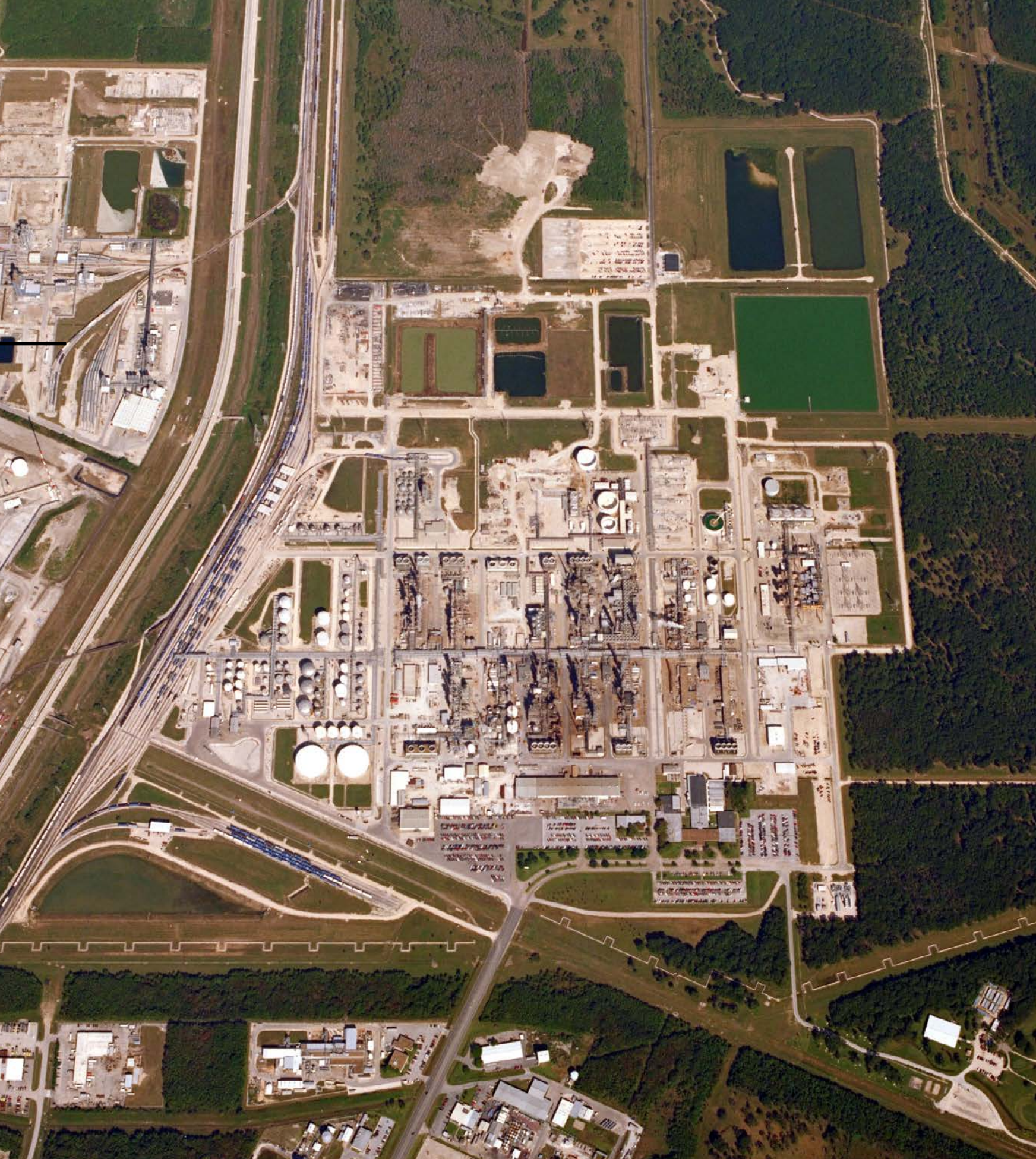
Winner of the  
**2021 Best Practice Award**  
by the U.S. Department of Energy



Winner of the  
**2021 RESPONSIBLE CARE® Energy Efficiency Award** by the ACC

Developed by a sub-team of our Global Energy Council, the sustainability design consideration checklist covers energy, GHG impact, waste, and water conservation. By working through the list, the project engineer makes assessments, ranging from technology selection and equipment efficiency to measurement systems.

Alongside energy integration questions, the checklist also prompts engineers to think about a range of energy-saving factors including turn-down capabilities, water balance impact, peak loads, carbon capture, and waste recycling. In turn, this stimulates optimized technology decisions to minimize the project's sustainability impact. Technologies can range from smart measurement systems and submetering to control elements and machine automation. By taking a lifecycle approach to energy analysis and efficiency, we also increase our access to potential financial rebates and subsidies.



# WATER

We recognize that water is a vital raw material for our business and a shared natural resource. Integrating water issues at the product development and operational levels is an ongoing and continuous process. Water is needed to support our direct manufacturing operation including for cooling water system, steam generation, washing, and in products. As a responsible community partner, and in line with our vision to improve the world and everyday living, we are committed to sustainable water management practices.



Our global Water Management Program is developing with a focus on reducing water consumption through efficiency practices like reuse and recycling of water. In 2020, we recycled 1.3% of total water intake by implementing practices such as recycling treated wastewater effluent and condensate from the generation of steam.

