



FUTURE FOCUSED



This report communicates our current path to achieving our 2030 goals in the areas of ending plastic waste, addressing climate change and advancing a thriving society, and how our actions support the United Nations (UN) Agenda 2030 for Sustainable Development. Utilizing renewable-based feedstocks, reducing plastic waste through recycling, achieving absolute greenhouse gas (GHG) reductions, and the importance we place on diversity, equity and inclusion are reflected in the imagery.

Forward-looking information. Certain disclosures in this report may be considered forward-looking statements. These are made pursuant to safe harbor provisions of the Private Securities Litigation Reform Act of 1995. You should read the Cautionary Statement on [page 98](#) of this report in conjunction with such statements.



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Dear Stakeholders,

2021 was another historic year. The COVID-19 pandemic continued to create disruption around the world, increasing the need for products that protect the health and safety of society, and at the same time global leaders gathered for the COP26 climate summit in Glasgow to accelerate actions and commitments in the fight against climate change. These events highlighted some of the critical issues we face today. At LyondellBasell, we are committed to embedding sustainability within our businesses and across the value chain to create a better future.

In 2021, we stepped up our efforts. We worked diligently to establish transformational sustainability goals for our company and made meaningful progress in our three key focus areas: ending plastic waste, addressing climate change and advancing a thriving society.

Helping to end plastic waste in the environment

When it comes to eliminating plastic waste in the environment, there is an increasing desire across the entire value chain to do more.

We have partnered externally on initiatives to prevent plastic waste from entering the environment and further the development of plastic waste management systems. LyondellBasell is a founding member of the Alliance to End Plastic Waste, and we continue to support its mission to divert millions of metric tons of plastic waste from the environment. In addition, we have recently made investments with Closed Loop Partners and Infinity Recycling to

accelerate development of technologies, organizations and projects which focus on the recovery and recycling of plastics.

Increasing the availability of plastic waste feedstock around the world will be critical to our success in developing a circular economy, and we believe increasing the availability of plastic waste feedstock locally is a great place to start. As such, we signed a memorandum of understanding to form the Houston Recycling Collaboration earlier this year with the goal of increasing the recycling rate in Houston.

Creating sustainable solutions for customers

Demand for sustainable polymer solutions is rapidly growing. To support this market opportunity, we launched our *Circulen* product line, which is manufactured from mechanically recycled, advanced (molecular) recycled and renewable-based feedstock, all of which circulate waste back into the economy that could otherwise end up in landfills or the environment.

The *Circulen* portfolio of polymers advances our ambition to produce and market two million metric tons of recycled and renewable-based polymers annually by 2030. To further support this goal, we appointed dedicated sustainability leaders within our business segments to identify opportunities and drive growth in products that support a circular economy. Our broader product portfolio and industry-leading expertise, together with our *Circulen* polymers, help customers and brand owners increase the use of recycled or renewable-based content in their products and the recyclability of their packaging.

Increasing our climate commitments

In 2021, we committed to an absolute reduction of 30% in scope 1 and scope 2 emissions by 2030 relative to a 2020 baseline and net zero GHG emissions from global operations by 2050, in support of the Paris Agreement.

We are focusing on purchasing renewable energy and maximizing the use of existing and accessible technologies to reduce emissions from our facilities and operations. Our approach includes: enhanced energy

management and low emissions steam, flare minimization, use of lower-emitting fuels, process electrification and furnace upgrades. Looking beyond 2030, we are evaluating new technologies such as carbon capture, storage and utilization; process electrification and use of hydrogen to deploy across our manufacturing footprint.

Collaboration with our value chain partners will be critical to achieve the development and wide application of these technologies needed to reach our decarbonization goals. In 2021, we joined many of our peers to support large-scale deployment of carbon capture and storage (CCS) technology in Houston, Texas and evaluate how to use CCS technology at Houston-area facilities.

As of the publication of this report, the invasion of Ukraine has created an urgent need to support those who have been displaced and personally impacted. As such, LyondellBasell donated to the United Nations High Commissioner for Refugees and the International Medical Corps to provide shelter, emergency relief items, cash assistance, and mental health and psychosocial support. We are also matching employee donations made to these organizations 2:1. Our deepest sympathy goes out to everyone impacted by this war and we hope for an immediate and peaceful resolution.

We are also committed to reporting our progress and this year we issued our first climate-related risk and opportunities report using the Taskforce on Climate-Related Financial Disclosure guidelines.

Advancing a thriving society

We are focused on employee safety, diversity, equity and inclusion (DEI) in our workplace, and active engagement with our suppliers and the communities where we operate as we advance a thriving society.

Our pursuit of GoalZERO safety performance for our employees and contractors remains our top priority. During 2021, our team continued to deliver recordable incident rates that are among the lowest for our industry by maintaining our focus on continuous learning and a self-improving culture.

Last year, we accelerated our efforts to build a more diverse, equitable and inclusive culture. We progressed new talent programs to promote diversity and implemented an annual equity audit for all employees. To build a more inclusive work environment, we launched four Employee

Networks to help cultivate a community where all employees feel valued and respected and implemented DEI training for employees to further embed inclusion in our culture. In early 2022, we also reinforced our commitment to diversity by setting new goals to achieve gender parity in senior leadership globally and increase the number of underrepresented senior leaders in the United States to reflect the general population ratio by 2032.

When it comes to procurement, we launched our sustainable procurement strategy and established a goal to assess at least 70% of our key suppliers against sustainability criteria by 2025. We also joined Together for Sustainability (TfS), a global network of 33 chemical companies that deliver the global standard for environmental, social and governance performance of chemical supply chains. The TfS program is based on the UN Global Compact and Responsible Care® principles.

Future Focused

We are future focused, and our approach to sustainability is grounded by our commitment to help achieve a better future for all of us. As a member of the United Nations Global Compact, we have aligned our 2030 goals with the Sustainable Development Goals, and I am proud of the progress we have made so far. No single company can solve these challenges alone, but through collaboration, innovation, diligence and persistence, we will accomplish our goals. I am optimistic about our future and look forward to seeing what we accomplish together.

Sincerely,

Kenneth T. Lane

Interim CEO

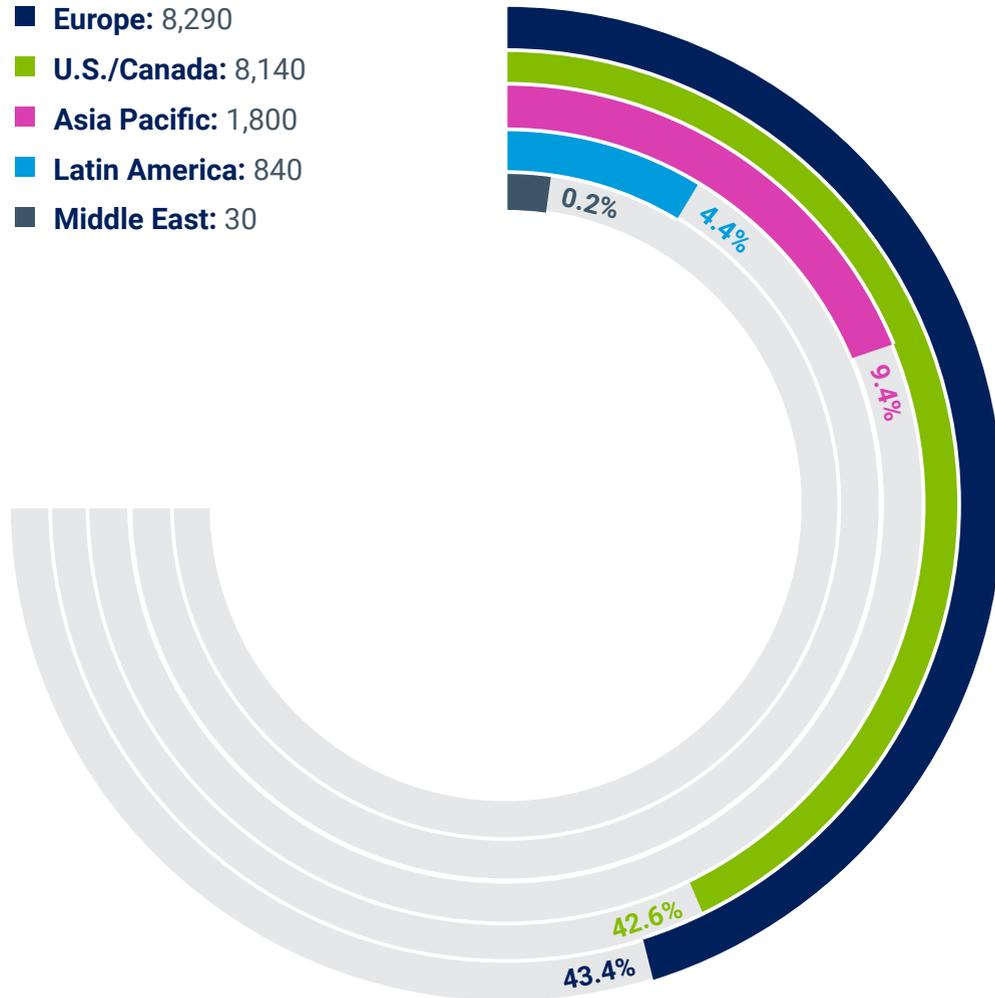
Executive Vice President, Global Olefins & Polyolefins

ABOUT LYONDELLBASELL

We are a leader in the global chemical industry, producing products and materials key to advancing solutions to modern challenges. Many of our materials go into products that people use every day, such as food packaging, automotive, electronics and healthcare items.

OUR 19,100 EMPLOYEES GLOBALLY:

- Europe: 8,290
- U.S./Canada: 8,140
- Asia Pacific: 1,800
- Latin America: 840
- Middle East: 30



100+

countries where our products are sold

21

countries with manufacturing sites and joint ventures

#1

largest producer of polyethylene (PE) and polypropylene (PP) in Europe

#2

largest producer of propylene oxide (PO) worldwide

6000

patents and patent applications worldwide

0.21

2021 Total Recordable Incident Rate

\$34M+

in charitable investments globally over the past four years through 4,500 grants

23 TONS

of waste collected during our 2021 Global Care Day events



OUR APPROACH TO SUSTAINABILITY



CEO LETTER

APPROACH

PLASTIC WASTE

CLIMATE CHANGE

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OUR RESPONSIBILITY

As one of the world's largest producers of plastics and chemicals, our products are used by millions of people around the world, every day. We have the potential – and responsibility – to use this scale and reach to make a positive impact across our value chains. That's why we are working to deliver meaningful progress to address some of the world's most pressing challenges such as helping end plastic waste in the environment, mitigating climate change and contributing to a thriving society for our employees, the communities where we operate and the people who depend on our products.



OUR APPROACH TO GLOBAL CHALLENGES

PLASTIC WASTE

CLIMATE CHANGE

THRIVING SOCIETY

OUR FIVE PILLARS

End plastic waste
in the environment



We believe ending plastic waste in the environment is a critical issue of our time. We are committed to helping eliminate plastic waste and are engaged in collaborative efforts across the value chain to direct action where it is needed most.

Advance the
circular economy



We believe transitioning to a circular economy will reduce resource use and enable a more sustainable future. We are advancing technologies and innovations that will help conserve finite resources and retain their value for as long as possible.

Address
climate change



We believe collective action and a sense of urgency are needed to address the global challenge of climate change. We are committed to the decarbonization of our global operations and delivering solutions that help advance a net zero economy.

Grow
sustainable solutions



We believe growing our portfolio of solutions will contribute to a more sustainable society. By doing so, we will continue to reliably produce products and offer solutions that are critical to improving the quality of life for billions around the world.

Enhance our workplace,
operations and communities



The health and safety of our people and the communities where we operate are our highest priorities. Our vision is to embed diversity, equity and inclusion within our culture as deeply as safety. By operating with these values, our company will continue to deliver industry-leading performance, enhance our workplace and support our communities.

SUSTAINABILITY GOALS

ENDING PLASTIC WASTE

2MMT¹

of recycled and renewable-based polymers will be produced and marketed annually by 2030

FOR EVERY \$

we invest in venture funds that address the plastic waste challenge, we help catalyze another 5 dollars from co-investors

ZERO

plastic pellet loss to the environment from our facilities

¹2 million metric tons ²Our 2050 net zero goal includes scope 1 and 2 emissions ³Our 2030 goal includes scope 1 and 2 emissions ⁴Relative to 2020 levels

ADDRESSING CLIMATE CHANGE

NET ZERO

greenhouse gas emissions from operations by 2050²

30%

absolute emissions reduction from operations by 2030^{3,4}

50%

minimum of electricity procured from renewable sources by 2030

SUPPORTING A THRIVING SOCIETY

ZERO

incidents, injuries and accidents

ACHIEVE

gender parity in senior leadership globally by 2032

INCREASE

the number of people from underrepresented groups in U.S. senior leadership roles to reflect the general population ratio by 2032

ASSESS

a minimum of 70% of our key suppliers globally using sustainability criteria by 2025

UN Global Compact

The UN Global Compact (UNGC) aims to mobilize a global movement of sustainable companies and stakeholders. The UNGC encourages companies to do business responsibly by aligning strategies and operations with Ten Principles on human rights, labor, environment and anti-corruption. LyondellBasell joined the UNGC in 2020. See our UNGC Communication on Progress on [page 97](#).

UN Sustainable Development Goals

The UNGC also encourages companies to advance broader societal goals such as the 17 UN Sustainable Development Goals (UN SDGs) which serve as a call for action to tackle global challenges by 2030.

ALIGNMENT

Alignment of our sustainability strategy with the UN SDGs is detailed in the following list.

We believe in integrity, diversity and fairness, and a work environment that is safe, respectful and inspires employees to strive for excellence.

[For more information see our website >>](#)



We support foodbanks in the communities where we operate through monetary donations, food collection drives and employee volunteerism.



We work every day to protect the health and safety of our employees, contractors and the communities where we operate.



We are committed to educating and training our current and future workforce. Our business is driven by the next generation of Science, Technology and Math (STEM) professionals.



We aim to achieve gender parity in senior leadership roles globally by 2032, and increasing the number of female senior leaders by 50% globally in the next five years.



We strive to optimize energy use in our operations to reduce resource consumption and GHG emissions, and we are working to increase our use of renewable energy.



We believe in integrity, diversity and fairness, and a work environment that is safe, respectful and inspires employees to strive for excellence.



By 2032, we plan to achieve gender parity in senior leadership roles globally and increase the number of people from underrepresented groups in U.S. senior leadership roles. We are committed to fairness in our pay practices.



We believe transitioning to a circular economy will enable a more sustainable future. We are investing in mechanical and advanced (molecular)¹ recycling to make plastics a recoverable resource.



We are working to reduce GHG emissions from our operations and delivering solutions that help advance a low-carbon economy.



We are committed to helping end plastic waste in the environment and participate in initiatives to reduce, recycle, reuse and repurpose plastic waste.



We are collaborating with our value chain partners on projects to reach the scale and impact needed to address global challenges.

¹Chemical recycling of plastic waste is often referred to as 'advanced' or 'molecular' recycling.



ENDING PLASTIC WASTE



CEO LETTER

APPROACH

PLASTIC WASTE

CLIMATE CHANGE

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WHY WE'RE DOING IT



Plastics help enable sustainability and will continue to play a key role in our society. They are lightweight, hygienic and durable. Plastics help minimize GHG emissions by reducing food waste through innovative packaging and improving fuel economy through light weighting of vehicles. They provide safe, high-quality solutions for healthcare and are integral to components for the renewable energy transition, such as wind turbines and solar panels.

The mismanagement of plastic waste, however, has reached a tipping point. Society, governments and industry are seeking solutions to close the loop on plastic leakage to the environment, keeping plastics circulating in the economy. If plastic waste is not addressed now, realizing the benefits of plastics in the future is at risk. In today's global plastics economy, only 11% of plastic waste created is collected for recycling.¹ Plastic waste ends up in landfills, is incinerated or remains unmanaged in the environment despite its potential to be incorporated into a circular economy. The World Economic Forum estimates that the economic value from unrecovered plastic waste is \$80–\$120 billion annually and without change, global plastic waste is estimated to double by 2030.²

To unlock the full value of plastics, critical gaps must be addressed so these resources are circulated back into the economy after use. This will require collaboration of every stakeholder in the value chain and proper government policies and incentives. By working together with industry associations, governments and value chain members, we are taking a systemic approach to help deliver meaningful progress, ensure maximum impact and advance an economy that enables plastic waste to be transformed into more sustainable solutions for our customers.

OUR GOALS:

Produce and market two million metric tons of recycled and renewable-based polymers annually by 2030

For every dollar we invest in venture funds that address the plastic waste challenge, we help catalyze another 5 dollars from co-investors

Zero loss of plastic pellets to the environment from our operations

¹IHS 2020 study "Changing Course: Plastics, Carbon, and the Transition to Circularity"
²United Nations Environment Programme assessment, October 2021

HOW WE'LL DO IT

We are helping to advance circularity and sustainability of plastics through three complementary pathways: mechanical recycling, advanced recycling and use of renewable-based feedstocks. These routes provide different value propositions to our customers by closing the loop on plastic waste and lowering GHG emissions. Polymers made using these technologies are marketed under the *Circulen* brand. For more information see page 16 of this report.

Mechanical recycling processes pre-consumer and post-consumer plastic waste through the shortest recycling loop to produce recycled resins, which helps close the loop on plastic waste and also results in a lower carbon footprint for the polymer. LyondellBasell and SUEZ are joint venture partners in Quality Circular Polymers (QCP), an industry-leading mechanical recycling company with a production capacity of 55,000 metric tons per year. The QCP site in Geleen, the Netherlands, produces high-quality polymers from post-consumer plastic waste. Both pre-consumer and post-consumer waste are processed at the QCP Blandain, Belgium, site. The joint venture leverages the two partners' respective strengths. SUEZ utilizes its leading-edge technology solutions in sorting and recycling to improve the consistency and quality of waste materials utilized at QCP. LyondellBasell applies its long-standing

leadership in innovative polymer production technology, experience in product development and knowledge of important end markets such as consumer goods. Our goal is to replicate the QCP business model in other parts of the world in addition to exploring other collaborative opportunities.