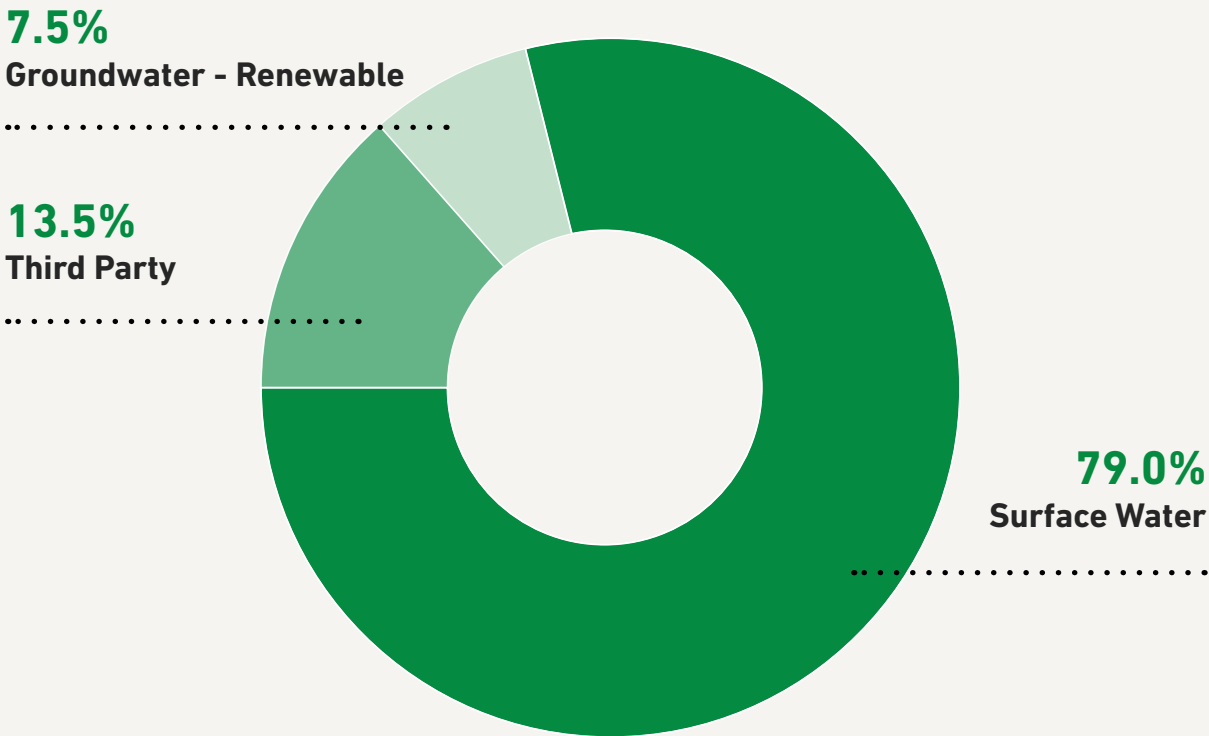
Celanese recognizes the importance of water to its operations and seeks to implement water efficiency practices. Longer-term, we established a target to **reduce water consumption intensity by 10% by 2030.\***

## 2020 WATER INTAKE BY SOURCE

For further information, see our:

[SASB Response](#)

[First CDP Water Security Response](#)



We committed to publicly disclosing more information on our water-related performance by following the standards established by the Sustainability Accounting Standards Board Standards for the Chemical Industry and completing our first CDP Water Security Survey. As part of this effort, we began tracking facility water intake and discharge, percent water consumption, and intake in water-scarce areas (using the WRI baseline water stress score). In 2021, we formed a water stewardship committee to guide the water risk assessment process, provide water management guidance, and support integration of water risk into the Enterprise Risk Management process.

### Our Progress

Our total water intake in 2020 was 150,097 thousand cubic meters. Includes all sources, including but not limited to, surface, groundwater, and third-party suppliers.

\*For a 2021 baseline.

# WASTE

Expert teams at our manufacturing facilities are continuously seeking opportunities to minimize, reduce, reuse, and recycle waste, with dual goals of increasing productivity and reducing environmental impact.



Alongside plant innovations and circular economy product development, we have improved our waste metrics and reporting to SASB standards, while setting an ambitious corporate target of **Reducing Total Waste Disposed by 15% by 2030.\***

To meet this target, we have established a strategy that includes developing a Global Waste Management Program to identify further opportunities to reduce waste, starting with high-volume/high-cost waste streams. Where waste is sent off-site for treatment, storage, and disposal, a strict protocol is in place, and we are currently conducting a detailed assessment of

risks at these external facilities for over 30 manufacturing sites globally. We are also assessing our waste vendors against standard waste management criteria.

### Our Progress

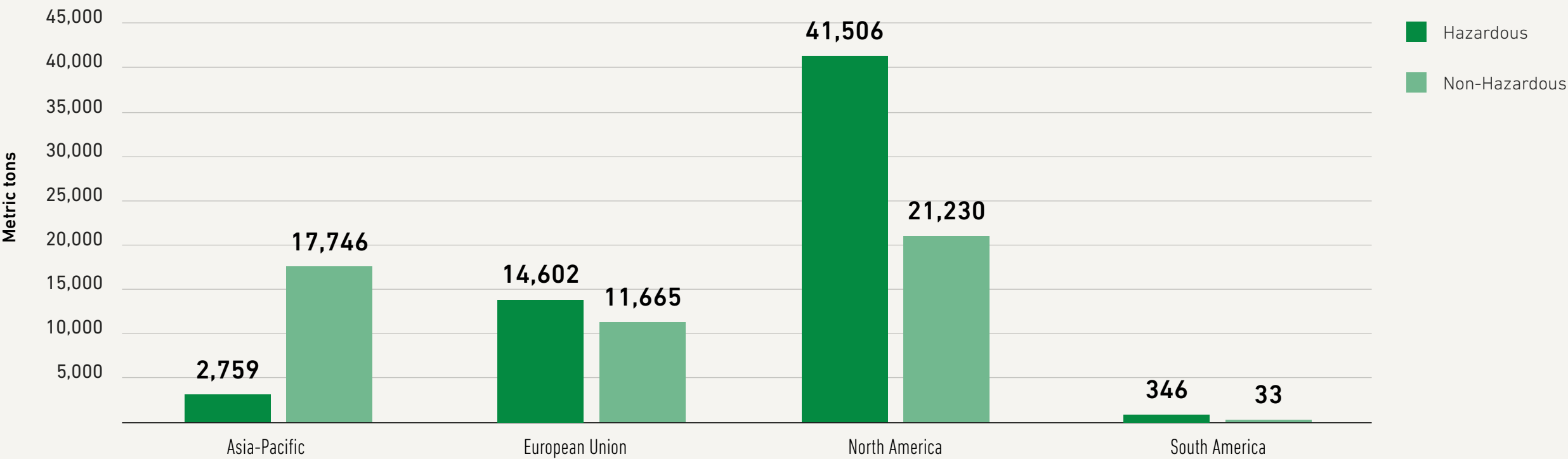
In 2020, we generated 50,674 metric tons of hazardous waste and 59,213 metric tons of non-hazardous waste, recycling over 8% ("recycled" excludes waste managed through energy recovery).

## 2020 WASTE BY REGION

For further information, see our:

[SASB Response and Additional Celanese Stewardship Metrics](#)

[Supplier Risk Management](#)



\*For a 2021 baseline.

WASTE

*in Action*

# DON'T WASTE YOUR ENERGY: RECOVERING HEAT FROM HAZARDOUS WASTE

At our integrated chemical complex in Nanjing, China, we are implementing world-class technologies to recover heat from hazardous waste incineration. Installed in 2020, the incinerator is the first such technology to be used in Nanjing and can recover approximately 160,000 MMBtu/year of heat that would otherwise have been lost, turning it back into energy for use at the complex.

Between December 2020 and April 2021, 1,673 tons of hazardous waste generated 11,299 tons of steam for use on site, saving approximately \$267,000 in fuel.

Thanks to innovations like these, the local authority has recognized our Nanjing complex with awards for being an Advanced Environmental Company and Environmental Trustful Company.



RECOVERING HEAT FROM WASTE AT OUR NANJING, CHINA, FACILITY

# REFUSE TO WASTE: RECYCLING ALTERNATIVE TO LANDFILL

Our team at our Wilmington, North Carolina, facility identified a market for their polyphenylene sulfide (PPS) solids, eliminating the need for disposing this waste in landfills. Annually this avoids ~\$196,000 of waste disposal costs while minimizing the

risk associated with handling waste. The facility was recognized by the ACC for their sustainability efforts, which results in an ongoing safer community and workplace through the recycling of waste.



Winner of the  
**Waste Minimization, Reuse and  
Recycling Award by the ACC**  
for our Wilmington,  
North Carolina, site

WASTE  
*in Action*

SMOOTH SAILING:  
OUR PLEDGE FOR  
PLASTIC-FREE OCEANS

Since 2019, our European and U.S. engineered material facilities pledged to Operation Clean Sweep® (OCS) to prevent plastic pellet, flake, and powder loss to the environment where the potential exists to enter soil, groundwater, streams, rivers, and oceans.



OCS is an international program designed to prevent the loss of plastic granules (pellets, flakes, and powders) during handling by the various entities in the plastics value chain and their release into the environment.

We have now established a formal program to meet our OCS pledges. This includes rigorous site procedures aimed at achieving zero industrial plastic loss, as well as a systematic process to encourage our supply chain partners to join the OCS efforts.





*“At Celanese, we are committed to working with integrity. We take all compliance concerns seriously, and we do not tolerate retaliation for raising concerns in good faith. Because how we do business matters.”*

—ANNE BROOKSHER-YEN  
CHIEF COMPLIANCE OFFICER

*Operating with*  
**INTEGRITY**

Operating with

# INTEGRITY

At the heart of our *Elements of Opportunity* priorities for a more sustainable future is a Company-wide commitment to conduct business with high standards of integrity and ethical conduct.

We strive to promote an environment that is fair and transparent, where people are held accountable for their actions and where mismanagement and corruption are not tolerated.

As a global company, we must not only comply with local, state, and regional regulations, but we also have a responsibility to the communities we reside in. A transparent and robust corporate governance is fundamental to this, as we all seek to act in accordance with the six Celanese values. Sound risk management practices are also critical to upholding our integrity. Available on our [Compliance website](#), our detailed policies include Business Conduct, Anti-Corruption, and Competition Law. They outline the principles and guidelines that all Celanese employees and business partners are encouraged to follow regarding honest, ethical business practices and compliance with applicable laws.

A confidential global [Ethics Helpline](#) is available for employees, contractors, and any non-Company person to submit a question or ethical concern anonymously by phone or online.

## CORPORATE GOVERNANCE

We are committed to effective corporate governance to promote the long-term interests of shareholders and other stakeholders, strengthen accountability, and help build public trust in the company.

Our Board of Directors oversees our sustainability strategy and performance. Find more about our [Sustainability Governance](#). Today, the Board consists of nine individuals with decades of experience in the chemical manufacturing industry. They bring a depth of expertise in chemicals, healthcare, technology, and risk management, with four directors having extensive chemical manufacturing industry experience, eight bringing experience in innovation-focused businesses, eight having government and regulatory experience, and seven having expertise in overseeing and managing risks.

In addition to bringing a diversity of skills, currently 55% of Board members are women and one is a person of color. All directors are independent (except our Chairman/CEO) under applicable stock exchange and Securities and Exchange Commission (SEC) rules.

## POLITICAL ENGAGEMENT

We seek to responsibly use our resources to advance public policy consistent with Celanese values, the needs of our business and our employees, the sustainability of our business, and long-term shareholder value.

Celanese does not provide any direct political contributions, but we sponsor a voluntary, nonpartisan political action committee called the Celanese Political Action Committee (CELPAC), which is governed by an employee-led Board of Directors. CELPAC supports candidates for federal, state, and local office in the U.S., representing both major U.S. political parties that advocate and pursue government policies that promote our values.

## HIGHLIGHTS

- THE BOARD STRENGTHENED AND CLARIFIED ITS OVERSIGHT BY CONNECTING A SPECIFIC COMMITTEE OR THE FULL BOARD TO EACH OF OUR SUSTAINABILITY PRIORITY ISSUES
- INCLUDED ESG RISKS IN ENTERPRISE RISK MANAGEMENT WORKSHOPS WITH LEADERSHIP TEAMS
- IN 2020, DURING THE COVID-19 PANDEMIC, WE RECORDED 98% PARTICIPATION AMONG EMPLOYEES ASSIGNED TO COMPLETE THE TRAINING ON COMPLIANCE POLICIES

### Additional Resources:

Access copies of our committee charters and other governance documents available on our [Investor Relations site](#).

Find out how our Board of Directors oversees our sustainability strategy and performance. Visit [Sustainability Governance](#).

Find more about our full policy and a list of 2020 political contributions in [Political Engagement Policy](#) and [Celanese Corporation Political Contributions](#).



# RISK MANAGEMENT

Effective risk management is critical to upholding our values, integrity, and reputation. It is also a fundamental expectation of our EHS management system to achieve the core principles of our No Harm initiatives and goals.

Risk management is a strategic activity within the company, and responsibility lies with executive management, with Board Committee and overall Board oversight for reviewing and monitoring execution of the strategic and business plan, and selected risk areas.

On a regular basis, the Board and its committees engage with management on risks as part of broad strategic and operational discussions, which encompass interrelated risks, as well as on a risk-by-risk basis.

Annually, the Company holds workshops with leadership teams of key functions to assess the current risk universe applicable to those functions and take into account macro trends. Historically, ESG risks have been discussed primarily with the Manufacturing and Human Resources leadership teams. Recognizing the increased importance of ESG risks and related disclosures, we are adding a new workshop in 2021 to focus on ESG-related risks. Our cross-functional ESG Council will participate in the workshop for a more in-depth discussion of ESG risks and interdependencies.

Committees continually discuss the Company’s risk exposures with management, and the Company employs an ongoing iterative risk assessment process. Results of risk audits are reported to leadership and the applicable Board committee as appropriate.

## Information Security and Cyber Risk

Maintaining security of information and mitigating against cyber risk is vital to maintaining our proprietary information and the trust of our customers and employees. We have several layers of protections in place, all overseen by our Executive Leadership Team, our Audit Committee, and our Board of Directors. The Board receives updates that include information about cybersecurity governance processes, the status of projects to strengthen internal cybersecurity, and the results of security breach simulations.