We believe that advanced recycling technology is an important solution to address the challenge of hard-to-recycle plastics at scale. This technology converts plastic waste to its molecular form for use as feedstock for the production of new plastic materials. We began to focus on this technology in 2017 as a complementary solution to mechanical recycling. It enables larger volumes of plastic waste to return back into the value chain as high-quality polymers while accomplishing a lower GHG footprint than virgin polymers and meeting customer demand for recycled materials. We collaborated with Germany's Karlsruhe Institute of Technology (KIT) to develop the *MoReTec* technology which uses a catalytic pyrolysis process to improve the breakdown of plastic waste, making commercial scale application possible. The start-up of our pilot plant in Ferrara, Italy, in 2020 and continued improvements throughout 2021 were important milestones as we improved the efficiency and economics of the technology. We aim to deploy our *MoReTec* technology at commercial scale in the second half of the decade. We believe this new, proprietary technology will have significant potential because of its lower energy use and more efficient chemical conversion process.

By using renewable-based raw materials such as used cooking oil as feedstock, we are able to access another source of waste for producing new polymers that have a lower GHG footprint over the product life cycle. In 2021, we announced production of PP and PE at a commercial scale with mass balance certificates or measurable C14 content

OUR APPROACH:

Develop innovative, sustainable solutions by leveraging our expertise and research and development capabilities

Grow our mechanical and advanced recycling solutions under the *Circulen* brand to meet customers' and brand owners' circularity goals

Help end plastic waste in the environment through impactful collaboration across the value chain

Catalyze investments from venture funds' partners to increase the recovery and recycling of plastic and accelerate technology and other solutions to end plastic waste

Support effective policies and infrastructure development that improve plastic waste management and recycling through engagement with governments and industry peers

“Our ambition to reach two million metric tons is bold, yet necessary, and we are committed to doing our part to help address the global challenges of plastic waste in the environment and climate change while meeting customer and brand owner needs.”

Ken Lane, Interim CEO and Executive Vice President of Global Olefins & Polyolefins, LyondellBasell

from renewable-based feedstocks. The renewable-based feedstocks can be used in our existing manufacturing process. They are also sustainably sourced and not in competition with the food chain. These polymers offer a lower carbon footprint compared with fossil-based polymers, are manufactured in Europe and the U.S., and marketed globally.

Mechanical recycling, advanced recycling and use of renewable-based feedstocks

form the foundation for achieving our

goal of producing and marketing two million metric tons of recycled and renewable-based polymers annually by 2030.

Our focus on increasing mechanical recycling capacity is projected to contribute approximately half of our overall ambition and be the main contributor to our goal the first part of this decade

Commercialization of advanced recycling using our *MoReTec* technology is expected to ramp up in the second half of the decade. Along with the use of third party advanced recycled feedstock, this will contribute approximately 25% to our goal

We expect the remainder will be achieved through use of renewable-based feedstocks which will steadily increase over the course of the decade

Value chain collaboration is critical to address the systemic challenge of plastic waste. LyondellBasell is a founding member of the Alliance to End Plastic Waste which aims to divert millions of metric tons of plastic waste from the environment. We are also providing catalytic capital to build circular economy infrastructure for plastics in North America and Europe. This includes commitments of more than \$10 million to circular plastics funds led by Closed Loop Partners and Infinity Recycling.

Effective public policies are essential to prevent plastics from entering the environment. Working through industry associations such as the World Plastics Council, International Council of Chemical Associations (ICCA), American Chemistry Council (ACC), Plastics Industry Association (PIA), PlasticsEurope and the European Chemical Industry Council (CEFIC), we support legislation and policy that will:

- | Advance waste management systems, infrastructure and recycling standards
- | Increase the reuse and recycling of plastic
- | Support the introduction of new recycling technologies needed to complement existing mechanical recycling technologies
- | Strengthen demand for recycled plastics
- | Promote the use of renewable-based plastics
- | Inform consumers and incentivize responsible consumer behavior to recycle and reduce plastic waste

CIRCULEN PRODUCTS

The *Circulen* portfolio contributes to the circular plastics economy

Addressing the challenge of plastic waste in the environment is the right thing to do, and it makes good business sense. The market for recycled and renewable-based plastic is estimated to be more than \$22 billion by 2030.¹

With one of the most ambitious goals in the industry to produce and market two million metric tons of recycled and renewable-based polymers annually by 2030, LyondellBasell is well positioned to be a leader in this space. In 2021, we launched our *Circulen* family of products that support a low-carbon, circular economy and meet the growing market demand for circular and sustainable solutions.

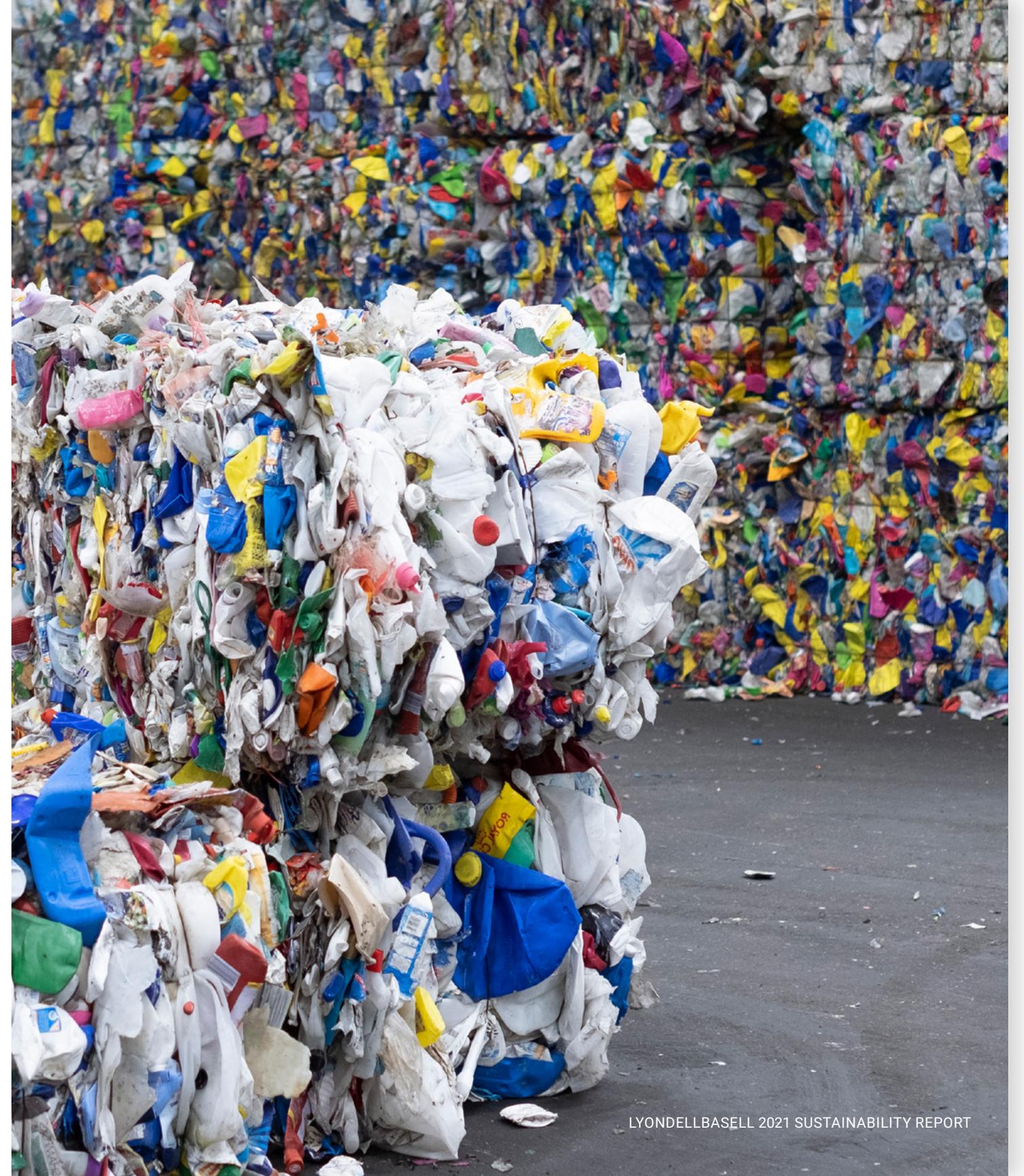
Circulen solutions support the reduction of plastic waste through the use of recycled content and a lower carbon footprint through the use of renewable-based content when compared with feedstock from fossil-based sources.

 **CirculenRecover:** Products made from plastic waste through a mechanical recycling process. This type of recycling upgrades plastic waste into usable materials through the process of sorting, washing, grinding, and compounding. The resulting plastic pellets can be blended or compounded with virgin plastic resin. Through our joint venture QCP and other suppliers, we are able to deliver high quality polymers with mechanically-recycled content to our customers.

 **CirculenRevive²:** Solutions made using an advanced recycling process to convert plastic waste back to its molecular level, which is then used as a feedstock in our conventional production processes to produce

¹Visiongain, *Global Renewable Plastic Packaging Market Research Report 2020–2030*, July 2020

²Recycled content is based on an ISCC PLUS-certified mass balance approach.



(cont.)

new polymers. A variety of plastics can be recycled using this process including hard-to-recycle plastics such as mixed materials, composites, multilayer and flexible plastics. The advanced recycled feedstock for this product offering is International Sustainability and Carbon Certification (ISCC) PLUS certified and currently purchased from a third party as we work to develop our *MoReTec* technology.



CirculenRenew¹: Products made from renewable-based feedstocks derived from bio-based wastes and residual oils, such as used cooking oils. We acquire this feedstock from ISCC PLUS certified renewable-based sources. These waste feedstocks are used in our conventional production processes and offer a lower carbon footprint compared to feedstock from fossil-based resources.

Since 2018, we have focused on advancing our mechanical recycling operations at our QCP joint venture sites in the Netherlands and Belgium. In 2021, we completed the first commercial production of *CirculenRecover* made from a blend of recycled and virgin content at our Carrington, UK, site.

“The experience gained at the Carrington site will be very useful in the future,” explains Charl Germishuizen, polypropylene asset manager at LyondellBasell. “Our learnings will be shared with other company sites to further expand our production of polyolefins with recycled content.”

Our *CirculenRecover* products, made with mechanically recycled content, meet high product performance expectations and our customers’ recycled-content requirements.

¹Renewable-based content is based on an ISCC PLUS-certified mass balance approach.

In 2021, feedstock derived from advanced recycled plastic waste was used at our manufacturing sites in Wesseling, Germany, and Channelview, Texas, to produce *CirculenRevive* polymers. “These polymers can be used in highly regulated applications such as food and healthcare and offer an alternative to fossil-fuel based materials,” says Yvonne van der Laan, Senior Director Global Circularity. In parallel, we continue to develop our own advanced recycling technology, *MoReTec*, at our pilot plant in Ferrara, Italy. We are well-positioned to reach commercial scale over the next decade because of our proprietary *MoReTec* technology, infrastructure and global footprint.

CirculenRenew polymers are created using the same conventional manufacturing processes, but with renewable-based feedstocks from bio-based materials. “Our *CirculenRenew* product offering addresses the growing market needs for renewably sourced materials with a lower carbon footprint,” says van der Laan. We continue to expand on this offering for our customers by providing *CirculenRenew* products with measurable and certified carbon-14 renewable content which confirms a certain percentage of renewable-based content in the polymers.



Our *CirculenRenew* product offering addresses the growing market needs for renewably sourced materials with a lower carbon footprint.”

Yvonne van der Laan, Senior Director
Global Circularity, LyondellBasell



ENCOURAGE RECYCLING

Recycled cup collaboration with Wendy's and Berry Global to divert plastic waste from landfills

Your drive-through experience will soon have a lower environmental impact due to a collaboration between Wendy's® restaurants, manufacturer Berry Global and LyondellBasell.

The initiative, which launched in U.S. and Canadian restaurants in early 2022, will produce Wendy's drink cups partially created with our *CirculenRevive* advanced recycled plastic, using a mass balance approach.¹ These new cups will divert an estimated 10 million pounds of plastic waste from landfills over the first two years.²

“There are many benefits of plastics, including convenience,” said Palmer Giddings, Senior Director of Olefins & Polyolefins Americas at LyondellBasell.

“The issue we must address is plastic waste. As such, we are proud to collaborate with Berry Global and Wendy's to co-create sustainable solutions that will allow us to continue enjoying the benefits of this material while helping to make our environment better for future generations,” Giddings added.

The cups are an example of collaboration across the value chain. Wendy's identified a need for a more sustainable cup. LyondellBasell processed pyrolysis oil from plastic waste and supplied quality, advanced recycled plastic, using a mass balance approach.¹ Berry will now make the cup a commercial reality. The recycled content used to make the cups is certified by ISCC PLUS and can be traced throughout the process.



Consumers are increasingly aware of the impact of single-use waste, and we want to do our part as a leader in the quick-service restaurant industry to provide more sustainable options.”

Liliana Esposito, Wendy's Chief Corporate Affairs & Sustainability Officer



¹Mass balance is a process that allows tracking of the amount of circular bio-based content used when mixed with traditional plastic material.

²Berry Global will utilize multiple suppliers to provide the advanced recycled resin needed to meet the estimated target of 10 million pounds of waste diverted from landfills for the first two years.

PARTNERING FOR CIRCULARITY

Unlocking impact through collaboration

The magnitude of the plastic waste issue has highlighted the urgent need for collaboration across the value chain to make a positive impact. In 2021, we established collaborations and made investments with nonprofits, capital investors and industry peers focused on scalable solutions that increase plastics recovery and recycling.

LyondellBasell is a founding member of The Alliance to End Plastic Waste. In just three years, the Alliance has grown from 27 to more than 65 members that span the plastics value chain. The larger network allows it to unlock more resources, set a strong foundation and make meaningful impact through a range of activities including on the ground projects to address plastic waste in many developing countries.

We are investing catalytic capital into funds focused on advancing a circular economy.

For every dollar we invest in venture funds that address the plastic waste challenge, we aim to help catalyze another 5 dollars from co-investors by 2030.

Recent investments include support for the Circular Plastics Fund, led by Infinity Recycling, which invests in early-stage companies building demonstration and commercial advanced recycling plants, and a founding investment in the U.S.-based Closed Loop Partners' Circular Plastics Fund which deploys capital to improve infrastructure and technologies to increase the recovery of plastics across North America.



2021 was a defining year for plastic waste, as the issue grew in priority, urgency, and magnitude. Countries, businesses, and communities need more practical solutions to address their waste management and plastic waste problems. This urgency to act mirrored our journey at the Alliance too.”

Jacob Duer, President and CEO, Alliance to End Plastic Waste



In August 2021, the Alliance worked closely with the Sri Lankan government and donated eight beach cleaning machines, to support cleanup efforts in the aftermath of a cargo fire that happened off the coast of Colombo in May that year.

(cont.)

In 2021, LyondellBasell also joined Cyclyx International, a consortium-based feedstock management company. Cyclyx's mission is to increase the recycling rate of plastic from 10% to 90%. Our membership brings valuable knowledge and experience to help the industry achieve its recycling ambitions.

In January 2022, the City of Houston, LyondellBasell, ExxonMobil, Cyclyx International and FCC Environmental Services joined together to form the Houston Recycling Collaboration. This collaboration will focus on significantly increasing the city's recycling rate and boosting the amount of plastic waste feedstock available to make recycled plastics. It aims to establish Houston as a leader in both mechanical and advanced recycling.

90%

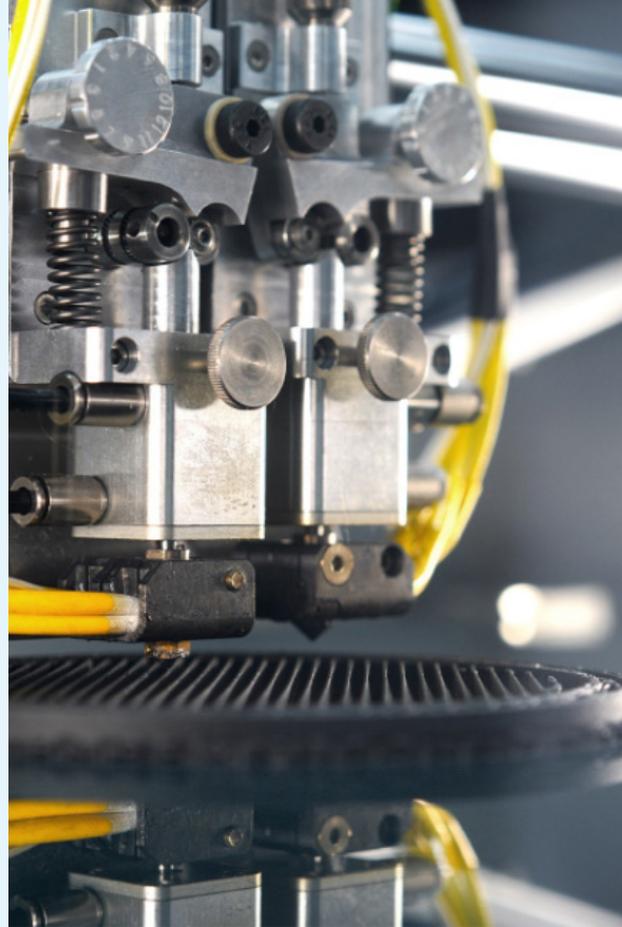
recycling rate of
plastic is Cyclyx
International's mission



AU-TURN FOR PLASTIC AUTOMOTIVE COMPONENTS

LyondellBasell collaborated with the automotive manufacturer Audi and German research university Karlsruhe Institute for Technology (KIT), as well as other industry partners, to close the loop on automotive mixed plastic waste. To visualize the product, the group produced a 3D-printed steering wheel hub cover supporting the use of advanced recycled content.

Mixed automotive plastic waste was processed using advanced recycling technology to produce feedstock. This feedstock was used to produce polymers under a mass balance approach for the 3D printing materials that created the steering wheel hub covers. "Using a 3D printing technique we were able to create a fast visualization of certain components using the advanced recycled polymers," said Erik Licht, LyondellBasell's Director of New Business Development in Europe. "It also supported function integration of part designs and production with recycled content which is not possible with conventional manufacturing methods."



CIRCULAR SUPPLY CHAIN VERIFICATION

To ensure the integrity of our *Circulen* products, we offer third-party ISCC PLUS certification. This approach verifies that our processes meet sustainability and traceability requirements across the supply chain.

ISCC PLUS certification is a globally-recognized system for providing traceability of recycled and renewable-based materials across the supply chain. In 2021, LyondellBasell began providing mass balance certificates for its advanced recycled and renewable-based *Circulen* polymers produced in Europe and advanced recycled *Circulen*Revive products produced at four of its U.S. manufacturing sites.

"The ISCC PLUS certification of four of our North American sites will help us bring more sustainable solutions to our customers," said Wisdom Dzotsi, LyondellBasell's Director of Specialty Performance Products and Circularity. "By delivering these new products, we are proving plastics have value beyond their initial use, in many applications that use virgin plastic. The ISCC PLUS certification helps us to accelerate our progress as an industry leader in the production and marketing of recycled and renewable-based polymers."

ENDING PLASTIC WASTE IN NOTEWORTHY WAYS



CREATING RECYCLED COSMETICS PACKAGING

LyondellBasell, Albéa Tubes and cosmetic brand L'OCCITANE en Provence are contributing to a circular economy by creating more sustainable packaging. Hard-to-recycle, post-consumer mixed plastics material is now at the heart of an international beauty brand which will feature redesigned tubes that retain the iconic brand's look and feel, while being made using advanced recycling technologies.

The tube and cap of the Almond Shower Scrub are designed for complete recyclability: both are in polyethylene (PE) for higher-quality recycling, 93% made from recycled plastic, and confirmed as recycling-ready by recycler associations in both Europe and the U.S.

The polymers used for the packaging are made from LyondellBasell's *Circulen*Revive product which is produced through an advanced recycling process. Advanced recycling technology allows plastic waste to return to the value chain, helping to eliminate plastic waste, offset the need for new hydrocarbons and reduce landfill waste. The recycled content is allocated to the product based on an ISCC PLUS-certified mass balance approach.



ADDRESSING CLIMATE CHANGE



CEO LETTER

APPROACH

PLASTIC WASTE

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DISCLOSURES

WHY WE'RE DOING IT

We recognize the urgency of climate change. That is why we aim to achieve net zero GHG emissions from global operations by 2050 and we set an interim goal to achieve an absolute reduction of 30% in scope 1 and 2 GHG emissions by 2030.

In 2019, we announced our first climate goal to reduce GHG emissions by 15% per ton of product produced by 2030 (relative to 2015 levels). The Intergovernmental Panel on Climate Change's (IPCC) sixth assessment report provided further warning that the potential impacts from global temperature increase beyond the 1.5° limit will be significant and far-reaching. In 2021, we accelerated our efforts and enhanced our goals in support of the Paris Agreement, which aims to limit the global temperature increase by achieving net zero for global greenhouse gas emissions by mid-century.

We believe increasing our GHG reduction goals and developing a more comprehensive climate strategy also support our overall business focus. These efforts are critical for us to remain a preferred supplier with customers, continue meeting investor expectations, support employee engagement, attract talent and be prepared for a changing regulatory environment.

We consider a commitment to net zero by 2050 and a credible pathway to 2030 as critical to the long-term operation of LyondellBasell, to advance our customers' climate ambitions and to support society's transition toward a net zero future.

OUR GOALS:

Achieve net zero greenhouse gas emissions¹ from our global operations by 2050

Reduce absolute greenhouse gas emissions² from our global operations by 30% by 2030³

Procure a minimum of 50% of electricity from renewable sources by 2030

¹Our 2050 net zero goal includes scope 1 and 2. ²Our 2030 net zero goal includes scope 1 and 2. ³Relative to a 2020 baseline

HOW WE'LL DO IT

OUR APPROACH:

Integrate proven solutions to use fossil fuels more efficiently, optimize our fuel mix, minimize flaring and improve the efficiency of our manufacturing processes

Increase our use of renewable energy primarily through power purchase agreements

Accelerate the scale up and deployment of breakthrough technologies that will decarbonize chemical processes to net zero by 2050 through collaboration

Continue to integrate climate change and decarbonization into our business processes and strategy

Engage with governments and industry peers to support effective policies to help achieve the goals of the Paris Agreement and our global climate ambitions

While plastics play an important role in helping to enable GHG emissions reductions across their life cycle, we are also taking concrete steps to reduce the GHG emissions we emit. Our production currently results in approximately 24 million metric tons of GHG emissions (scope 1

and 2) annually from the operations under our control, with approximately 75% of these emissions from North American operations and 25% from Europe. The GHG emissions directly emitted from our processes, known as scope 1, are approximately 70% of our total, and the remaining 30% are from the electricity and steam that we procure, otherwise known as scope 2. For more detail on our GHG emissions see [page 65](#) of this report.

As we move toward 2030, we are focused on deploying available technologies and solutions at our highest GHG emitting sites, which are our olefin and I&D plants. We have been assessing the energy and GHG emissions profiles at these sites and are using this work to help us identify GHG reduction opportunities. These opportunities include reducing flare emissions during routine operations, optimizing the use of energy in our operations and increasing our use of lower carbon intensive fuels. We anticipate deploying these technologies and solutions will help us achieve a minimum of 50% of our overall 2030 reduction goal.

¹"Turn-around" is the common term used to describe significant preventative maintenance activities that are generally performed every 5-7 years.

Renewable electricity will also play a key role in achieving our goals. We anticipate our efforts to procure at least half of our electricity from renewable sources by 2030 will contribute a minimum of 20% toward our overall 2030 reduction goal. We are pursuing multiple opportunities to secure electricity generated by wind and solar through corporate power purchase agreements, with a particular focus in the U.S. and Europe where we have the majority of our manufacturing assets.

With these activities, we estimate achieving one-third of our 2030 goal by 2025, with the remainder of our reduction efforts to ramp up the latter part of the decade as many of these projects will be aligned to the turn-around¹ schedules of our sites. For more detail on our implementation program for our highest emitting sites, see [page 67](#).

The execution of our goals is dependent on several factors, including the outcome of further site assessments, our progress in securing renewable electricity through power purchase agreements, as well as emerging regulatory frameworks that may impact our investment decisions over the course of this decade.

Our ambition to achieve net zero GHG emissions by 2050 will need to be enabled by the deployment of new technologies across the company's manufacturing footprint, and we are assessing technologies such as cracker electrification, use of hydrogen, carbon capture and storage (CCS) and carbon utilization.

New ways of collaborating will be necessary to accelerate society's overall climate goals. We will seek to develop new collaborations and partnerships to deepen our learning and help us meet our net

“Commitments, collective action and a sense of urgency are needed to help address the global challenge of climate change.”

Andrea Brown, Director of Global Sustainability, LyondellBasell

zero ambition, particularly in the area of low carbon technologies. We are working across several industry groups, including the World Economic Forum, to identify new collaboration possibilities, and in 2021 we joined with 10 industry peers to support large-scale development of CCS technology in Houston.

We are furthering our understanding of the indirect GHG emissions from our activities in our value chains, otherwise known as scope 3 emissions. In 2021, we developed a more comprehensive baseline estimation and disclosed our scope 3 emissions in our CDP report. The estimation indicates that the majority of our scope 3 emissions are associated both with the cradle-to-gate emissions of the feedstocks we procure as well as emissions from the use and end of life treatment of our products. We expect these feedstock-related emissions to be impacted in part by our commitment to produce and market two million metric tons of recycled and renewable-based polymers, as the alternative feedstocks required for these products generally have a lower carbon footprint than fossil fuel-based feedstock sources. We are also increasing our use of alternative feedstocks in our chemicals business. Since 2004, our oxyfuels portfolio has included ETBE¹ made with bioethanol, produced by our sites in Europe and Channelview, Texas. In 2021, we expanded our renewable-based chemical product offering with the production of bio-MTBE² produced with bio-methanol, a second generation biofuel based on waste materials from renewable (bio-)based sources. We will continue to explore opportunities to expand on our offering of recycled and renewable-based product solutions.

¹ETBE – ethyl tertiary butyl ether ²MTBE – methyl tert-butyl ether

We are engaging alongside our industry peers through the World Economic Forum and Together for Sustainability to further understand the common challenges of the chemical industry in dealing with scope 3 emissions. These include data collection, supplier engagement, and target setting. We believe that these collaborative efforts can help drive a consistent approach as we consider how to tackle indirect greenhouse gas emissions in the chemical industry value chain.

We are also integrating an internal carbon pricing mechanism to support capital allocation processes and developing policy positions to drive cost-effective climate action. To achieve our goals, we expect capital spending in the future will include investments to support lowering emissions in our operations. These projects are currently at various stages of evaluation or progress and are summarized on the next page. Estimates of the capital expenditure necessary to achieve these goals are included in our corporate budget. We do not expect the capital spending to support our ambitions over the next two years will represent a significant amount of our total capital expenditures. Furthermore, climate risk is embedded in our enterprise risk management approach, and we report our progress through the CDP climate change questionnaire and according to the Taskforce on Climate-Related Financial Disclosure (TCFD) guidelines.

We believe effective public policy plays an important role in the achievement of our climate ambitions. We support legislation and policy that will:

- | Establish a fair, global carbon price
- | Promote renewables and energy infrastructure development
- | Accelerate the deployment of new, carbon-reducing technologies
- | Reward companies for adopting carbon-reducing technologies

PATHWAY TO OUR 2030 TARGET:



Announced Organic Growth: We account for organic growth in our target setting, with additional emissions from projects we have publicly announced, such as our propylene oxide and tertiary butyl alcohol (PO/TBA) plant at our Channelview, Texas site, anticipated to start up at the end of 2022.

Planned GHG Emissions Reduction Projects from our sites will be achieved through different operational improvement measures, including minimizing flare emissions, switching to less carbon intensive fuels and steam optimizing our energy use, especially in our furnace operations.

Other GHG Emissions Reduction Options are being studied and are dependent on the outcome of further site energy assessments, progress in securing further renewable electricity through power purchase agreements, as well as emerging regulatory frameworks that may impact our approach.

Estimates of the capital expenditure necessary to achieve our sustainability goals are reflected in our corporate budgets. Such capital expenditures are not expected to represent a significant proportion of total capital expenditures over the next two years.

COMMITTING TO RENEWABLES

Renewable energy

Decarbonizing our electricity supply through the purchase of renewable electricity is crucial to meet our 2030 targets.

LyondellBasell is committed to procure a minimum of 50% (approximately five terawatt hours) of our current electricity consumption from renewable sources by 2030.

We estimate this will reduce approximately 1.5 million metric tons of GHG from our scope 2 emissions annually.

We consumed approximately nine terawatt hours of electricity in our baseline year of 2020, split primarily between our operations in North America (62%) and Europe (38%). This translates to approximately three million metric tons of GHG emissions which is the equivalent of approximately 650,000 passenger vehicles being driven for one year.

Based on current forecasts, we expect to decarbonize our electricity consumption through off-site power purchase agreements (PPAs), on-site renewables and off-site utility programs and certificates. PPAs, contracts which secure long-term energy supply with large-scale wind or solar projects, are LyondellBasell's preferred approach as they provide scalability and support investment in new renewable energy capacity while lowering our carbon footprint associated with the electricity we consume.

50%

of our existing electricity consumption from renewable sources by 2030

GOAL PHASE OUT

Phasing out coal from our power plant in Wesseling

Our roadmap to net zero GHG emissions by 2050 requires more than technology solutions and investments. It will require thinking differently about how we power our facilities and industry.

Our facility in Wesseling, Germany, will reduce site GHG emissions by approximately 170,000 metric tons per year by replacing coal used in the on-site power plant with energy sourced from high-pressure steam generated by natural gas.

The phase-out project is in partnership with Evonik, a German specialty chemicals company. The two companies have been working on the strategic partnership since 2019. Evonik site manager Dr. Arndt Selbach said,

“I am very pleased that we are further expanding the energy alliance with our site neighbor LyondellBasell. With the new agreement, we are expanding cross-site energy integration, enabling better utilization of existing plants, and supporting LyondellBasell in its coal phase-out.”

Technology and collaborations are essential to reduce our carbon footprint. This effort is an important next step to producing plastic in a more sustainable way.

“

While we will continue to rely on energy to manufacture our products, we are working to reduce our carbon footprint and develop solutions that will advance a low carbon economy. Phasing out coal at our power plant is an important first step.”

Tassilo Bader, Wesseling Site Manager, LyondellBasell



FLARE SYSTEMS

Over the past several years, we initiated a **material recovery program**, which includes minimizing material losses from flare operations. Reducing emissions from flaring during routine operations is a priority that will bring us closer to net zero GHG emissions and reduce our environmental impact. In total, projects implemented as part of our material recovery program at LyondellBasell's European and U.S. sites in 2021 resulted in a reduction in energy use of 3.6 million gigajoules and an associated emissions reduction of approximately 230,000 metric tons of GHG emissions.



ADDRESSING CLIMATE CHANGE IN NOTEWORTHY WAYS

FIRST TCFD INDEX

In 2021, we used the (TCFD) Guidance to further our climate change risk management approach and enhance our evaluation of climate change risk in our enterprise risk management approach. We aim to identify, assess and manage risk exposures throughout LyondellBasell and our supply chain. Our objective is to build climate resilience and minimize hidden risk exposures, ultimately reducing future uncertainty.



WATER-BASED WASTE / ENERGY

Our Circular Steam Project, with our joint venture partner Covestro, is another step toward a more sustainable chemical industry. This innovative technology incorporated into an existing production plant converts water-based waste into steam. This approach mitigates 140,000 metric tons of GHG emissions equal to 0.9 petajoules of energy use and avoids the release of 11 million kilograms of salt residue into the surface water.



SUPPORTING A THRIVING SOCIETY



CEO LETTER

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WHY WE'RE DOING IT

As a leader in the global chemical industry, we make an impact far beyond our company when we fulfill our responsibility to improve society and create long-term value for our stakeholders.

Now more than ever, society expects businesses to help solve societal challenges. According to the 2021 Edelman Trust Barometer,¹ businesses are the most trusted institutions when compared with governments, non-governmental organizations (NGOs) and media. Furthermore, 86% of respondents believe CEOs must lead on societal issues and 68% feel CEOs should step in when government does not fix them.

Our stated vision is to be the best operated and most valued company in our industry, today and tomorrow. Achieving this requires a focus on delivering shareholder and societal value, and mitigating the social, environmental and ethical risks in our operations, products and supply chain.

From ensuring a safe work environment to diversity, equity and inclusion in the workplace, making products that improve quality of life, and working to align our suppliers' values with our own, we are committed to the betterment of society.

¹2021 Edelman, *Edelman Trust Barometer 2021*, January 2021

OUR GOALS:

Operate safely every day and with zero incidents, zero injuries and zero accidents

Achieve gender parity in senior leadership globally by 2032

Achieve general population ratio of people from underrepresented groups in U.S. senior leadership by 2032

Assess a minimum of 70% of our key suppliers globally using sustainability criteria by 2025



HOW WE'LL DO IT

We have an unwavering commitment to the safety of our people and our operations. We aim for zero injuries, zero process safety incidents, zero product safety incidents, zero environmental incidents and zero plastic pellet loss to the environment. Our GoalZERO standards apply to employees, contractors and suppliers performing work at our sites.

Diversity, equity and inclusion are key drivers to achieving our business and sustainability ambitions, and we are working to embed DEI within our culture as deeply as safety. We are committed to increasing representation of diverse employees at all levels within our organization and fostering an equitable and inclusive work environment that supports our global employees and the communities we serve.

Our global corporate citizenship program, Advancing Good, demonstrates our commitment to being a responsible, good neighbor in the communities where we operate. Investments in charitable organizations and employee volunteerism support three key focus areas: Advancing Our Communities, Advancing Our Planet and Advancing Tomorrow's Workforce.

Our relationship with suppliers can also have a positive impact on society. We are evaluating our suppliers' practices utilizing the globally recognized EcoVadis platform to better understand their environmental, labor and human rights, and ethical business and supply chain performance. In 2021, we joined Together for Sustainability, a joint initiative of chemical companies focused on developing and sharing best practices to drive and deliver tangible, measurable improvements in the sustainability performance of supply chains.

OUR APPROACH:

Keep our employees, contractors, customers and neighbors safe

Implement a DEI strategy that holds leaders accountable, drives change and delivers meaningful results

Invest in programs and support policies that strengthen our communities, our planet and tomorrow's workforce

Collaborate for meaningful impact and accelerate our progress and learning from others

DIVERSITY, EQUITY, INCLUSION

Our approach to DEI

As we examined our vision for the company, we recognized the need to renew our focus on DEI and take action to increase diverse representation, especially in senior leadership roles.

Studies¹ show that organizations with diverse and inclusive cultures are more likely to meet or exceed financial targets, be high performing, innovative and agile, and achieve better business outcomes. While growth and progress will take time, our ambition is to be a DEI industry leader.

In 2021, we activated a multi-year DEI plan to foster a more inclusive workplace, increase diverse representation and ensure our human resources programs are fair, equitable and effectively communicated to employees. We have significantly increased investment in our DEI programs and personnel. Most importantly, our executive leaders have personally sponsored and participated in our DEI programs.

Diversity starts at the top

Although the gender gap is improving, women in leadership positions in the chemical sector remains low. LyondellBasell aims to increase the number of women in senior leadership roles globally by 50% in the next five years and achieve gender parity in these roles by 2032.

In the U.S., our ambition is to increase the number of people from underrepresented groups in senior leadership roles by 50% in the next five years and reflect the general population ratio by 2032.



OUR DEI GOALS

Achieve gender parity in senior leadership globally by 2032

Increase women senior leaders by 50% globally in the next five years

Achieve general population ratio of people from underrepresented groups in U.S. senior leadership by 2032

Increase underrepresented senior leaders by 50% in the next five years

¹ Juliet Bourke, *Which Two Heads Are Better Than One? How Diverse Teams Create Breakthrough Ideas and Make Smarter Decisions*, Australian Institute of Company Directors, 2016.

(cont.)

In 2021, we launched new initiatives to attract and advance diverse talent such as expanding our external candidate pool; improving diversity of interview panels; increasing internal job posting transparency; enhancing our mentoring program; and improving movement of talent within our organization to sharpen and build skills.