To our knowledge, we have not experienced any significant information security breaches in the past five years. Through an independent registered public accounting firm and internal audit, we validate the information security internal controls over financial reporting as part of Sarbanes-Oxley Act compliance. For high-risk chemical facilities in possession of specified quantities of chemicals of interest, the Company prepares security vulnerability

*“At Celanese, Risk Management is not simply a ‘check the box’ exercise. We deploy a sound continuous process that involves thoughtful bottom-up and top-down discussions across the organization to address risks that matter.”*

—GABRIELE ROZNOVSKY

CHIEF RISK OFFICER, CHIEF AUDIT EXECUTIVE, AND ESG COUNCIL MEMBER

*“At Celanese, we are constantly strengthening our cybersecurity framework to protect our assets, and we diligently monitor, track, and mitigate potential cyber risks in our environment.”*

—SAMEER PURAO  
CHIEF INFORMATION OFFICER

### Some examples of risks overseen by committees are as follows:



**The Board** oversees the enterprise risk process that management implements, as well as overseeing risks related to major public policy issues including climate change.



**The Audit Committee** reviews and assesses the Company’s processes to manage financial reporting risk and to manage internal audit, internal control over financial reporting, and disclosure controls and procedures, tax, investment and other financial risks, as well as the Company’s financial position and financial activities. It also reviews the Company’s compliance program.



**The Environmental, Health, Safety, Quality, and Public Policy Committee** oversees certain operational risks related to employee, environmental, process and product safety and quality, as well as reputational issues related to those matters. We apply a process safety system of Hazard Identification and Risk Assessment to mitigate known risks to acceptable levels in manufacturing.



**The Compensation and Management Development Committee** oversees compensation programs and policies and practices as well as addresses issues and risks associated with diversity and inclusion and human capital management.



**The Nominating and Corporate Governance Committee** oversees corporate governance matters and is charged with developing and recommending to the Board corporate governance principles and policies and Board committee structure, leadership, and membership.

assessments as required by the Chemical Facility Anti-Terrorism Standards program.

Our “Keep Cyber Safe” global cybersecurity awareness training program includes 12 modules covering key risk topics such as laptop security, phishing, unsecured networks, and malware. We also have a rigorous phishing awareness program that regularly is administered to all employees with computers. Annually, our global code of conduct training reinforces key information security concepts and policies.



# COMPLIANCE POLICIES AND EMPLOYEE TRAINING

We maintain a Business Conduct Policy (BCP), an Anti-Corruption Policy, and a Competition Law Policy that apply to all employees and directors of Celanese. These policies serve as the bedrock in helping us conduct business, and compete in our industry, ethically and in compliance with laws. They are accessible on [compliance.celanese.com](https://compliance.celanese.com).



## GOVERNANCE

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The Compliance Committee oversees the Company’s Ethics and Compliance program, including Celanese’s Business Conduct Policy (BCP) and all other associated policies and procedures. The Chief Compliance Officer chairs this Committee, which is made up of multiple senior leaders from all three regions and most major business lines. The Chief Compliance Officer reports quarterly to the Audit Committee of the Board of Directors on business conduct policy and corporate integrity. These briefings include applicability and enforcement of the BCP, including the anti-bribery and anti-corruption provisions within the Company, changes in or additions to relevant anti-corruption laws globally, and developments in and learnings from significant cases around the world.

### Training on the Business Conduct Policy

We provide members of Celanese’s Board of Directors with the Company’s BCP both during their onboarding and through periodic training and briefings. The BCP includes specific provisions barring the bribery of both public and private officials and officers, as well as other anti-corruption prohibitions. Celanese’s executives and other members of its senior operational leadership receive training on how to comply with provisions of the BCP, including the anti-bribery and anti-corruption terms.



## EMPLOYEES

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New employees are assigned a BCP training course that includes links to the BCP itself and its supporting policies, and most participate in an onboarding session that includes a review of key BCP topics. Celanese employees are required to complete an annual training and/or knowledge assessments on the topics covered in our BCP, which covers subjects such as inclusiveness, business ethics, general safety, protection of our proprietary and employee personal information, financial integrity, and reporting of concerns through our compliance website and ethics hotline, mentioned below. In 2020, we recorded 98% participation among employees in the completion of the assigned BCP and/or assessment.

The BCP is available on our Compliance website. In the event the Company amends or waives any of the provisions of the code of conduct, applicable to our principal executive officer, principal financial officer, or controller, that relates to any element of the definition of “code of ethics” enumerated in applicable SEC rules, the Company intends to disclose these actions on the Company’s website.

Our employees, suppliers, and customers can ask questions about our BCP and other ethics and compliance issues, or report potential violations, through our Ethics Helpline run by a third-party global Internet and telephone information and reporting services company. This helpline enables confidential or anonymous reporting.

### Training on Anti-Corruption Policies and Procedures

We also require certain employees, based on function, to complete annual training and/or knowledge assessment tests on the topics covered in our Anti-Corruption Policy and Competition Law Policy. Employees are selected for this training based on their roles within the organization, with a view to ensuring that all relevant functional groups are aware of the Company’s expectations and key obligations and are empowered with the information to act ethically and in the right way in fulfilling their roles. Approximately

# Ethical Choices are Excellent Choices

BUSINESS CONDUCT POLICY



Conduct business ethically and in compliance with laws



Don't bribe or break the rules to gain a business advantage



Compete vigorously and ethically



Cultivate a respectful, diverse and safe working environment



Seek advice and raise concerns without fear of retaliation



Operate responsibly and make a positive impact on our communities



Be good stewards of our company's information

COMPLIANCE.CELANESE.COM



Scan the QR code with your phone's camera to access the Ethics Helpline



Call confidentially or anonymously to submit a report

## 866-384-4223

Our new BCP posters “Ethical Choices are Excellent Choices,” which are displayed throughout our facilities and offices, now contain a QR code to make the Ethics Helpline easy to access from mobile devices.

half of our employees participate in one or both trainings and/or assessments annually. In 2020, a year in which the workplace and training capabilities were disrupted by the COVID-19 pandemic, we recorded 98% participation among employees assigned to complete the training and/or assessments on these policies.



## BUSINESS PARTNERS

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Celanese’s “third-party intermediaries” or direct suppliers, contractors, and joint venture partners receive a copy of Celanese’s Supplier Code of Conduct, which is a simplified version of the BCP and contains language about anti-corruption. Both the Supplier Code of Conduct and the BCP are available on Celanese’s website, [celanese.com](https://celanese.com). Celanese contracts with third-party intermediaries also include anti-corruption language or clauses, and third parties that meet a certain risk threshold, based on factors such as contractual value and country corruption risk levels, must complete an anti-corruption due-diligence review and a refresher every three years.