“As a team leader in manufacturing, I am proud to work for a company that offers development opportunities. Many women at LyondellBasell broke barriers in this industry and I am inspired by their passion and achievements. I look forward to paving a path for the next generation of women in industry.”

Valeria Villa, Maintenance Area Supervisor, Botlek/Maasvlakte site, and Co-Chair, Women’s Employee Network, LyondellBasell

Equity in opportunity and pay audited annually

As part of our commitment to ensure fairness in our pay practices and performance review process, we engaged a third-party expert to conduct our first pay equity review and to evaluate our performance review practices. Our intention is to embed these reviews in our annual processes going forward.

For our pay equity review, we strive to achieve pay parity. In 2021, the pay equity review compared pay for like jobs, specifically focused on base pay for gender (globally) and ethnicity (U.S. only). The review reflected that pay for women and men on a global basis is generally administered fairly. It also found that, in the U.S., pay for employees in underrepresented groups is generally administered fairly when compared with those in non-underrepresented populations. We continue to conduct detailed analyses to identify and address any pay inequities.

The performance review evaluation compared performance rankings for gender (globally) and ethnicity (U.S. only). The review did not have any significant findings and confirmed that performance appraisals are generally administered fairly.

Inclusion creates a positive employee culture

An internal survey conducted by a third-party showed that those who feel the least connected in the workplace are our Black, women, LGBTQ+ and early career professionals. As part of our work to build an inclusive culture, we launched four new global Employee Networks in 2021 organized around these groups. Employee Networks are open to all employees, including colleagues who do not share the identity of a particular network but are supporters and advocates for that community. Senior leaders serve as executive sponsors for each network. In 2021, our global employee participation rate was 17%.

We also rolled out live DEI training to employees worldwide, providing them with the opportunity to develop skills that will enhance inclusion in our workplace. By the end of 2021, 98% of all leaders, professional and administrative employees globally completed required DEI training and a total of 14,000 additional training courses were completed voluntarily.

Accelerating progress in 2022 and beyond

Building on systematic improvements activated in 2021, we will continue to invest in programs that create a diverse and inclusive culture at our company and throughout our value chain. We are planning to cascade DEI goals to additional leadership levels, grow our Employee Networks and establish a Supplier Diversity Program to expand our supply chain and support inclusive economic growth.

“Our renewed focus on DEI is a critical part of our business success,” said Jeanne-Marie Bowman, LyondellBasell’s Chief Talent and DEI Officer. “It is also the right thing to do for our current and future employees,” she added.

While we have made strong progress this year, we recognize there remains much work to do to drive sustainable change in the future, but we are committed to the journey.

“

The power of many is one of LyondellBasell’s values and it is at the heart of our work to build a corporate culture where differences are embraced.”

Lee Price, Senior Manager, Enterprise Risk Management, and Co-Chair, Black Employee Network, LyondellBasell



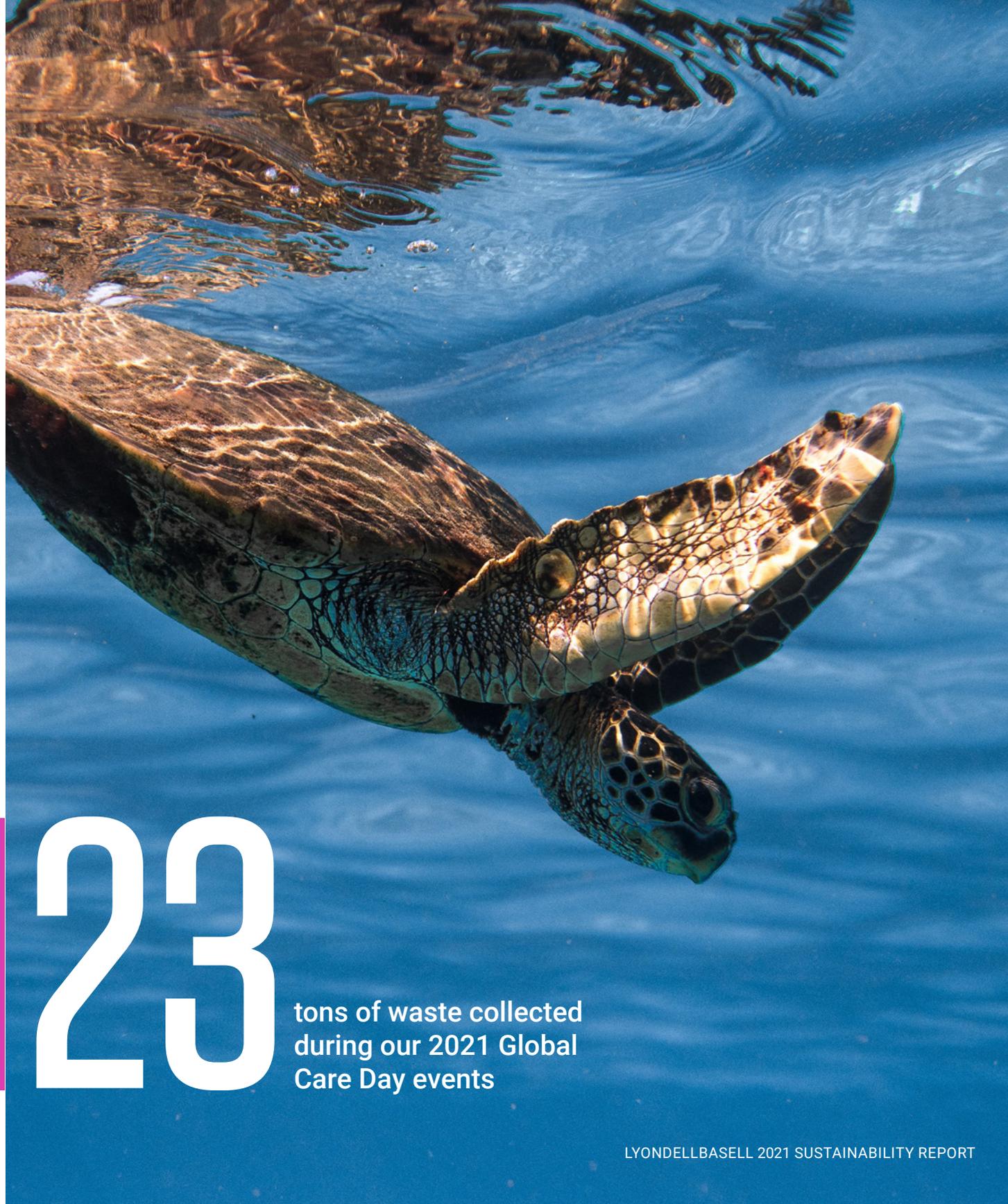
Global Care Day serves communities for 22nd year

With the goal of encouraging local engagement in communities where we operate, LyondellBasell launched its first Global Care Day in 2000 which has continued every year since.

Our 2021 Global Care Day theme was sustainability, and many of our projects drew inspiration from World Cleanup Day. This world-wide initiative resulted in the pick up of 23 tons of waste by LyondellBasell employees.

“At the core of LyondellBasell’s commitment to supporting thriving communities are people dedicated to making a difference,” said Mike Middleton, LyondellBasell’s Corpus Christi Site Manager. This collective action was demonstrated by our employees and their families across the globe.”

The Corpus Christi Complex in Texas collaborated with the Amos Rehabilitation Keep (ARK). The ARK project works to rehabilitate marine turtles and birds from the surrounding coastal region. Volunteers built cages and perches for recuperating birds, as well as benches and picnic tables for visitors. They also cleaned debris from a recent hurricane and experienced a sea turtle release.



23

tons of waste collected during our 2021 Global Care Day events

(cont.)

A group of employees and their families at LyondellBasell Matagorda Complex in Bay City, Texas, worked with the Matagorda County Birding Nature Center. Volunteers cleared the cactus garden to prepare for new plantings and cleaned storm debris from palm trees to maintain this botanical garden and nature park.

Volunteer efforts in Cincinnati, Ohio, helped improve floodplain management and water quality of Mill Creek, while a tree replanting project in Lake Charles, Louisiana, helped restore a walking trail damaged by the hurricanes Laura and Delta.

In Europe, our employees in Rotterdam, the Netherlands, worked together with Groene Connectie (Green Connection) on several projects around the city. This included picking up waste and clearing debris around children's playgrounds in local parks. Our sites in Berre l'Etang, Fos-sur-Mer, Givet and Oyonnax in France, assembled more than 200 hygiene kits for local associations, consisting of unused bars of soap from local hotels and other hygienic products, given to local food banks to support struggling communities. In Ferrara, Italy, volunteers planted more than 100 plants at a local park and also painted and installed a gazebo and park benches.

Volunteers from Pune, India, collected plastic waste from the Mula-Mutha River after the monsoon, and in Suzhou, China, employees cleaned up Yangcheng Lake Park and educated children about sorting waste and preparing it for recycling.

Our employees in the city of Hong Kong sorted nearly 15,000 second hand books which will be donated to schools and underprivileged students.

They were also able to collect 15 bags of plastic and small electrical appliances to be recycled. More than 300 plant pots were sorted and donated to a local school for gardening projects. In a more rural area, colleagues were able to rebuild and fertilize 10 stretches of farmland preparing it for organic farming.

15K+ books sorted and donated to schools and underprivileged students



CLEANER WATERWAYS

Citizen-scientists support a plastic-free river Mersey

Community members, non-profit organizations and corporations including LyondellBasell collaborated to launch the Plastic Free Mersey project in July of 2021.

This citizen-science initiative trains and supports volunteers to collect valuable data about the plastic found along the River Mersey and its 23 tributaries that flow from the Pennines to Liverpool Bay in the north of England.

In addition, the project focuses on identifying and quantifying plastic and other litter on riverbanks and foreshores in inland and estuary sites to promote reduced littering, increase recycling and provide essential information to the plastics and waste management industries to support circular economy solutions.

The project is creating and testing an effective model of collaboration between NGOs, academic research and the plastics industry to tackle the plastic pollution in waterways and generate solutions based on robust evidence and methods. These solutions combine behavioral and managerial changes at individual, community, business and government levels which can be applied to other river catchments in the UK and abroad.

In October 2021, Liverpool City Region Metro Mayor, Steve Rotheram, joined volunteers for a river clean-up event on the River Alt in Knowsley, Liverpool. During this event, 15 bags of litter were removed from the river and its banks, including plastic food wrappers, bottles and bags.



We are very proud to join all the volunteers, Thames21, Mersey Rivers Trust and Plastic Free Mersey project partners in supporting this brilliant campaign. It's great that residents get to take part in helping to do their bit for the environment and we hope that it will encourage them to reduce, reuse and recycle their plastic."

Steve Rotheram, Metro Mayor, Liverpool City Region



SCIENCE EDUCATION

Inspiring and motivating tomorrow's STEM leaders

LyondellBasell believes supporting STEM education and workforce development programs is critical in the development of a circular plastics economy.

As such, our Advancing Good programs inspire and motivate the leaders of tomorrow through sponsorship of notable talent development programs and mentorship of young achievers.

We were proud to support the annual University Chemical Creative Design Challenge, an online hackathon competition that encourages students in China to explore technical and innovative solutions to a current topic. The 2021 theme was "circular economy" and projects were submitted from more than 40 colleges and universities. LyondellBasell employees, including Limin Fu, Director of Polyolefins China, and Wang Chen, China Business Manager for Sustainability, served as mentors. "The hackathon is a valuable platform to connect young students with mentors from the industry and business world to turn their creativity to promising solutions and inspire them to develop their future career in the chemical industry," Limin said.

Another notable commitment to workforce development is our ongoing partnership with San Jacinto College Center for Petroleum, Energy and Technology in Houston. This year, in collaboration with the Junior Achievement of Southeast Texas, LyondellBasell hosted 65 female high school students for the Kick Start Your Future Program. This program focused on ethical decision making, making the right choices on social media, resume building and interview skills.



The Kick Start Your Future program gives volunteers the opportunity to share their unique experiences and career journeys to help educate and motivate the next generation."

Patty Lalonde, Senior Director of Education,
Junior Achievement of Southeast Texas





LYONDELLBASELL JOINS TOGETHER FOR SUSTAINABILITY

Sustainability goes beyond production and manufacturing – it also extends to our supply chain and procurement practices. The businesses in our supply chain are an important lever for us to encourage more sustainable practices that will contribute to better outcomes for society. In 2021, LyondellBasell launched its Sustainable Procurement program to improve sustainability performance in our supply chain. We engaged with EcoVadis and joined *Together for Sustainability* (TfS) to support the assessment of our key suppliers using a common chemical industry approach.

TfS is a global, procurement-driven initiative designed to improve the sustainability performance of chemical companies and their suppliers through the development of common approaches to audits, scope 3 GHG emissions measurement tools and supplier assessments issued by EcoVadis. The program is based on the UN Global Compact and Responsible Care® principles. Through our participation, LyondellBasell aims to assess and improve our procurement operations and supply chain, against a set of well-defined environmental, social and governance criteria.



RAIN BARREL PROGRAM CREATES VALUE

LyondellBasell has helped save approximately 1.5 million gallons of water each year since 2004 as the lead sponsor of the Galveston Bay Foundation’s Rain Barrel Program in Texas, according to the organization. The initiative works to conserve water and reduce stormwater runoff, pollution and bacteria entering the local water systems.

One rain barrel can conserve approximately 1,050 gallons of water per year. That is why we support the rain barrel distribution, and sponsor workshops that educate community members about the environmental benefits of collecting rainwater, and proper rain barrel installation, instructions and tips.

ADVANCING A THRIVING SOCIETY
IN NOTEWORTHY WAYS

IN-KIND DONATIONS HELP ALLEVIATE HOSPITAL NEEDS DURING THE COVID PANDEMIC

1250

beds and oxygen concentrators were donated to hospitals and medical facilities

LyondellBasell is working hard to assist in the global fight against COVID-19 and support recovery efforts. Our safe, durable and medical-grade plastics allowed us to partner with Aeroklas to produce and donate 250 beds for field hospitals in Songkhla, Thailand. Furthermore, we donated food and hospital necessities, such as pillowcases and mat sheets.

Through the U.S. India Friendship Alliance, LyondellBasell also donated \$100,000 to help provide 250 oxygen concentrators to hospitals and medical facilities across India. During the height of the country's COVID-19 crisis, patients were in serious need of oxygen with demand surpassing the supply.

"In 2021, our employees in India and Thailand sought ways to help their communities address the COVID-19 crisis," said Elizabeth Weiss, Manager of Corporate Relations at LyondellBasell. "There is no stronger commitment we can make than to the health and safety of our people and the communities where we live and operate. We believe in Advancing Good through our global citizenship program and these projects demonstrate how we can make a difference," she added.



Closing the gap on science, technology, engineering and math achievement is essential to LyondellBasell's future success, which is why we support organizations across the globe that are tackling this educational challenge. "Over the course of the last year, the COVID-19 pandemic vividly showed us how great the needs were in schools, not only with students, as we faced a technology gap with the push to digital learning, but with teachers also needing resources and support," said Shawn Cullen, Site Manager at LyondellBasell's Bayport Complex in Pasadena, Texas.

A partnership with the Feyenoord Foundation, the social branch of the FC Feyenoord (a European football club) offered STEM education, career guidance and physical exercise to children under the age of 12 and volunteer opportunities for LyondellBasell employees in the Netherlands.

"LyondellBasell has a longstanding tradition of supporting the communities where we operate," said Jean Gadbois, Senior Vice President Europe, Asia and International Manufacturing at LyondellBasell. "Just one of the things we will be able to do through the partnership with the Feyenoord Foundation is to facilitate educational activities for more than 7,000 local children of all backgrounds each year."

In 2021, we also donated 1,369 computers to underserved students in three Houston-area school districts, including Pasadena, Galena Park, and La Porte, Texas. We partnered with Comp-U-Dopt, a local organization that facilitates education technology and digital literacy for students and disadvantaged families.

ENABLING STEM EDUCATION FOR YOUNG PEOPLE



GRI/SASB/UNGC DISCLOSURES



GRI GENERAL DISCLOSURES

GRI 102-1

Name of the organization

Our legal name is LyondellBasell Industries N.V. (NYSE: LYB). Unless otherwise indicated, the “Company,” “we,” “our,” “us” and “LyondellBasell” are used in this report to refer to the businesses of LyondellBasell Industries N.V. and its consolidated subsidiaries.

GRI 102-2

Activities, brands, products and services

LyondellBasell is a leader in the global chemical industry. We participate globally across the petrochemical value chain and are an industry leader in many of our product lines. Our chemicals businesses consist primarily of large processing plants that convert large volumes of liquid and gaseous hydrocarbon feedstocks into plastic resins and other chemicals. Our chemical products tend to be basic building blocks for other chemicals and plastics. Our plastic products are used in large volumes as well as smaller specialty applications. Our customers use our plastics and chemicals to manufacture a wide range of products that people use in their everyday lives including food packaging, home furnishings, automotive components, paints and coatings. Our refining business consists of our Houston refinery, which processes crude oil into refined products such as gasoline and distillates. We also develop and license chemical and polyolefin process technologies and manufacture and sell polyolefin catalysts.

For more information on our business, see our 2021 Annual Report on Form 10-K for the year ended December 31, 2021 (“2021 Form 10-K”), [pages 4-20](#).





- Principal Manufacturing Facilities
- ★ Headquarter Offices

Principal manufacturing sites and headquarter offices as of December 31, 2021.

We also maintain research facilities in Lansing, Michigan; Channelview, Texas; Cincinnati, Ohio; Ferrara, Italy and Frankfurt, Germany. We also have technical support centers in Bayreuth, Germany; Geelong, Australia and Tarragona, Spain. We have various sales facilities worldwide.

GRI 102-3
Headquarters location

GRI 102-4
Location of operations

United States

- Morris, Illinois
- Clinton, Iowa
- Lake Charles, Louisiana
- Edison, New Jersey
- Bayport (Pasadena), Texas
- Channelview, Texas
- Chocolate Bayou, Texas
- Corpus Christi, Texas
- Houston, Texas
- La Porte, Texas
- Matagorda, Texas
- Victoria, Texas

Europe

- Berre l'Etang, France
- Fos-sur-Mer, France
- Frankfurt, Germany
- Kerpen, Germany
- Knapsack, Germany
- Münchsmünster, Germany
- Ludwigshafen, Germany
- Wesseling, Germany
- Brindisi, Italy
- Ferrara, Italy
- Tarragona, Spain
- Botlek, Rotterdam, The Netherlands
- Maasvlakte, The Netherlands
- Moerdijk, The Netherlands
- Carrington, United Kingdom

Asia Pacific

- Geelong, Australia
- Panjin, China

Headquarter Offices

- London, United Kingdom
- Rotterdam, The Netherlands
- Houston, Texas
- Hong Kong, China

GRI 102-5

Ownership and legal form

LyondellBasell Industries N.V. is a global, independent chemical company and incorporated, as a Naamloze Vennootschap, under Dutch law.

GRI 102-6

Markets served

We manage our operations through six operating segments. Our reportable segments are:

Olefins and Polyolefins—Americas (“O&P—Americas”)

Our O&P—Americas segment produces and markets olefins and co-products, polyethylene (“PE”) and polypropylene (“PP”).

Olefins and Polyolefins—Europe, Asia, International (“O&P—EAI”)

Our O&P—EAI segment produces and markets olefins and co-products, PE and PP.

Intermediates and Derivatives (“I&D”)

Our I&D segment produces and markets propylene oxide (“PO”) and its derivatives; oxyfuels and related products; and intermediate chemicals, such as styrene monomer (“SM”), acetyls, ethylene oxide and ethylene glycol.

Advanced Polymer Solutions (“APS”)

Our APS segment produces and markets compounding and solutions, such as PP compounds, engineered plastics, masterbatches, engineered composites, colors and powders and advanced polymers, which includes *Catalloy* and polybutene-1.

Refining

Our Refining segment refines heavy, high-sulfur crude oil and other crude oils of varied types and sources available on the United States (“U.S.”) Gulf Coast into refined products, including gasoline and distillates.

Technology

Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts.



Our products advance sustainable living

Many of the chemicals and plastics we supply help create innovative products that meet the needs of modern society and contribute to sustainable development. Our products are found in nearly every sector of the economy.



Cleaner air & fuel efficiency

Stronger, lighter plastics support increased fuel efficiency



Food safety & access

Food packaging and films that improve freshness, portability and extend shelf-life



Potable water delivery

Stronger, longer-lasting pipes used in municipal water systems and key elements used in water filtration systems



Agricultural efficiency

Lighter machinery, crop protection and soil conditioning used to be more efficient in agroprocessing



Sustainable & modern living

Materials that form components used in solar panels, wind turbines, children's toys, cosmetics, leak-proof and shatter-proof containers



Quality healthcare

Improved medical supplies such as synthetic latex gloves, hand sanitizers, biohazard bags and pill coatings

GRI 102-7

Scale of the organization

Based on published capacity data and including our proportionate share of our joint ventures, we believe as of December 31, 2021, we were the:

- Second largest producer of ethylene in North America, with ethylene capacity of 6.2 million metric tons per year
- Third largest producer of PE in North America with capacity of 4.1 million metric tons per year
- Second largest producer of PP in North America, with capacity of 1.9 million metric tons per year, including approximately 280 thousand metric tons of *Catalloy* capacity reported within our Advanced Polymer Solutions segment
- Fifth largest producer of ethylene in Europe with an ethylene capacity of 1.9 million metric tons per year
- Largest producer of PE in Europe with 2.2 million metric tons per year of capacity
- Largest producer of PP in Europe with 2.7 million metric tons per year of capacity, including approximately 280 thousand metric tons of *Catalloy* capacity reported within our Advanced Polymer Solutions segment
- Second largest producer of PO worldwide
- Second largest producer of oxyfuels worldwide
- Largest producer of PP compounds worldwide

For more information on our business, see our [2021 Form 10-K, pages 4-20](#). For a synopsis of our financials for 2021, see [GRI 201, page 57](#) of this report. For information on our significant shareholders, see our [2022 Proxy Statement, page 85](#). For information on our employees, see [GRI 102-8, page 45](#) of this report.

GRI 102-8

Information on employees and other workers

As of December 31, 2021, we had approximately 19,100 full-time and part-time employees around the world. Of this total, 8,100 were in the U.S. and Canada and another 8,300 were in Europe. The remainder of our employees are in other global locations.

In addition to our own employees, we use the services of contractors primarily to assist with non-core business functions.



Employees

	2021
Global	19,113
Full-time	18,704
Men	15,311
Women	3,390
Undisclosed	3
Part-time	409
Men	174
Women	235
U.S./Canada	8,137
Full-time	8,125
Part-time	12
Europe	8,295
Full-time	7,942
Part-time	353
Latin America (including Mexico)	842
Full-time	841
Part-time	1
Asia Pacific	1,809
Full-time	1,766
Part-time	43
Middle East & Africa	30
Full-time	30
Part-time	0

Data as of December 31, 2021, and excludes contingent workers. Part time is based on employment percentage (capacity utilization level). Anything less than 100% is reflected as part time.

GRI 102-9 Supply chain

For information on our supply chain, see [GRI 102-2, page 42](#), and [GRI 102-6, page 44](#).

GRI 102-10 Significant changes to the organization and its supply chain

Acquisitions

In 2021, we formed the Ningbo ZRCC LyondellBasell New Material Company Limited joint venture with China Petroleum & Chemical Corporation (Sinopec). We own a 50% equity interest in the joint venture. The joint venture constructed a new PO/SM unit in Zhenhai Ningbo, China, which began production in January 2022. The unit utilizes LyondellBasell's leading PO/SM technology and has the capacity to produce 275 thousand metric tons of PO and 600 thousand metric tons of SM per year. Products produced by the joint venture will be marketed equally by both partners in the Chinese market.

We also acquired 100% of PolyPacific Polymers Sdn. Bhd. in Port Klang, Malaysia, which produces PP compounds.

Closures and divestitures

We made the decision to exit the synthetic ethanol business in August 2021, resulting in the shutdown of the ethanol unit at our manufacturing site in Tuscola, Illinois, and closure of our Newark, New Jersey site. We continue to produce our *Microthene* low, linear low, and high density PE powder products at the Tuscola site. Support for impacted employees includes opportunities for reassignment, separation benefits, and other transition assistance. We continue to discuss a path forward with union representatives.

For more information on equity investments, see our [2021 Form 10-K, page 86-88](#).

GRI 102-11 Precautionary principle or approach

As a signatory of the United Nations Global Compact, LyondellBasell affirms Principle 15 of the 1992 Rio Declaration that states "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."



GRI 102-12

External initiatives

LyondellBasell subscribes to and/or endorses the following environmental and social charters, principles or initiatives:

- | CDP Climate Change and Water Security disclosure system
- | Sustainability Accounting Standards Board (“SASB”)
- | Task Force on Climate-Related Disclosures (“TCFD”)
- | United Nations Global Compact (“UNGC”)
- | United Nations Sustainable Development Goals (“UN SDGs”)

We participate in initiatives across our industry and wider value chain that address the reduction, recycling, reuse and repurposing of plastic waste and promote excellence in sustainability performance including:

- | Alliance to End Plastic Waste
- | Circular Plastics Alliance
- | Closed Loop Circular Plastics Fund
- | Cyclyx International
- | Circular Plastics Fund, led by Infinity Recycling
- | New End Markets Opportunities for Film
- | Operation Clean Sweep (“OCS”) and OCS Blue
- | Pacific Northwest Secondary Sorting Demonstration Project
- | Responsible Care®
- | Sustainable Packaging Coalition
- | The Recycling Partnership’s Polypropylene Recycling Coalition
- | Together for Sustainability
- | World Economic Forum

GRI 102-13

Membership of associations

LyondellBasell is a member of approximately 170 industry associations that provide a venue for the chemical, plastic and refining industries to lend our voices to issues that impact our industry. The portion of dues paid to U.S.-based trade associations that may be used for lobbying or political activities, to the extent that our total contribution to the trade association is \$50,000 or more annually, is disclosed in our [U.S. Political Activity Report](#).

We also participate in a variety of issue advocacy coalitions and alliances that seek to advance policy proposals focused on key priorities for the chemical, plastic and refining industries and the Company. We annually review our memberships in coalitions, alliances and trade associations to assess their business value and alignment with our policies and priorities. The Director of Government Relations has oversight of memberships in U.S. trade associations.

While we may not completely agree with every position taken by an association or its members, corporate memberships enable us to voice our support, concerns, perspectives and positions on proposed legislation and regulations.

The following is a partial list of the industry associations in which we are engaged:

- | American Chemistry Council
- | American Fuel & Petrochemical Manufacturers
- | BusinessEurope
- | Cefic (The European Chemistry Industry Council)
- | China Petroleum and Chemical Industry Association
- | European Petrochemical Association
- | International Council of Chemical Associations
- | National Association of Manufacturers
- | PlasticsEurope
- | Plastics Industry Association (U.S.)
- | World Plastics Council



GRI 102-14

Statement from senior decision-maker

For the annual letter from our Chief Executive Officer ("CEO") regarding our sustainability strategy and approach, [see page 4 of this report](#).

GRI 102-15

Key impacts, risks and opportunities

LyondellBasell's priority environmental, social and governance ("ESG") issues were refreshed in January 2021. We conducted a materiality review to identify the sustainability issues of significance to our stakeholders, business and value chain. Our material topics can be found [on page 55 of this report](#). For more information regarding our risk factors, see our [2021 Form 10-K, pages 20-32](#)

Ethics & Integrity

GRI 102-16

Values, principles, standards and norms of behavior

LyondellBasell upholds high ethical standards and is committed to complying with applicable laws and regulations. Our Compliance Department and robust compliance program, established in 2010, is governed by a written charter and led by our Chief Compliance Officer ("CCO"), who has a direct reporting relationship to LyondellBasell's Audit Committee, CEO, and Chief Legal Officer ("CLO"). The CCO discusses the compliance program with the Audit Committee at each of its quarterly meetings, including details on training, metrics and risk assessments. Our Audit Committee oversees periodic audits of the Compliance function and its effectiveness, which have been conducted by external law firms as well as the Company's internal audit function.

Our [Code of Conduct](#) sets out our expectations on topics such as respecting fellow employees, anti-corruption, conflicts of interest, trade compliance, anti-trust and competition law, insider trading, sanctions, misconduct and political donations. Our Code of Conduct can be found on our website in 18 languages. All employees are required to complete training on the Code of Conduct each year and must acknowledge that they have read and understand the Code. In 2021, 100% of employees received, and 99.6% completed the training. Additionally, depending on the work they do for the Company, some contractors also receive Code of Conduct training.

The Company has established additional compliance policies, forms and procedures related to the Compliance function's three primary areas: (1) anti-bribery and corruption; (2) antitrust/competition law; and (3) international trade/sanctions. These policies and procedures are continuously reviewed and updated as necessary and made available to all employees in multiple languages. [See GRI 205 and 206 on page 59](#) for additional information on the Company's compliance policies and training programs related to specific areas.

Our commitment to conduct our business in a manner that protects the environment and provides for the safety and health of employees, contractors, customers and the public is outlined in our [Health, Safety, Environmental and Security Policy](#). We uphold the principles and requirements of Responsible Care® and ISO14001.

Our [Supplier Code of Conduct](#) outlines our health, safety, environmental, social, governance and ethical expectations for those with whom we do business. We utilize the globally recognized EcoVadis platform to better understand our suppliers' sustainability performance.

Our [Human Rights Policy](#) is guided by common principles found within the United Nations Universal Declaration on Human Rights and Guiding Principles for Business and Human Rights, and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, among others, and it sets forth our commitment to respecting human rights throughout our global operations.

Each year we issue a [Human Trafficking and Anti-Slavery Statement](#). In accordance with the requirements of the United Kingdom's Modern Slavery Act of 2015 and The California Transparency in Supply Chains Act of 2010, LyondellBasell makes information publicly available with respect to our efforts to ensure that slavery and human trafficking is not taking place in any of our supply chains and in any part of our business. These efforts include participation in the Authorized Economic Operator program in the European Union and the U.S. Customs – Trade Partnership Against Terrorism program in the U.S., as further described in our Statement.

LyondellBasell is committed to [Responsible Care®](#), the global chemical industry's voluntary initiative to drive continuous improvement in safe chemicals management and achieve excellence in environmental, health, safety and security performance. As a signatory to the Responsible Care Global Charter, we are committed to creating a corporate leadership culture that proactively supports safe chemicals management; safeguarding people and the environment; strengthening our chemical management systems and influencing business partners to do the same in their own operations; engaging stakeholders to understand and respond to their concerns; and contributing to sustainability through improved performance, expanded economic opportunities and the development of innovative technologies and other solutions to societal challenges.

In 2021, we launched our [Animal Use and Welfare Policy](#) which recognizes the sensitive nature of animal welfare for product testing while maintaining a commitment to completing robust product safety evaluations and satisfying regulatory requirements. We are committed to the transition to animal-free chemical safety assessments and only conduct animal testing where there is no accepted or validated non-animal method available.

We comply with conflict minerals laws and regulations and our [Conflict Minerals Policy](#) outlines our approach to sourcing responsibly. We outline the risks and report due diligence actions taken to manage risks with our suppliers in our annual Conflict Minerals Report filed with the U.S. Securities and Exchange Commission.

GRI 102-17

Mechanisms for advice and concerns about ethics

We encourage employees to speak up if they have concerns about violations of Company policies or the law by reporting the issue to their supervisor or manager, human resources representative, or any member of the Legal or Compliance Department.

We also offer an independent whistleblower telephone helpline and website, which is available 24-hours a day and in multiple languages. It is operated by NAVEX (EthicsPoint), a company providing third-party reporting for many global companies. The whistleblower telephone helpline is available to all employees as well as any other stakeholder. LyondellBasell prohibits retaliation against people raising concerns and investigates any allegation that such retaliation has occurred.

In 2021, we received a total of 135 reports through EthicsPoint, of which 75% were submitted anonymously and 21% were substantiated. Concerns reported included discrimination (including harassment and retaliation), misconduct or inappropriate behavior, conflicts of interests and environmental protection, health or safety laws. Each report which alleges behavior that, if true, would constitute a violation of law or Company policy is fully investigated by Company lawyers and documented with a written report of the investigation, conclusion, and remedial action if any is warranted. During 2021, outcomes from reported cases resulted in, among other actions, 10 employee counseling sessions, 10 additional training sessions, two written warnings and five terminations. An overview of all investigated matters is presented to the Company's Audit Committee at its regular quarterly meetings. Reports involving the CEO or his direct reports, the General Auditor, or the CCO must be reported immediately to the Audit Committee for review and appropriate action. The Compliance Department also meets quarterly with the Human Resources, Internal Audit, and Global Security departments to discuss ongoing investigations and trends.

In June 2021, the U.S. Department of Labor ("DOL") ordered LyondellBasell to pay and reinstate a dismissed employee who made a whistleblower claim about accounting practices. We deny the allegations and dispute the DOL's conclusion. In addition, LyondellBasell disagrees that the allegations involve any potential or actual violations of the Sarbanes-Oxley Act. We are appealing the Order.

Governance

GRI 102-18

Governance structure

Our Board of Directors ("Board") leads our commitment to sustainability and maintains oversight of the Company's environmental, social and governance ("ESG") profile. At the management level, our CEO oversees our ESG profile through regular reporting from his leadership team, including our Sustainability Steering Committee. For more information on our governance structure, see our [2022 Proxy Statement, pages 27-33](#).

GRI 102-19

Delegating authority

For governance structure and delegating authority, see our [2022 Proxy Statement, pages 28-32](#).

GRI 102-20

Executive-level responsibility for economic, environmental and social topics

At the management level, our CEO oversees LyondellBasell's ESG profile through regular reporting and discussion on key topics and initiatives with his direct reports.

The Sustainability Steering Committee, a subset of the CEO's leadership team, met monthly throughout 2021 and serves to align and embed the sustainability strategy within our corporate strategy, including by assessing progress toward the Company's 2030 and 2050 sustainability goals. The Committee is chaired by the Senior Vice President of R&D, Technology and Sustainability, who also functions as our Chief Sustainability Officer ("CSO"), and its membership includes the heads of each business segment as well as our finance, legal, public affairs, and health, safety and environmental ("HSE") and safety functions.

The CSO is supported by a global group of employees, led by our Director, Global Sustainability, who is responsible for the management of sustainability programs. This group collaborates with leaders across the organization to bring together the functional expertise and skills needed to achieve our sustainability and ESG objectives.

Our Diversity, Equity and Inclusion (DEI) strategic efforts are overseen by the CEO's leadership team and directed by the Chief Talent & DEI Officer and a Leadership Council comprised of 17 senior leaders representing businesses, functions and regions across the globe.



GRI 102-21

Consulting stakeholders on economic, environmental and social topics

Our Board welcomes investor and stakeholder input on environmental, social, governance, executive compensation and other matters. See our [2022 Proxy Statement, page 21](#) for additional information. Stakeholder engagement and consultation is also delegated to business and functional group leaders and is outlined below in Stakeholder Engagement.

GRI 102-22

Composition of the Board and its committees

For composition of the Board, see our [2022 Proxy Statement, page 27](#). Board structure can be found on [page 29](#). For committee information, see [pages 31-34](#).

GRI 102-23

Chair of the highest governance body

Our Board is led by an independent Chair. For information on our Board structure, see our [2022 Proxy Statement, page 19](#).

GRI 102-24

Nominating and selecting the highest governance body

For information on our Board process and 2022 Nominees to the Board, see our [2022 Proxy Statement, page 10](#).

GRI 102-25

Conflicts of interest

The Company has a Related Party Transaction Approval Policy that requires Audit Committee approval of certain transactions between the Company and related parties. In reviewing each transaction, the Audit Committee considers, among other factors, whether the terms of the transaction are fair to the Company and whether the transaction would present an improper conflict of interest for any director or executive officer of the Company. During 2021, all transactions requiring approval under the Policy were reviewed and approved by the Committee. The Company also has a Conflicts of Interest Policy that governs the approval process for relationships of officers, directors and employees, that might conflict, or appear to conflict with the best interests of the Company.

For more information on Related Party Transactions, see our [2022 Proxy Statement, page 35](#).