## ADDITIONAL TRAINING ON ANTI-CORRUPTION POLICIES AND PROCEDURES

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We conduct quarterly topic-specific training sessions for employees on key risk areas, including those identified through our enterprise risk management process. Recent focused training topics have included respectful workplace, insider trading, anti-corruption, and ethical competition. During 2020 and into the first half of 2021, these training sessions have averaged approximately 1,000 attendees. We also frequently involve compliance personnel in business function meetings to provide spot-training on compliance and ethics hot topics.



# *Transparent* **REPORTING AND DISCLOSURE**

Communicating transparently and honestly is a cornerstone of our approach as a responsible, sustainability-focused global company. By working to provide comprehensive and accurate information on our strategy and performance, we strengthen trust between the Company and our customers, investors, and colleagues. This supports our ability to embrace opportunities, meet shared challenges, and shape a sustainable future.

In the last year, we have created a centralized formal process for ESG external disclosures, as well as launching an enhanced sustainability website.

Transparent

# REPORTING AND DISCLOSURE

The Company’s Internal Audit (IA) function validated various metrics provided in the 2020 Sustainability Report. Specifically, IA focused on data related to the areas of Community Relations, Human Resources, Process Safety, Workforce Health & Safety, and Environmental.

For all areas, the validation methodology included tracing the numbers provided back to the respective source systems (e.g., the Company’s environmental tracking system or other applicable

system). IA did not reconcile metrics with the underlying source data.

For environmental metrics, the validation also included a review of submitted supporting documentation with subsequent reconciliation to the reported metrics. Additionally, IA performed a controls review of the newly implemented environmental data collection and reporting system to help ensure that all data was properly supported and approved in accordance with new procedures implemented in early 2021.

Company Information

Celanese Corporation is a public Company whose common stock is traded on The New York Stock Exchange under the symbol CE. Celanese Corporation conducts substantially all of its operations through its subsidiaries. In this report, the terms “Celanese,” “the Company,” “we,” “our,” and “us” refer collectively to Celanese and its subsidiaries on a consolidated basis.

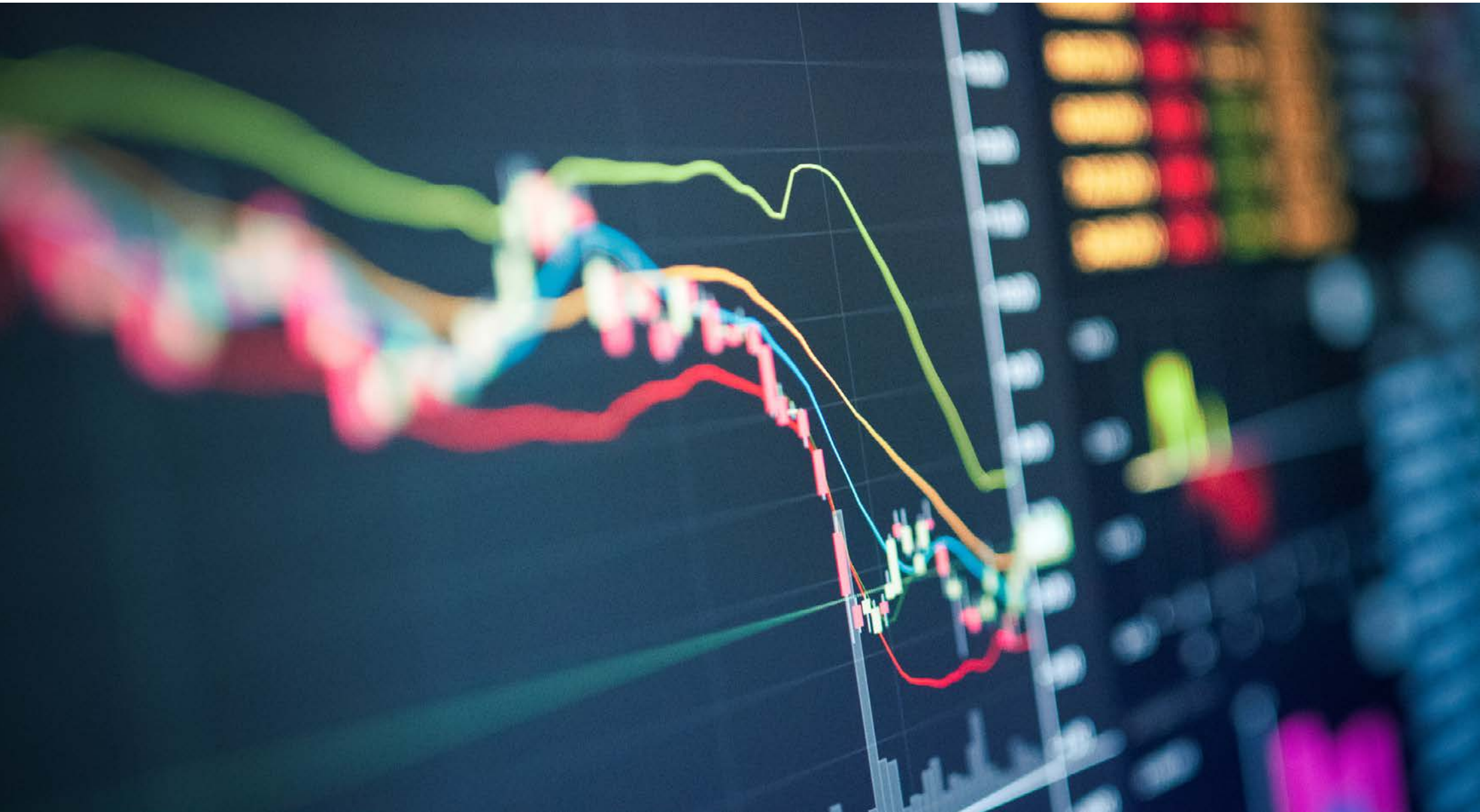
The operations of Celanese’s joint ventures are excluded from this report.

Certain Information and Use of Estimates

The historical information in this Sustainability Report primarily focuses on the operations of Celanese Corporation and its wholly-owned subsidiaries for the fiscal and calendar year ended December 31, 2020, unless otherwise indicated in a specific context. Certain data points and metrics include information from years prior to 2020, where available, to illustrate historical performance and trends. Historical data reflects estimates and may be based on assumptions.

The report uses qualitative descriptions and quantitative metrics to describe certain products, policies, and performance. The quantitative data related to the sustainability of our operations were collected through internal processes, instrumentation, engineering estimates, and other methods available to us. Many of the standards, methods, and metrics used in preparing this report and the metrics contained herein continue to evolve. Therefore, consistent with the continuous improvement approach that we routinely bring to our operations, we anticipate that our methods of collecting and reporting data may be modified or improved in the future to the extent that we have access to improved reporting methods, technology, or systems.