GRI 102-26

Role of highest governance body in setting purpose, values and strategy

Our Board is responsible for overseeing the overall course of our business and achievement of our strategy. Each year, the Company's management team develops both an annual financial operating plan and a multi-year strategic business plan, each of which is reviewed by the Board. Members of the Board are updated regularly by our management regarding the Company's progress in achieving its financial and strategic goals.

GRI 102-27

Collective knowledge of highest governance body

Information about our Board's experience and expertise can be found in our [2022 Proxy Statement, page 11](#).

GRI 102-28

Evaluating the highest governance body's performance

Information about our Board's annual self-assessment process can be found in our [2022 Proxy Statement, pages 20](#).

GRI 102-29

Identifying and managing economic, environmental and social impacts

Information on our Enterprise Risk Management ("ERM") organization can be found in our [2022 Proxy Statement, page 26](#).

GRI 102-30

Effectiveness of risk management processes

Information on our ERM organization, the Board's oversight of risk, and the effectiveness of risk management can be found in our [2022 Proxy Statement, page 26](#). In addition, the Company's Compliance Department regularly undertakes comprehensive risk assessments related to its primary areas of responsibility (anti-bribery and corruption; antitrust/competition law; and international trade/sanctions) and publishes the results to the Audit Committee and other relevant stakeholders. Risk assessments are conducted every two to three years to evaluate the external and internal risks that could impact the Company's compliance program, as well as outline the processes implemented to mitigate those risks. Risks are reviewed and categorized on an ongoing basis, and related compliance policies, procedures and guidelines are adjusted as necessary.



GRI 102-31

Review of economic, environmental and social topics

The results of risk management processes and updates on material risks, including those related to ESG matters, are reported to the Board and its committees on a regular basis. The Audit Committee is responsible for ensuring that an effective risk assessment process is in place, and reports are made to the Audit Committee in accordance with NYSE requirements.

GRI 102-32

Highest governance body's role in sustainability reporting

The Health, Safety, Environmental & Sustainability ("HSE&S") Committee of the Board reviews and approves our Sustainability Report annually. In 2021, the Committee changed its name from the Health, Safety, Environmental & Operations Committee to the Health, Safety, Environmental & Sustainability Committee, in recognition of its increased focus on sustainability issues and programs.

GRI 102-33

Communicating critical concerns

Shareholders and other interested parties may communicate with the Board or any individual director. Communications should be addressed to our Corporate Secretary at corporatesecretary@lyondellbasell.com or by mail:

LyondellBasell Industries, 4th Floor, One Vine Street, London W1J 0AH, United Kingdom.

GRI 102-34

Nature and total number of critical concerns

No disclosure due to confidential nature of this information.

GRI 102-35

Remuneration policies for the Board and senior executives

Information on director and executive compensation can be found in our [2022 Proxy Statement](#), pages 36, 44.

GRI 102-36

Process for determining remuneration

Information on director and executive compensation can be found in our [2022 Proxy Statement](#), pages 36, 44.

GRI 102-37

Stakeholders' involvement in remuneration

Information regarding our annual say-on-pay and shareholder outreach can be found in our [2022 Proxy Statement](#), page 48.

GRI 102-38

Annual total compensation ratio

Information on the annual total compensation of the global median employee and compensation of our CEO can be found in our [2022 Proxy Statement](#), page 60.

GRI 102-39

Percent increase in annual total compensation ratio

Information on the annual total compensation of the global median employee and compensation of our CEO, can be found in our [2022 Proxy Statement](#), page 60 and our [2021 Proxy Statement](#), page 70.

Stakeholder Engagement

GRI 102-40

List of stakeholder groups

We engage with a broad range of stakeholders

- | Customers
- | Community
- | Employees
- | Government and regulators



- | Industry associations
- | Investors and shareholders
- | Non-governmental organizations ("NGOs")
- | Suppliers

GRI 102-41

Collective bargaining agreements

As of December 31, 2021, approximately 11% of our employees in the U.S. were subject to collective bargaining agreements. Most of our employees in Europe and Latin America/Mexico, and some of our employees in Asia Pacific are subject to collective bargaining agreements.

GRI 102-42

Identifying and selecting stakeholders

Identifying and selecting stakeholders is based on an evaluation of those that impact or are impacted by our business.

GRI 102-43

Approach to stakeholder engagement

Our success depends on building relationships with our stakeholders. We engage with employees and external stakeholders through formal and informal channels to build trust and understanding. Through the exchange of information and collaboration on common goals, we aim to be a responsible, good neighbor in the communities where we operate and contribute to the betterment of society.

The following provides an overview of our engagement with key stakeholders. Progress made in our sustainability activities can be found in Stories of Progress and related GRI/SASB disclosures in this report.

Customers

We regularly speak with customers to improve our products, respond to their needs and support sustainability commitments along the value chain. Customer surveys help us find ways to improve our products and customer service. Our sales representatives and technical experts work closely with customers to address concerns and provide product stewardship information. Customers regularly visit our manufacturing sites to review our operations and observe our compliance with international standards, such as ISO and International Automotive Task Force (IATF), and applicable laws and regulations.



Employees

Feedback from our employees informs many of the decisions made at LyondellBasell. We seek and receive input from our employees in many ways, including through the MyVoice biennial employee engagement survey.

Our most recent survey was conducted in 2020 and 68% of employees responded to the survey. Of those responding:

- | 84% feel proud to work for LyondellBasell
- | 76% are excited about the Company's future
- | 82% would recommend LyondellBasell as a good place to work

The MyVoice employee engagement survey will be conducted again in 2022.

Employee-wide communications include regular news updates on our intranet site and a weekly global employee newsletter, quarterly newsletters at the major manufacturing sites, social media updates and access to an employee mobile app. We continue to have a special intranet site dedicated to COVID-19 topics to ensure employees have easy access to valuable information, including key local statistics, governmental requirements, vaccination information and Company protocols. Senior leaders regularly update and communicate with employees online, including through virtual town hall events.

We also have an Employee & Labor Relations group within Human Resources that is well positioned to receive employee feedback or concerns. And, in addition to contacting management or Human Resources (either their Business Partners or Employee & Labor Relations), employees can anonymously report concerns at any time through EthicsPoint, our third-party ethics helpline.

Government and regulators

We communicate with government, legislative and regulatory officials through issue-specific meetings, industry events and visits to our sites. We respond to public consultations to provide input and share expertise on future legislation or regulation.

Industry associations

We collaborate with industry and value chain partners to advance sustainable solutions. We belong to more than 170 industry associations worldwide, most of which are in the U.S. and Europe. Senior executives and more than 400 employees participate in industry association boards, committees and working groups.

Investors and shareholders

We directly communicate our ESG progress with investors on a regular basis. We also provide periodic updates on our progress through investor conferences, Investor Day events, our website and quarterly earnings communications.

Local communities

We regularly meet with community members where we operate to share information about the Company and listen to concerns, and we hold site tours for a variety of community leaders, elected officials and the public. At some of our manufacturing sites in the U.S., we engage through formal Community Advisory Panels ("CAPs"). CAPs are comprised of local residents who represent a cross-section of the community, including those living in neighborhoods near our sites and facilities, industry peers, local academia and healthcare, business and civic leaders.

Through our global corporate citizenship program Advancing Good, we invest in charitable organizations supporting three key focus areas: Advancing Our Communities, Advancing Our Planet, and Advancing Tomorrow's Workforce. In 2021, we held our 22nd annual Global Care Day, a company-wide day of service for employees and their families. Since 2018, LyondellBasell employees have spent more than 43,000 hours enriching their communities during Global Care Day. More information about our community investments can be found in [GRI 413-1, page 84](#).

Non-governmental organizations

We regularly engage with NGOs. These engagements take place through one-on-one discussions with senior leaders, as well as through coalitions that bring together stakeholders on sustainability topics that we advance.

Suppliers

At our manufacturing sites, we regularly engage with our suppliers to achieve our GoalZERO ambitions, with a particular focus on people, product and process safety. For example, we hold annual contractor HSE forums where our CEO participates.

We also respond to supplier ESG surveys and make our EcoVadis scorecard available. For more information on EcoVadis see [GRI 308-1, page 71](#).



GRI 102-44

Key topics and concerns raised

The chart below captures the top ESG issues raised by stakeholders including key conclusions of surveys.

Stakeholder Group	Top ESG Issues
Customers	<ul style="list-style-type: none"> • Business continuity during COVID-19 • Circular economy, circular design and recycled content • Convenience for shoppers • Digitalization • Healthy, safe and sustainable products • Life cycle assessments, greenhouse gas ("GHG") footprint and environmental externalities • Plastic waste • Renewable feedstocks • Sustainable packaging solutions
Employees	<p>Our 2020 employee survey pointed to the need for a more focused approach to DEI and greater workplace flexibility. Since the 2020 survey, the Company has accelerated its DEI strategy and adopted a global remote work policy. For more information on our DEI strategy, see page 80 of this report. Employee benefits such as remote work can be found in GRI 401-2, page 74.</p> <p>Additional topics identified through other employee engagement activities:</p> <ul style="list-style-type: none"> • COVID-19 precautions • Energy consumption • Health and safety • Project announcements • Recruiting • Recycling • Single-use plastic and plastic waste • State of the business • Water use

Stakeholder Group	Top ESG Issues
Investors and Shareholders	<ul style="list-style-type: none"> • Circular economy • Climate risk disclosures and Task Force for Climate-Related Financial Disclosures ("TCFD") • Corporate governance and Board structure • Energy efficiency • Executive compensation • GHG commitments and science-based targets • Plastic waste • Renewable energy • Rising energy costs • Single-use plastics • Supply chain disruptions related to COVID-19
Local Communities (CAPs)	<ul style="list-style-type: none"> • Emergency management • Emissions • Plastic waste and the Alliance to End Plastic Waste • Safety • Water quality • Workforce development and apprenticeships
NGOs	<ul style="list-style-type: none"> • Biodiversity • Circularity and plastic waste • Community support in response to the COVID-19 • Climate and GHG emissions reduction commitments and science-based targets • Climate justice • Opportunities for underrepresented groups • Public policy engagement

Reporting Practice

GRI 102-45

Entities included in financial statements

For a listing of our consolidated subsidiaries and joint ventures included in our financial statements, see our [2021 Form 10-K, Exhibit 21](#).

GRI 102-46

Defining report content and topic boundaries

In this report we describe our approach to sustainability, and how we are developing products and solutions for a future with less plastic waste and fewer GHG emissions, protecting and investing in our people, managing our environmental footprint and demonstrating our commitment to being a responsible, good neighbor in the communities where we operate.

The environmental, safety and employee data in this report relates to global operations at our majority-owned or operated manufacturing sites, pipelines and large offices for 2021, unless stated otherwise. Assets that are acquired or divested will be accounted for in our base year GHG emissions in accordance with the Greenhouse Gas Protocol. The narrative may include our non-operated joint ventures. Financial data includes our joint ventures to the extent appropriate under Generally Accepted Accounting Principles in the U.S. We report on our sustainability performance annually. Prior sustainability reports can be found on our website at www.lyondellbasell.com/sustainability.

GRI 102-47

Material aspects included

We conducted our first materiality assessment in 2018, evaluating input from leaders across the Company to identify the sustainability issues of significance to our stakeholders, business and value chain.

In January 2021, we refreshed our materiality assessment using Datamaran, a business analytics tool that identifies and monitors ESG external risks. In conducting this assessment, we considered double materiality, which means the materiality of risks and opportunities that influence our financial performance and long-term enterprise value, as well as our impact on the economy, environment and society.

The chart that follows sets out our identified significant ESG risks and opportunities, classified by high, medium and low impact.

High	Medium	Low
Business ethics & compliance	Critical incident risk management	Biodiversity & land
Circular economy & sustainable solutions	Data security	Community development
Clean air	Energy	Customer privacy
Climate change	Effluents & waste	Employee rights
Finding & nurturing talent	Fair & inclusive workplace	Employee wellbeing
Health & safety	Human rights	Governance structures & mechanisms
Plastic waste in the environment	Innovation & technology	Responsible investment
Product responsibility	Responsible business practices	Responsible marketing & sales
	Transparency	Socioeconomic value creation
	Water pollution	Sustainable procurement
		Water use



GRI 102-48

Restatement of information

Our materiality assessment in the 2020 Sustainability Report incorrectly stated the impact of data security as high rather than medium.

GRI 102-49

Changes in reporting

In accordance with the GHG Protocol, our baseline year emissions data is adjusted to account for divestments and acquisitions. Beginning with this 2021 Sustainability Report, our 2020 data includes the Louisiana Integrated Polyethylene Joint Venture facility in Lake Charles, Louisiana (the “Louisiana joint venture”). In December 2020, LyondellBasell formed this joint venture with Sasol, acquiring a 50% equity interest in the 1.5 million metric ton ethane cracker, 0.9 million metric ton low and linear-low density PE plants and associated infrastructure. We operate the joint venture assets and market the polyethylene offtake for all partners through our global sales team.

Process safety data for 2021 was calculated using API RP 754 3rd Edition published August 2021. This update includes the reclassification of materials, clarification of definitions, expansion of data collection capabilities and other key changes. Previous years were not recalculated using this methodology.

The Company is committed to continuous improvement in its reporting and strives to utilize applicable calculation methodologies and emissions factors that represent evolving expert analysis, information and assessment. Refinements that have been made to our scope 1 and scope 2 GHG emissions calculation methodologies and emissions factors in 2021 are also applied to our baseline year data to reflect these approaches.

GRI 102-50

Reporting period

Disclosures are based on the 2021 calendar year. Narrative may include relevant activities that took place during the 2022 calendar year.

GRI 102-51

Date of most recent report

Our last report was released in June 2021.

GRI 102-52

Reporting cycle

We report annually on our ESG policies, progress and performance.

GRI 102-53

Report contact

More information can be found at www.lyondellbasell.com/sustainability or you may contact us by email at sustainability@lyondellbasell.com.

GRI 102-54

Claims of reporting in accordance with the GRI Standards

This report has been prepared in accordance with the GRI Standards: Core option.

GRI 102-55

GRI content index

- | For our GRI Content Index, see [page 89](#) of this report.
- | For our SASB Standard: Resource Transformation – Chemicals, see [page 95](#) of this report.
- | For our UNGC Communication on Progress, see [page 97](#) of this report.

GRI 102-56

External assurance

Our Scope 1 GHG emissions for sites operating under the European Union Emissions Trading System (EU ETS) are externally assured. Our 2021 Sustainability Report is not externally assured. We are developing our approach to assurance in consultation with an auditing firm.



Economic

GRI 201-1

Direct economic value generated and distributed

Highlights of Consolidated Financial Statements

2021 Financials (\$ in millions)

	2019	2020	2021
Sales and other operating revenues	\$34,727	\$27,753	\$46,173
Operating income	\$4,116	\$1,559	\$6,773
Net income	\$3,397	\$1,427	\$5,617
Diluted weighted average share count (millions)	353	334	334
Diluted EPS (\$/share)	\$9.58	\$4.24	\$16.75
Diluted EPS excluding LCM and impairment (\$/share)	\$9.65	\$5.61	\$18.19
EBITDA	\$5,692	\$3,285	\$8,689
EBITDA excluding LCM and impairment	\$5,725	\$3,883	\$9,313
Cash flow from operating activities	\$4,961	\$3,404	\$7,695
Capital expenditures	\$2,694	\$1,947	\$1,959

2021 Sales by Region

U.S./Canada	50%
Europe	32%
Latin America (including Mexico)	5%
Rest of the World	13%

2021 EBITDA by Segment (\$ in millions)

O&P Americas	\$5,273
O&P EAI	\$1,749
I&D	\$1,378
APS	\$409
Refining	(\$624)
Technology	\$514
Other	(\$10)

For information about our financial performance, see our 2021 Form 10-K.

INFORMATION RELATED TO FINANCIAL MEASURES – This report makes reference to certain “non-GAAP” financial measures as defined in Regulation G of the U.S. Securities Exchange Act of 1934, as amended. We report our financial results in accordance with U.S. generally accepted accounting principles, but believe that certain non-GAAP financial measures, such as EBITDA and diluted EPS exclusive of adjustment for “lower of cost or market” (“LCM”) and impairment provide useful supplemental information to investors regarding the underlying business trends and performance of the company’s ongoing operations and are useful for period over-period comparisons of such operations. Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, or superior to, the financial measures prepared in accordance with GAAP.

We calculate EBITDA as income from continuing operations plus interest expense (net), provision for (benefit from) income taxes, and depreciation & amortization. EBITDA should not be considered an alternative to profit or operating profit for any period as an indicator of our performance, or as an alternative to operating cash flows as a measure of our liquidity. We also present EBITDA and diluted EPS exclusive of adjustments for lower of cost or market (“LCM”) and impairment. LCM is an accounting rule consistent with GAAP related to the valuation of inventory. Our inventories are stated at the lower of cost or market. Cost is determined using the last-in, first-out (“LIFO”) inventory valuation methodology, which means that the most recently incurred costs are charged to cost of sales and inventories are valued at the earliest acquisition costs. Fluctuation in the prices of crude oil, natural gas and correlated products from period to period may result in the recognition of charges to adjust the value of inventory to the lower of cost or market in periods of falling prices and the reversal of those charges in subsequent interim periods, within the same fiscal year as the charge, as market prices recover. Property, plant and equipment are recorded at historical costs. If it is determined that an asset or asset group’s undiscounted future cash flows will not be sufficient to recover the carrying amount, an impairment charge is recognized to write the asset down to its estimated fair value.

These measures as presented herein, may not be comparable to similarly titled measures reported by other companies due to differences in the way the measures are calculated.

Reconciliation of Net Income to EBITDA, including and excluding LCM and impairment
(\$ in millions)

	2019	2020	2021
Net income	\$3,397	\$1,427	\$5,617
Loss from discontinued operations, net of tax	\$7	\$2	\$6
Income from continuing operations	\$3,404	\$1,429	\$5,623
Provision for (benefit from) income taxes	\$648	(\$43)	\$1,163
Depreciation and amortization	\$1,312	\$1,385	\$1,393
Interest expense, net	\$328	\$514	\$510
add: LCM charges, pre-tax	\$33	\$16	\$0
add: Impairments, pre-tax	\$0	\$582	\$624
EBITDA excluding LCM and impairment	\$5,725	\$3,883	\$9,313
less: LCM charges, pre-tax	(\$33)	(\$16)	\$0
less: Impairments, pre-tax	\$0	(\$582)	(\$624)
EBITDA	\$5,692	\$3,285	\$8,689

Reconciliation of Diluted EPS to Diluted EPS excluding LCM and impairment (\$/share)

	2019	2020	2021
Diluted EPS	\$9.58	\$4.24	\$16.75
add: LCM charges	\$0.07	\$0.03	\$0
add: Impairments	\$0	\$1.34	\$1.44
Diluted EPS excluding LCM and impairment	\$9.65	\$5.61	\$18.19

GRI 201-2

Financial implications and other risks and opportunities due to climate change

While capital expenditures or operating costs for environmental compliance, including compliance with potential legislation and potential regulation related to climate change, cannot be predicted with certainty, we do not believe they will have a material effect on our competitive position in the near term.

While there can be no assurance that physical impacts to our facilities and supply chain due to climate change will not occur in the future, we do not believe these impacts are material in the near term.

In 2021, we expanded our climate risk and opportunity assessment and disclosure in our first TCFD index. TCFD provides a framework to further strengthen governance, create strategy, assess risk, and establish metrics that guide our efforts as we integrate sustainability into our business strategy.

For more information on our climate-related risks, see our [2021 Form 10-K, pages 28-30](#). Our 2021 TCFD index and CDP Climate Change response are posted on our website.

GRI 201-3

Defined benefit plan obligations and other retirement plans

We have defined benefit pension plans that cover employees in the U.S. and various other countries. We also sponsor post-retirement benefit plans other than pensions that provide medical benefits to certain of our U.S., Canadian and French employees. In addition, we provide other post-employment benefits, such as early retirement and deferred compensation severance benefits to employees of certain non-U.S. countries.

As of December 31, 2021, the projected benefit obligation for our pension plans exceeded the fair value of plan assets by \$1,015 million. Subject to future actuarial gains and losses, as well as future asset earnings, we, together with our consolidated subsidiaries, will be required to fund the discounted obligation of \$1,015 million in future years. We contributed \$218 million and \$74 million to our pension plans in 2021 and 2020, respectively. We pay other unfunded postretirement benefits as incurred.

We estimate a contribution of \$69 million to our pension plans in 2022.

For more information on our pension and other post-retirement benefits see our [2021 Form 10-K, pages 102-113](#).



Anti-Corruption

Management approach

LyondellBasell places the highest value on integrity and ethical conduct. We view compliance with all applicable laws as the responsibility of all employees and others with whom we do business.

Our [Anti-Corruption Policy](#) makes clear our commitment to detecting and preventing corruption by our employees and those acting on our behalf.

GRI 205-1

Operations assessed for risks related to corruption

We utilize the Transparency International Corruption Perceptions Index, the Resource Guide to the Foreign Corrupt Practices Act published by the U.S. Department of Justice and the Securities and Exchange Commission, the United Kingdom ("U.K.") Bribery Act Guidance, various guidance provided in the U.S. Department of Justice settlement documents, and Evaluation of Corporate Compliance Programs published by the U.S. Department of Justice Criminal Division to assess risks related to corruption in the countries in which we operate.

We periodically conduct internal and external audits of the books and records of our subsidiaries, joint ventures, and affiliates to ensure compliance with the anti-corruption, anti-bribery, and commercial bribery laws.

LyondellBasell has an established due diligence policy for certain third party relationships including joint venture partners, international representatives, distributors, resellers/traders and technology licensing projects. Corresponding due diligence or risk mitigation procedures based on the type of service provided and risk footprint. As an example, international sales representatives ("ISRs") or agents must follow an appointment procedure that assures the ISR is aware of the Company's Anti-Corruption Policy and agrees to contractually abide with the policy while acting on LyondellBasell's behalf, and each ISR is required to complete a due diligence process that is updated periodically.

GRI 205-2

Communications and training on anti-corruption

In addition to the ethics and compliance training all employees are required to complete annually, which addresses anti-corruption policies and procedures, the Company also provides tailored anti-corruption training to approximately 3,500 employees each year, including all executive, management and selected additional employees depending on relevant job functions. The training is available in 12 languages and annual completion rates have historically been 100%. Additionally, the Compliance Department delivers quarterly, web-based awareness videos to selected employees on a variety of topics including conflicts of interests, bribery and corruption, and gifts and entertainment.

For certain of our joint ventures identified as higher risk, the Company works to maintain an ongoing dialogue regarding compliance with anti-corruption laws and has provided targeted informational training to joint venture employees on best practices for compliance, as well as LyondellBasell policies and procedures.

Anti-Competitive Behavior

Management approach

LyondellBasell must avoid any agreements with other companies that limit competition between them. This policy applies to all persons and entities acting for or on behalf of LyondellBasell, including but not limited to our employees. For more information, see our [Antitrust/Competition Law Policy](#).

In addition to the Code of Conduct training received by all employees each year, the LyondellBasell Compliance Department conducts annual antitrust/competition law training for approximately 1,300 employees selected based on their role within the Company and potential antitrust risks related to their function, with completion rates near 100%. The training is available in 12 languages and covers key concepts such as the need to avoid the improper exchange of commercially sensitive information with competitors, and antitrust/competition law offenses, such as price fixing and market allocation. The Compliance Department's standard annual live compliance training program, for new and existing employees, also includes modules dedicated to antitrust/competition law compliance, and additional, specialized live trainings are provided from time to time to address specific antitrust risks.

GRI 206-1

Anti-competitive behavior

In 2021, LyondellBasell had no legal actions pending or completed regarding anti-competitive behavior, violations of antitrust, or monopoly legislation in which the Company was identified as a participant.

Tax

GRI 207-1

Approach to tax

Our parent company, LyondellBasell Industries N.V. is tax resident in the U.K. and subject to the U.K. tax system. However, LyondellBasell Industries N.V. has relatively minor tax obligations of its own because, as a holding company, it does not conduct any operations. Through our subsidiaries, we have substantial operations world-wide. Income taxes are paid on the earnings generated in various jurisdictions where our subsidiaries operate, notably in the U.S., The Netherlands, Germany, France, and



Italy where we have significant operations. Similarly other tax obligations are primarily incurred and paid in the countries in which we operate.

We are committed to observing all applicable laws, rules, regulations, reporting and disclosure requirements as a result of our business presence and transactions and acting with integrity with respect to all tax matters including our interactions with governments and taxing authorities. In order to meet these commitments, we recognize the importance of effective tax governance and have adopted a framework of processes and controls to effectively manage our tax obligations, as discussed further below.

We structure our tax activities to control tax costs and seek tax efficiency in accordance with the laws, respecting the laws' intended purpose and recognizing the laws do allow for appropriate tax relief. We work with our internal stakeholders to provide clear, timely, relevant and business focused tax advice. Tax strategy and related actions are reviewed on an ongoing basis by the Chief Financial Officer ("CFO"), Vice President Tax, and other senior personnel. Significant tax actions and recommendations are reviewed by the Board, or a committee thereof, including the Audit Committee, as appropriate.

Our [2021 U.K. Tax Strategy](#) is available on our website.

GRI 207-2

Tax governance, control, and risk management

We are committed to filing timely and accurate tax returns and disclosures that reflect our financial obligations to the jurisdictions in which we do business and we pay our tax obligations on a timely basis, both of which require adequate tax governance.

Tax governance is part of the Company's finance function and is ultimately the responsibility of the CFO supported by the Vice President Tax and their direct and indirect reports. The Board, or committees thereof, is regularly informed of any notable tax matters including tax risks, effective tax rate and matters that could materially impact the Company's financial statements.

Effective tax governance at LyondellBasell includes maintaining appropriate processes, procedures, documentation, and controls with respect to tax compliance and reporting, tax planning and tax advice, tax audits and dispute resolution, and ensuring that senior personnel with the appropriate skill and experience are involved in key tax decisions. We employ professional care and judgment and supplement our expertise by seeking out advice from reputable external advisors, as appropriate, to have reasonable certainty in tax positions we adopt, and to appropriately assess tax risks and ensure our compliance with applicable laws, rules, regulations, and reporting and disclosure requirements. We monitor global legislative changes and other external trends that could impact our reporting requirements, processes and control environment.

We have established a transfer pricing policy for cross-border intra-group transactions requiring them to be conducted and priced on an arm's-length basis with appropriate and timely supporting documentation. Further, we have an established policy to require intercompany financial transactions and corporate restructurings, including those that are tax planning related, to obtain prior approval of the CFO, CLO or their designees.

Our Code of Conduct embodies our dedication to conducting business ethically and responsibly and to complying with applicable laws and regulations. Employees can report concerns about violations of Company policies or the law by reporting the issue to their supervisor or manager, human resources representative, or any member of the Legal or Compliance Department. We also offer an independent whistleblower telephone helpline and website operated by EthicsPoint, which is available 24-hours a day and in multiple languages.

GRI 207-3

Stakeholder engagement and management of concerns related to tax

We seek to maintain open and cooperative working relationships with the taxing bodies in the jurisdictions in which we operate, provide timely responses to inquiries, and resolve issues in a timely manner. In addition, we aim to constructively and proactively resolve disputes where our views on the appropriate tax treatment may differ from the tax authorities and judiciously pursue litigation where other administrative means are not effective.

We advocate directly, as appropriate, and through industry associations for balanced, stable and predictable tax policy that supports our economic interests and tax strategy tenets, allowing us to remain globally competitive while appropriately supporting the economic development of the communities where we operate. These activities are governed by our approach to [Public Policy and Political Engagement](#).

We pursue available tax incentives, including research and development related incentives, tax deductions, credits, abatements and similar when evaluating project economics with respect to business initiatives, which help to finance our capital expansion projects and other initiatives. Our projects and resulting business activities provide jobs for our neighbors, support local businesses and strengthen our communities with increased tax revenues across the region.

We provide informative and balanced disclosure in communicating our tax affairs to our customers, investors and the general public. For more information on income taxes, see our [2021 Form 10K, page 116](#).



Environmental

Management approach

Our HSE and Security Policy guides our approach to environmental management. We are committed to the principles and requirements of Responsible Care® and ISO14001, and to complying with all applicable laws and the terms of our permits. Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This commitment extends not only to our employees, but also to contractors and suppliers performing work at our sites.

We continuously work to reduce emissions, waste generation, and the consumption of energy, raw materials, water and other natural resources, and we support pollution prevention, a circular economy, and addressing climate change. We promote a comprehensive approach to chemical management and sustainability in all aspects of our products' life cycles, including design, manufacturing, distribution, use, recycle and disposal activities.

Because our business is dynamic and subject to change based on production volumes, feedstocks and other business factors, our environmental metrics are reported in absolute (total) and intensity (rate per metric ton of product) terms to more clearly reflect our performance.

GRI 301-1 Materials used by weight or volume

Non-renewable materials

We produce ethylene and propylene at our olefins plants. The primary raw materials used in our Americas olefin facilities are natural gas liquids or NGLs (ethane, propane and butane) and heavy liquids. Heavy liquids include crude oil-based naphtha and other refined products, as well as condensate, a very light crude oil resulting from natural gas production. The primary raw material used in our European olefin facilities is naphtha; however, we also use liquified petroleum gases or LPGs (propane, butane and heavier hydrocarbons), condensates and other advantaged feedstocks.

We use ethylene and propylene to make a variety of chemical products and derivatives, including polymers such as PE and PP, and intermediates and derivatives such as PO. We also convert PP into PP compounds.

Propylene, isobutane or mixed butane, ethylene and benzene are the primary raw materials used in the production of PO and its co-products. A co-product of our PO production is tertiary butyl alcohol (TBA) which is used to manufacture methyl tertiary butyl ether (MTBE) and ethyl tertiary butyl ether (ETBE), also called oxyfuels. Both are used as high-octane gasoline components that help gasoline burn cleaner and reduce automobile emissions. Our ETBE is partly made from renewable feedstocks and

we are evaluating and testing additional renewable feedstocks for oxyfuel production. We consume a significant portion of our internally-produced PO in the production of PO derivatives.

The principal materials used in the production of our compounding and solutions products are PP, PE, polystyrene, nylon and titanium dioxide. The principal raw materials used in the production of our advanced polymers are ethylene, propylene and butene-1.

We operate one refinery, located in Houston, Texas. It is a full conversion refinery designed to refine heavy, high-sulfur crude oil. U.S. production is predominantly light sweet crude and much of the heavy crude has generally been imported from Canada, Mexico and other global producers. We are currently weighing strategic options for our refining segment, including a potential sale of our Houston refinery. Any strategic option pursued for the Houston refinery remains subject to the approval of our Board and, assuming such approval is obtained, may require certain regulatory approvals or other closing conditions.

Recycled and renewable-based materials

In 2020, we announced our goal to produce and market two million metric tons of recycled and renewable-based polymers annually by 2030. In 2021, we launched our *Circulen* family of products that support a low-carbon, circular economy and meet the growing market demand for circular and sustainable solutions.

*Circulen*Recover products are made from plastic waste through a mechanical recycling process. This type of recycling upgrades plastic waste into usable materials through the process of sorting, washing, grinding, and compounding. The resulting plastic pellets can be used on their own to make new products, or blended or compounded with virgin plastic resin.

LyondellBasell and SUEZ are joint venture partners in Quality Circular Polymers ("QCP"), an industry-leading mechanical recycling company with a production capacity of 55,000 metric tons per year. The QCP site in Geleen, The Netherlands, produces high-quality polymers from post-consumer plastic waste. Both pre-consumer and post-consumer waste are processed at the Blandain, Belgium, site.

The recycled content in *Circulen*Recover products can be tailored to meet our customers' specifications, from a minimum of 10%, with many applications containing up to 100%. Our ambition is to increase the minimum content over time based on feedstock availability and quality, and improvements in design technology.

In 2021, we completed the first commercial production of *Circulen*Recover made from a blend of recycled and virgin content at our Carrington, U.K., site.

Our APS segment utilizes pre-consumer and post-consumer recycled raw materials. These raw materials include various recycled polymers such as PE, polyamides, polycarbonates, polystyrene and polyethylene terephthalate (PET) that are incorporated into several product offerings.

*Circulen*Revive¹ polymers are made using an advanced recycling process to convert plastic waste back to its molecular level, which is then used as a feedstock in our conventional production processes to produce new polymers. A variety of plastics can be recycled using this process including pre-consumer

¹ Recycled content is based on an ISCC PLUS-certified mass balance approach

waste and hard-to-recycle plastics such as mixed materials, composites, multilayer and flexible plastics. The advanced recycled feedstock for this product offering is International Sustainability and Carbon Certification (ISCC) PLUS certified and currently purchased from a third party as we work to develop our MoReTec technology.

MoReTec is our proprietary advanced recycling technology that uses a catalyst in the pyrolysis process to improve the breakdown of plastic waste. At our MoReTec pilot plant in Ferrara, Italy, we are working to understand the interaction of various waste types in the advanced recycling process and optimize catalysis and operating conditions needed to decompose the plastic waste into molecules. We aim to deploy our MoReTec technology at commercial scale in the second half of the decade.

Our CirculenRenew¹ polymers are made from renewable-based feedstocks derived from bio-based wastes and residual oils, such as used cooking oils. We acquire this feedstock from ISCC PLUS certified renewable-based sources. These waste feedstocks are used in our conventional production processes and offer a lower carbon footprint compared to feedstock from fossil-based resources.

Our APS segment utilizes bio-based content in polymers such as PE and polylactic acid, as well as additives with bio-based content.

Both our advanced recycled and renewable-based polymers can be used in highly-regulated applications such as food packaging, healthcare, automotive components and household appliance parts.

ISCC PLUS Certification

In 2021, the crackers at our sites in Wesseling, Germany, and Channelview, Texas, and our polymer sites in Europe and in LaPorte, Texas; Lake Charles, Louisiana; and Clinton, Iowa obtained ISCC Plus Certification. As a result of this certification, LyondellBasell offers mass balance certificates for its advanced recycled and renewable-based Circulen polymers. The ISCC PLUS certification is well-recognized for its global certification of recycled and renewable-based materials and provides traceability along the supply chain. With the mass balance method, we track how much advanced recycled and renewable-based source material goes into the production process and we can attribute it to the final Circulen polymer via a Sustainability Declaration.

In addition to the ISCC PLUS certification, LyondellBasell also offers a Carbon-14 analysis for certain products. Carbon-14 analysis is a reliable method to determine the percentage of renewable content in a physical product.