Our internal auditors have assessed certain information in conformance with The Institute of Internal Auditors International Standards for the Professional Practice of Internal Auditing, including verification that supporting documentation exists where applicable.



# THE SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB) INDEX AND ADDITIONAL CELANESE STEWARDSHIP METRICS

We are pleased to publish our first SASB-aligned disclosure. This Index is a further indication of our commitment to continuous improvement across our ESG priorities, and we look forward to increasing the level of detail in future years as we continue to analyze our enhanced data and refine our collection process and methodology.

This table references the Standard for the Chemicals Industry, as defined by SASB’s Sustainable Industry Classification System. SASB and the International Integrated Reporting Council (IIRC) recently merged to form the Value Reporting Foundation, an independent, private-sector, standards-setting organization dedicated to helping companies disclose financial material, decision-useful ESG information that meets investor needs.

The numbers and percentages contained in this report are for the full year or as of year-end 2020, unless otherwise stated. In some cases, they reflect estimates or approximations and may be based on assumptions.

PRIORITY	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Quantitative	Metric tons (t) CO <sub>2</sub> -e	RT-CH-110a.1	2,275,903 metric tons. Note: Global Scope 1 GHG emissions reported are those calculated from Celanese owned or operated sources within Celanese manufacturing facilities <sup>4</sup> during calendar year 2020.
	Gross global Scope 2 emissions	Quantitative	Metric tons (t) CO <sub>2</sub> -e	Celanese metric	1,371,062 metric tons. Note: Global Scope 2 GHG emissions reported are from purchased utilities (e.g., electricity, steam, other utilities) for Celanese owned or operated sources within Celanese manufacturing facilities during calendar year 2020 using site-specific and published emission factors. This value excludes Scope 2 GHG emissions from administrative locations and other activities noted below. <sup>5</sup>
	GHG emissions from steam and electricity sales and exports	Quantitative	Metric tons (t) CO <sub>2</sub> -e	Celanese metric	186,737 metric tons. Note: These emissions are GHG emissions from the sale of steam and electricity to third party manufacturing units not owned or operated by Celanese, which include co-located site partners and electrical grid systems using GHG protocol methodologies for combined heat and power systems.
	Net global Scope 1 and Scope 2 emissions	Quantitative	Metric tons (t) CO <sub>2</sub> -e	Celanese metric	3,460,228 metric tons. Note: These emissions are Scope 1 and Scope 2 emissions defined above less GHG emissions from sale or export of steam and electricity.
	Other refrigerant GHG emissions	Quantitative	Metric tons (t) CO <sub>2</sub> -e	Celanese metric	35,368 metric tons. Note: GHG emissions from non-Kyoto Protocol refrigerants emissions during calendar year 2020.
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	RT-CH-110a.2	<a href="#">See Climate section</a>
	Percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO <sub>2</sub> -e Percentage (%)	RT-CH-110a.1	105,406 metric tons (4.6%). Note: These emissions are associated with Celanese owned or operated manufacturing facilities <sup>6</sup> located in Europe and a part of the European Trading Scheme (ETS).

<sup>4</sup>Manufacturing facilities include those facilities manufacturing products and do not include construction activities or those activities associated with major capital projects.  
<sup>5</sup>Examples of other activities include activities such as the use of temporary power to operate equipment, remediation activities at offsite activities, and other maintenance activities occurring offsite (e.g., pipeline activities).  
<sup>6</sup>Manufacturing facilities include those facilities manufacturing products and do not include construction activities or those activities associated with major capital projects.

Priority	Accounting Metric	Category	Unit of Measure	Code	Response
Air Quality	Air emissions of the following pollutants: (1) NOx (excluding N <sub>2</sub> O)	Quantitative	Metric tons (t)	RT-CH-120a.1	1034.33 metric tons. Final. Note: NOx emissions associated with manufacturing sites. Reported NOx emissions are consistent with government-issued permit/license to operate and aligned with site permit basis documents and agency reporting requirements.
	(2) SOx	Quantitative	Metric tons (t)	RT-CH-120a.1	59.33 metric tons. Final. Note: SOx emissions associated with manufacturing sites. Reported SOx emissions are consistent with government-issued permit/license to operate and aligned with site permit basis documents and agency reporting requirements.
	(3) Volatile organic compounds (VOCs)	Quantitative	Metric tons (t)	RT-CH-120a.1	2578.04 metric tons. Final. Note: VOC emissions associated with manufacturing sites. Reported VOC emissions are consistent with government-issued permit/license to operate and aligned with site permit basis documents and agency reporting requirements. VOC emissions include point emissions, fugitive emissions, and reported emissions from spills and releases.
	4) Hazardous air pollutants (HAPs)	Quantitative	Metric tons (t)	RT-CH-120a.1	312.56 metric tons. Final. Note: HAP emissions associated with manufacturing sites. Reported HAP emissions are consistent with government-issued permit/license to operate and aligned with site permit basis documents and agency reporting requirements.
Energy Management	(1) Total energy consumed	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	RT-CH-130a.1	51,744,044 GJ / 49,043,884 MMBTU. Note: Total energy consumed is the aggregate of gross purchased energy, inclusive of direct fuel usage, purchased electricity, heating, cooling, and steam energy, from Celanese owned or operated sources within Celanese manufacturing facilities <sup>7</sup> during calendar year 2020. This value excludes energy from administrative locations and other activities noted below. <sup>8</sup>
	Amount of energy sold or exported	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	Celanese metric	2,587,510 GJ / 2,452,486 MMBTU. Note: Energy from the sale of steam and electricity to third party manufacturing units not owned or operated by Celanese, which include co-located site partners and electrical grid system during calendar year.
	Net energy consumed	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	Celanese metric	49,156,533 GJ / 46,591,398 MMBTU. Note: Net energy consumed is the gross energy consumed defined above less energy sold or exported from sale or export of steam and electricity during the calendar year 2020.
	(2) Percentage grid electricity	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	RT-CH-130a.1	4,440,186 GJ / 4,208,484 MMBTU / 8.58%. Note: Amount and percentage of grid electricity is amount of purchased grid electricity consumed divided by total gross energy consumption for the calendar year.
<sup>7</sup> Manufacturing facilities include those facilities manufacturing products and do not include construction activities or those activities associated with major capital projects.					
<sup>8</sup> Examples of other activities include activities such as the use of temporary power to operate equipment, remediation activities at offsite activities, and other maintenance activities occurring offsite (e.g., pipeline activities).					
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Priority	Accounting Metric	Category	Unit of Measure	Code	Response
Energy Management	(3) Percentage renewable energy	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	RT-CH-130a.1	10,850 GJ / 10,284 MMBTU / 0.02%. Note: Amount and percentage of renewable energy is amount of energy from sources that are replenished at a rate greater than or equal to their rate of depletion, such as geothermal, wind, solar, hydro, and biomass divided by total gross energy consumption for the calendar year provided. Renewable power is purchased through a purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs) or certificate of origin.
	(4) Total self-generated energy	Quantitative	Gigajoules (GJ)/million BTU (MMBTU)	RT-CH-130a.1	65.95 GJ / 18,319 KWH. Note: Amount of Celanese-generated electricity from non-fuel based sources (e.g., onsite solar cells, onsite wind turbines) at manufacturing facilities <sup>9</sup> in aggregate during the calendar year. Gross energy where Celanese converts to other energy sources (e.g., natural gas combustion to steam) is excluded.
Water Management	(1) Total water withdrawn	Quantitative	Thousand cubic meters (m³), Percentage (%)	RT-CH-140a.1	150,097 (1000-m³) of water was withdrawn for use by manufacturing facilities. 78.6% of water is sourced from fresh surface water, 7.4% from groundwater, and 14% from third-party sources.
	(2) Total water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	Thousand cubic meters (m³), Percentage (%)	RT-CH-140a.1	14,740 (1000-m³) total water consumed by manufacturing facilities. Of this water, 2.06% of water consumed from regions with high or extremely high baseline water stress as defined by the World Resources Institute Aqueduct Water Atlas.
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	RT-CH-140a.2	0: No incidents of non-compliance with wastewater discharge permit standard, which resulted in the receipt of a formal Notice of Violation.
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	n/a	RT-CH-140a.3	<a href="#">See Water section</a>
Hazardous Waste Management	Amount of hazardous waste generated, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	RT-CH-150a.1	50,674 metric tons hazardous waste; 8.4% hazardous waste recycled. Note: Hazardous waste generated represents the amount of hazardous waste generated, as defined by the local jurisdiction, at Celanese owned or operated manufacturing plants globally. “Recycled” hazardous waste excludes wastes managed through energy recovery.
	Amount of non-hazardous waste generated	Quantitative	Metric tons (t)	Celanese metric	59,213 metric tons non-hazardous waste; Note: Non-hazardous waste generated represents the amount of non-hazardous waste generated, as defined by the local jurisdiction, at Celanese owned or operated manufacturing plants globally.
Community Relations	Discussion of engagement processes to manage risks and opportunities associated with community interests	Discussion and Analysis	n/a	RT-CH-210a.1	<a href="#">See Community Relations section</a>
<sup>9</sup> Manufacturing facilities include those facilities manufacturing products and do not include construction activities or those activities associated with major capital projects.					

<sup>9</sup>Manufacturing facilities include those facilities manufacturing products and do not include construction activities or those activities associated with major capital projects.

Priority	Accounting Metric	Category	Unit of Measure	Code	Response
Workforce Health & Safety	(1) Total recordable incident rate (TRIR) and contract employees	Quantitative	Rate	RT-CH-320a.1	TRIR = 0.21. Note: Number of OSHA recordable injuries per year, per 100 employees and contractors, working a 40-hour workweek in calendar year 2020.
	Total recordable incidents	Quantitative	Number	Celanese metric	Total recordable incidents = 22. Note: Number of OSHA recordable injuries that occurred to employees and contractors in calendar year 2020.
	Days away from work incident rate (LTIR)	Quantitative	Rate	Celanese metric	LTIR = 0.07. Note: Number of injuries per year resulting in days away from work, per 100 employees and contractors, working a 40-hour workweek in calendar year 2020.
	Days away from work incidents	Quantitative	Number	Celanese metric	Days away from work incidents = 7. Note: Number of OSHA recordable injuries resulting in days away from work that occurred to employees and contractors in calendar year 2020.
	2) Fatality rate for direct employees and contract employees (FIR)	Quantitative	Rate	RT-CH-320a.1	FIR = 0.02. Note: Number of work-related fatalities, per 100 employees and contractors, working a 40-hour workweek in calendar year 2020.
	Fatality incidents	Quantitative	Number	Celanese metric	Fatality incidents = 2. Note: Number of work-related fatalities to employees and contractors in calendar year 2020.
	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	n/a	RT-CH-320a.2	<a href="#">See Workforce Health and Safety section</a>
Product Design for Use-Phase Efficiency	Revenue from products designed for use-phase resource efficiency [Circular Economy]	Quantitative	Reporting currency	RT-CH-410a.1	Confirmed as 29% of 2020 revenue [\$1,622 MM of \$5,655 MM total] Renewable = \$744 MM (13%) [EtAc, CA Tow, Clarifoil] Resource Eff = \$878 MM (16%) [EM Auto, GUR LiBs, Elotex]
Safety & Environmental Stewardship of Chemicals	(1) Percentage of products that contains Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances	Quantitative	Percentage (%) by revenue, Percentage (%)	RT-CH-410b.1	0.2%, 53% by revenue
	(2) Percentage of such products that have undergone a hazard assessment	Quantitative	Percentage (%) by revenue, Percentage (%)	RT-CH-410b.1	100%
	Discussion of strategy to (1) manage chemicals of concern	Discussion and Analysis	n/a	RT-CH-410b.2	<a href="#">See Chemical Safety section</a>
	(2) Develop alternatives with reduced human and/or environmental impact	Discussion and Analysis	n/a	RT-CH-410b.2	<a href="#">See Chemical Safety section</a>

PRIORITY	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE
Genetically Modified Organisms	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Quantitative	Percentage (%) by revenue, Percentage (%)	RT-CH-410c.1	Not applicable to Celanese products.
Management of the Legal & Regulatory Environment	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and Analysis	n/a	RT-CH-530a.1	See the following sections: <a href="#">Chemical Safety section</a> <a href="#">CDP Climate Change Response Integrity section</a>
Operational Safety, Emergency Preparedness & Response	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Quantitative	Number, Rate	RT-CH-540a.1	2020 (Tier 1 + Tier 2) process safety incident count = 8 2020 (Tier 1 + Tier 2) process safety incident rate = 0.077 2020 (Tier 1) process safety incident severity rate = 0.278
	Number of transport incidents	Quantitative	Rate	RT-CH-540a.2	No transportation incident reporting in 2020 as we only started collecting the SASB metric January 1, 2021.

## SASB AND ADDITIONAL CELANESE STEWARDSHIP METRICS

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE
Production by reportable segment	Quantitative	Metric tons (t)	RT-CH-000.A	8,652,805

# TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) INDEX

The TCFD designed a voluntary climate-related financial risk disclosure framework to provide investors, lenders, insurers, and other stakeholders with consistent information. This index provides the location of Celanese’s information pertaining to the TCFD framework recommendations, categorized by Governance, Strategy, Risk Management, and Metrics and Targets.

DISCLOSURE FOCUS AREA

DISCLOSURE

RESPONSE

Governance

Disclose the organization’s governance around climate-related risks and opportunities.

- a. Describe the Board’s oversight of climate-related risks and opportunities.

2021 CDP Climate Change Response C1.1a, C1.1b; 2021 Proxy Statement pp. 2, 7-8, 29; Corp. Governance guidelines (section A); Sustainability Report 2020-2021 (Sustainability Governance section)
- b. Describe management’s role in assessing and managing climate-related risks and opportunities.

2021 CDP Climate Change Response C1.1a, C1.2, C1.2a; Sustainability Report 2020-2021 (Sustainability Governance section)

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.

- a. Describe the climate-related risks and opportunities Celanese has identified over the short, medium, and long term.

2021 CDP Climate Change Response C2.1a, C2.1b, C2.2, C2.2a, C2.3a, C2.4a, C.4.5a; 2020 Form 10-K pp. 18 & 24; 2021 Proxy Statement p. 8; Sustainability Report 2020-2021 (Risk Management section); Sustainability Report 2020-2021 (Customer Solutions section)
- b. Describe the impact of climate-related risks and opportunities on Celanese’s businesses, strategy, and financial planning.

2021 CDP Climate Change Response C2.3a, C2.4a, C3.2a, C3.3, C3.4; Sustainability Report 2020-2021 (Climate section)
- c. Describe the resilience of Celanese’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

2021 CDP Climate Change Response C3.1, C3.2a, C3.3, C3.4; Sustainability Report 2020-2021 (Climate section)

DISCLOSURE FOCUS AREA	DISCLOSURE	RESPONSE
<b>Risk Management</b>	<p>.....</p> <p><b>Disclose how the organization identifies, assesses, and manages climate-related risks.</b></p>	<p><b>a.</b> Describe Celanese’s processes for identifying and assessing climate-related risks.</p> <p><a href="#">2021 CDP Climate Change Response C2.2, C2.2a; Sustainability Report 2020-2021 (Risk Management section); 2021 Proxy Statement pp 27-29</a></p> <p>.....</p> <p><b>b.</b> Describe Celanese’s processes for managing climate-related risks.</p> <p><a href="#">Sustainability Report 2020-2021 (Climate section); 2021 CDP Climate Change Response C2.2; Sustainability Report 2020-2021 (Risk Management section); 2021 Proxy Statement pp 27-29</a></p> <p>.....</p> <p><b>c.</b> Describe how processes for identifying, assessing, and managing climate-related risks are integrated into Celanese’s overall risk management.</p> <p><a href="#">Sustainability Report 2020-2021 (Climate section); 2021 CDP Climate Change Response C1.1a, C1.1b, C1.2, C1.2a, C2.1a, C2.2; Sustainability Report 2020-2021 (Risk Management section);</a></p> <p>.....</p>
<b>Metrics and Targets</b>	<p>.....</p> <p><b>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.</b></p>	<p><b>a.</b> Disclose the metrics used by Celanese to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> <p><a href="#">Sustainability Report 2020-2021 (Environmental section); 2021 CDP Climate Change Response C8.2, C8.2a, C8.2c, C8.2d, C-CH8.2d, C-CH8.3a, C-CH8.3b, C9.1</a></p> <p>.....</p> <p><b>b.</b> Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.</p> <p><a href="#">Sustainability Report 2020-2021 (Climate section); 2021 CDP Climate Change Response C6.1, C6.3, C6.5, C7.1a, C7.2, C7.3a, C-CE7.4/ C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4, C7.5, C7.6a, C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7, C7.9, C7.9a</a></p> <p>.....</p> <p><b>c.</b> Describe the targets used by Celanese to manage climate-related risks and opportunities and performance against targets.</p> <p><a href="#">Sustainability Report 2020-2021 (Environmental section); 2021 Proxy Statement p. 8; 2021 CDP Climate Change Response C4.1</a></p> <p>.....</p>

# ADDITIONAL REPORTING



[2021 CDP Climate Change Response](#)

[2021 CDP Forests Response](#)

[2021 CDP Water Security Response](#)

# REFERENCE FOR FURTHER INFORMATION

Anti-Discrimination Statement

Celanese Business Conduct Policy (BCP)

Celanese Corporation Political Contributions

Celanese Foundation

Celanese Leadership and Board of Directors

Celanese Sustainability Team

Celanese Website

Climate Policy

Conflict Minerals Policy

Dissolving Wood Pulp – Sustainable  
Sourcing Policy

Diversity, Equity, and Inclusion

Environmental, Health, and Safety (EHS)  
Policy and Guiding Principles

Equal Opportunities Policy

Financial Information/Investor Relations

Global Certifications

Human Capital Report

Human Rights Policy

Information Management

International Trade Compliance Policy

Modern Slavery Statement

Political Engagement Policy

Product Stewardship Disclosure

Quality Guiding Principles

REACH Compliance Team

Safety Data Sheets

Self-Declaration for Customers

Supplier Diversity Program

Sustainability

Third-Party Code of Conduct

## *Forward-Looking Statements*

# IMPORTANT INFORMATION ABOUT DISCLOSURES

Statements in this Sustainability Report that are not historical facts or information are “forward-looking statements” within the meaning of the United States federal securities laws. These forward-looking statements include information concerning the Company’s plans, forecasts, objectives, goals, strategies, and other estimates regarding future events. These statements can generally be identified by words such as “believe,” “expect,” “intend,” “estimate,” “anticipate,” “project,” “plan,” “aim,” “strategy,” “commit,” “target,” “goal,” “pledge,” “may,” “can,” “could,” “might,” “will,” and similar expressions.

All forward-looking statements are aspirational and are based upon current expectations and beliefs and various assumptions, and are not guarantees of future performance or that targets or goals will be met. There are a number of risks and uncertainties that could cause actual results and events to differ materially from those reflected in the forward-looking statements contained in this report, and all forward-looking statements should be evaluated with consideration of those risks.

Any forward-looking statement speaks only as of the date of this report, and the Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances occurring or information learned after the date of this report, whether to reflect new information, future events, changes in our expectations, or other occurrence of anticipated or unanticipated events or circumstances. However, any future public statements or disclosures by Celanese that modify or impact any of the forward-looking statements in this report shall modify or supersede such applicable statements in this report.

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