Life Cycle Assessments

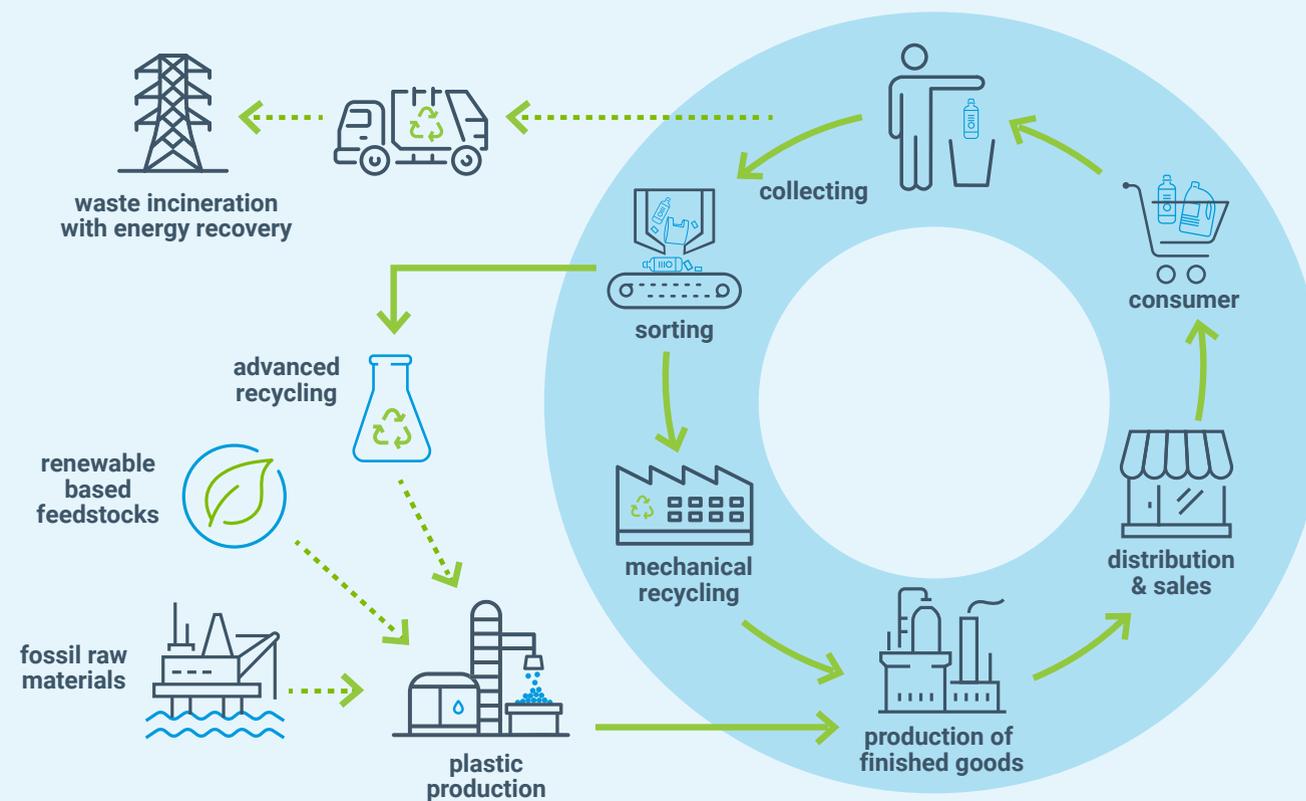
An ISO compliant and peer-reviewed Life Cycle Assessment ("LCA") study demonstrated significant CO₂ emissions savings from the production of our CirculenRenew products (LDPE, HDPE and PP) made from renewable-based feedstocks derived from bio-based wastes and residual oils. CirculenRenew PP has a cradle-to-gate carbon footprint of -1.99 tons of CO₂ equivalent (CO₂e) per ton of PP, at least 210%

¹ Renewable-based content is based on an ISCC PLUS-certified mass balance approach

difference when compared with the cradle-to-gate carbon footprint of its fossil-based equivalent of 1.77 tons of CO₂e per ton of PP. Our HDPE and LDPE grades show similar results.

To support existing, publicly available studies that promote the environmental benefit of polymers made from plastic waste through mechanical and advanced recycling processes, LyondellBasell has started its own LCA effort to evaluate the environmental impact of its CirculenRecover and CirculenRevive polymers.

Pathways to circularity of plastics



Source: PlasticsEurope

We are helping to advance circularity and sustainability of plastics through three complementary pathways; **mechanical recycling, advanced recycling** and use of **renewable-based feedstocks**. These routes provide different value propositions to our customers by reusing and recycling plastic waste and lowering GHG emissions. Polymers made using these technologies are marketed under the Circulen brand.

Energy

Management approach

We strive to optimize energy use in our operations, reducing both our resource consumption and resulting GHG emissions in line with our climate goal and in compliance with legal requirements. We are deploying solutions at our most energy intensive manufacturing sites to reduce carbon emissions, including the use of lower carbon-intensive fuels, and process and energy optimization.

In 2021, we committed to a minimum of 50% of electricity procured from renewable sources as part of our pathway to an absolute reduction in scope 1 and scope 2 GHG emissions by 30% (relative to 2020 levels) by 2030. This goal is an interim step toward our ambition of achieving net zero GHG emissions from global operations under our control by 2050.¹

We are pursuing multiple opportunities to secure electricity generated by wind and solar through corporate power purchase agreements, with a particular focus in the U.S. and Europe where we have the majority of our manufacturing assets.

GRI 302-1

Energy consumption within the organization (Scopes 1 + 2)

GRI 302-3

Energy intensity

Energy use (million gigajoules)

	2020	2021
Total energy use	385	414
Energy intensity (Scopes 1 & 2) Gigajoules per metric ton of product	9.77	9.69

Our energy data encompasses manufacturing facilities, major pipelines and large regional offices.

GRI 302-4

Energy reductions

In 2021, we deployed eight different process optimization and other resource efficiency projects across our global operations that resulted in a reduction in energy use of 3.6 million gigajoules, along with an associated reduction of approximately 230,000 metric tons of GHG emissions.

¹ Our 2050 net zero goal includes scope 1 and 2 emissions. Please see our cautionary statement regarding forward-looking statements included on page 98 of this report.

Water

Management approach

Water is an essential resource for our operations. We use water both in operations (primarily cooling towers and steam production) and as potable water for drinking and sanitary use at our sites and offices. Our refinery and many of our manufacturing sites reuse water to reduce the amount of groundwater and freshwater withdrawn. For example, the majority of our large sites use recirculating water systems for cooling.

We manage water in accordance with permitted limits for discharge destination and water quality, and our Operational Excellence system supports ongoing compliance. Many of our larger sites operate their own wastewater treatment facilities, which allows for increased control over our water efficiency and quality of our discharges.

GRI 303-1

Water as a shared resource

More than half of the water we use comes from surface water and the remainder is split between groundwater and potable water. The source of water we use in operations varies by region. We use a small amount of potable water and source a small amount of recycled water from some industrial providers located close to our manufacturing sites. Some of our sites use sea water for cooling, while others draw water from freshwater sources, such as rivers, aquifers or local water supplies.

We recycle our supply of water, when possible, to limit the amount we draw from regional supplies.

GRI 303-3

Water withdrawal

Water stress refers to the ability, or lack thereof, to meet the human and ecological demand for water while considering water availability, water quality and water accessibility. In 2020, we conducted a baseline water stress assessment of our manufacturing sites using the WRI Aqueduct Water Risk Atlas tool. Sites were classified on a scale from low to extremely high water stressed based on several of the tool's indicators, including water quantity, quality and geographic location. In 2022, we applied the 3.0 version of the tool, with updated indicators and hydrological modeling.



According to the WRI Aqueduct Water Risk Atlas tool, the majority of our sites are classified as low water stress. Our sites located in extremely high or high water stressed areas of the world are PP compounding facilities. These sites use very little water relative to our olefin and PO/SM operations, which require comparatively larger amounts of water and are in low or medium water-stressed areas. Approximately 10% of our sites are in extremely high water stressed areas, representing less than 1% of our water consumption in 2021.

In 2021, we participated in a water stewardship program in the U.S. to better understand our local water bodies, impacts and opportunities. We were one of 12 companies that participated in a water body risk assessment pilot project facilitated by the American Chemistry Council and The Water Council. This process provided a view of shared water resources and explored our operational impact on nearby water bodies. We will continue to develop a water management strategy based on risk and water-stressed areas in 2022.

In the data tables that follow, increases in water withdrawal, discharge and consumption in 2021 are primarily due to the addition of the Louisiana joint venture.

Water withdrawal (million m³)

	2017	2018	2019	2020	2021
Total	232.0	243.8	253.4	282.1	293.1
Fresh surface water	98.8	107.7	104.6	129.3	144.9
Groundwater	26.4	26.4	26.9	23.2	24.3
Third-party water	9.1	9.7	23.6	29.5	54.0
Seawater/brackish water	73.3	73.3	73.2	73.0	68.7
Other water	24.4	26.7	25.1	27.1	1.2

In 2021, adjustments to reportable water withdrawal quantities were made to align with GRI 303 Water and Effluents 2018.

GRI 303-4

Water discharge

Water discharge (million m³)

	2017	2018	2019	2020	2021
Total	134.7	150.3	155.8	186.9	189.9
Fresh surface water	35.4	53.5	52.2	40.0	44.3
Groundwater	0	0	0.2	0.2	0.1
Offsite treatment	5.0	6.3	10.6	18.7	19.3
Seawater/brackish water	75.9	73.8	77.5	77.0	72.9
Other sources	18.4	16.7	15.3	51.0	53.3

GRI 303-5

Water consumption

Water consumption (million m³)

	2017	2018	2019	2020	2021
Total	97.3	93.5	97.6	95.20	103.1
of which are evaporative losses			72.8	75.1	80.5

GRI 304

Biodiversity

Management approach

Biodiversity is representative of not only species and habitat, but also serves as the foundation for numerous ecosystem services including air quality, climate, water use and land use change. We aim to define our approach to biodiversity and identify our direct and indirect impacts in 2022.



Emissions

Management approach

We recognize the urgency of climate change. That is why we aim to achieve net zero GHG emissions from global operations under our control by 2050 and set an interim goal to achieve an absolute reduction of 30% in scope 1 and scope 2 GHG emissions by 2030, relative to 2020 levels.

We believe stepping up our GHG reduction goals and developing a more comprehensive climate strategy also supports our overall business. These efforts are critical for us to remain a preferred supplier with customers, exceed investor expectations, support employee engagement, attract talent and be prepared for a changing regulatory environment.

We consider a commitment to net zero GHG emissions by 2050 and a credible pathway to 2030 as critical to the long term operation of LyondellBasell.

Climate governance structure

Our Board and its committees lead our commitment to sustainability and maintain oversight of our ESG profile, including on climate change issues.

Our CEO is the most senior individual with overall responsibility for our climate change strategy as part of our wider sustainability strategy. Our CSO reports directly to our CEO, and is accountable for the steering and monitoring of our climate change program at a senior level. Along with senior members of our Leadership team, our CSO sponsors different workstreams that form our climate program and support our strategic roadmap.

Climate roadmap

We structured our approach to achieving our interim and long-term targets through six separate workstreams led by teams comprised of experts from R&D, manufacturing, technology, process engineering, procurement, utilities, public affairs, risk management and sustainability:

Workstream	Mandate
Carbon reduction program	Deployment of best available techniques and commercially available technologies to achieve emission reductions at our olefin and I&D sites, which represent our most energy intensive sites
Renewable energy	Procurement of renewable energy through off-site power purchase agreements (PPAs), on-site renewables and off-site utility programs and certificates to decarbonize the electricity we consume on our sites and reduce our scope 2 GHG emissions
Low carbon technologies	Management of the development of low carbon technologies and production processes needed to reach a state of net zero GHG emissions in our global operations by 2050
Scope 3 program	Management of our value chain (scope 3) GHG emissions through the development of emission inventories, and participation in sectoral initiatives (e.g., through Together for Sustainability) to establish stakeholder engagement programs with a particular emphasis placed on the procurement of feedstocks and other raw materials
Climate risk management	Integration of climate risk management as a dedicated element of our enterprise risk management (“ERM”) framework, including embedding identified risks as part of our corporate business strategy
Climate positions	Support public policy principles and key climate topics that are material to our business for the purposes of advocacy and external stakeholder engagement



GRI 305-1

Direct GHG emissions (Scope 1)

GRI 305-2

Indirect GHG emissions (Scope 2)

GRI 305-4

GHG emissions intensity

GHG emissions (million metric tons)

	2020	2021
Scope 1 emissions	15.5	16.1
Scope 2 emissions	7.7	7.9
Total emissions	23.1	23.9
GHG intensity (metric tons of CO ₂ e per metric ton of product)	0.56	0.56

Scope 1: Direct emissions from sites operated by LyondellBasell

Scope 2: Indirect emissions from external electricity and steam suppliers

Our GHG emission accounting follows the principles of the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) ("The GHG Protocol"). LyondellBasell utilizes the GHG Protocol for all definitions, assumptions and calculations discussed in this document unless explicitly stated otherwise.

GHG emissions inventory

In accordance with the principles of the GHG Protocol, LyondellBasell reports emissions in line with the operational control approach. Under this approach, we account for, and report on emissions associated with the operations over which we, or one of our subsidiaries, have operational control.

LyondellBasell's scope 1 and 2 GHG emissions inventory includes our manufacturing facilities, pipelines and large regional offices. Excluded from our emissions inventory are sources that have been determined to be non-material, including small offices and vehicles used at some of our manufacturing sites for internal site transportation, as the amount of fuel consumed by mobile sources is deemed negligible in comparison to fuel consumed in fired equipment (e.g., steam boilers or furnaces).

Our scope 1 GHG emissions include the following sources:

- Generation of electricity, heat, or steam, resulting from the combustion of fuels in stationary sources (e.g., boilers, furnaces or turbines)
- Process related GHG emissions, related to venting and flaring activities, fugitive emissions of methane, including from wastewater treatment operations, and other process-related GHG emissions

Fugitive emissions from the use of refrigerant gases, for example in air conditioning equipment

Through our energy and environmental inventory system, LyondellBasell collects data from all facilities for which we have operational control. All facilities report onsite energy production and consumption on a monthly basis, including the quantities of fuel consumed. Coupled with our energy procurement data, this serves as the basis for our scope 1 and scope 2 GHG emissions accounting.

We reference emission factors from different sources to calculate GHG emissions. For fuel combustion, these factors are primarily referenced from the American Petroleum Institute's Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry (2021). Emission factors used for the calculation of scope 2 GHG emissions are generally provided by our energy suppliers. If they are unavailable, these emission factors are referenced from the International Energy Agency's Emissions Factors (2021), or other state or national factors published by national regulators.

Redefining our base year to 2020

Our new target of 30% absolute reduction in scope 1 and 2 GHG emissions by 2030 was defined with reference to a base year of 2020 in order to use the most recent year for which CO₂e emission data was available.

In accordance with the GHG Protocol, our baseline year emissions data is adjusted to account for divestments and acquisitions. Beginning with this 2021 Sustainability Report, our 2020 data includes the Louisiana joint venture. In December 2020, LyondellBasell formed this joint venture with Sasol, acquiring a 50% equity interest in the 1.5 million metric ton ethane cracker, 0.9 million metric ton low and linear-low density PE plants and associated infrastructure. We operate the joint venture assets and market the polyethylene offtake for all partners through our global sales team.

The Company is committed to continuous improvement in its reporting and strives to utilize applicable calculation methodologies and emissions factors that represent evolving expert analysis, information and assessment. Refinements that have been made to our scope 1 and scope 2 GHG emissions calculation methodologies and emissions factors in 2021 are also applied to our baseline year data to reflect these approaches.



GRI 305-5
Reduction of GHG emissions

As part of our net zero climate ambition, we developed an achievable pathway to realizing our interim 2030 target of reducing our scope 1 and scope 2 GHG emissions by 30% from 2020 levels.

We are focused on rapidly deploying available technologies and solutions at our olefin and I&D sites, which represent 90% of our global scope 1 and scope 2 GHG emissions. For the past several years, we have been assessing the energy and emissions profiles at these sites and are using this work to help us identify and implement solutions.

These solutions include reducing flare emissions, optimizing the use of energy in our operations and increasing our use of lower carbon-intensive fuels. We anticipate that deploying these technologies and solutions will enable us to achieve a minimum of 50% of our 2030 reduction goal.

In 2021, we deployed eight different process optimization and other resource efficiency projects across our global operations that resulted in a reduction in energy use of 3.6 million gigajoules, along with an associated reduction of approximately 230,000 metric tons of GHG emissions.

We estimate achieving one-third of our 2030 reduction goal by 2025, with the remainder achieved through projects tied to our site turn-arounds¹ scheduled for the latter part of the decade.

The chart that follows represents the the estimated timeline for deployment of GHG emissions reduction projects across our olefin and I&D sites to 2030. As we pursue net zero GHG emissions from our global operations by 2050, we will evaluate and deploy lower or zero-carbon fuels and innovative climate technologies.

Estimated timeline for GHG emission reduction projects



¹ Turn-around is the common term used to describe significant preventative maintenance activities that are generally performed every 5-7 years.

GRI 305-6

Ozone-depleting substances (ODS)

In 2021, we emitted 230 kg of ODS. We measure and report ODS as kg of CFC-11 equivalent and use emission factors as stipulated in the Montreal Protocol.

GRI 305-7

NOx, SOx and other emissions

Nitrogen oxides (NOx)

NOx are by-products of combustion that are generated while burning fuels to produce heat, steam or electricity. Boilers and furnaces in our chemical and refining operations are the source of most of our NOx emissions.

Sulfur oxides (SOx)

In our operations, SOx emissions come from burning fuel that contains small amounts of sulfur, and from the process of removing sulfur from fuel products at our Houston, Texas, refinery.

Volatile organic compounds (VOCs)

VOCs are associated with the chemicals and fuels we handle and produce and are released into the atmosphere during chemical and fuel production. VOCs can be released from point sources or through fugitive emissions from pump seals, valves and other equipment. We have extensive programs in place to identify and repair leaks, including using infrared camera technology.

Carbon monoxide (CO)

CO is produced when fuels are burned to produce heat, steam or electricity. The majority of our CO emissions come from burning natural gas at our chemical and refining operations.

Particulate matter (PM)

PM refers to small airborne particulates emitted during production, primarily from cooling towers and burning fuel.

Air emissions (metric tons)

	2017	2018	2019	2020	2021
NOx	8,057	7,766	7,475	7,383	7,537
SOx	1,589	1,348	1,338	1,020	1,042
VOCs	8,098	7,453	7,189	7,154	8,217
CO	5,301	5,231	5,563	5,755	6,940
PM	1,305	1,197	1,173	1,005	1,231
ODS (kilograms of CFC-11 equivalent)	59	74	160	160	230

ODS reported excludes ODS destroyed, recycled or reused.

Air emissions intensity (metric tons per million metric tons of product)

	2017	2018	2019	2020	2021
NOx	201	188	179	187	177
SOx	40	33	32	26	24
VOC	202	180	172	182	192
CO	132	127	133	145	163
PM	33	29	28	26	29

Increases in air emissions in 2021 are primarily due to the addition of the Louisiana joint venture.



Waste

Management approach

We take every opportunity to avoid generating waste, reusing it in our operations wherever possible. Most of the waste we produce is dilute hazardous liquid aqueous waste from chemical plant operations. Our operations also produce non-hazardous solid waste including general plant trash and construction and demolition debris. All waste disposal is managed in accordance with applicable regulations.

Keeping pellets, flakes and powders out of the environment

LyondellBasell sells polymer products in the form of pellets, flakes and powders. They are handled at multiple points from creation to customer delivery. We committed to disclose offsite loss of these materials beginning with our 2020 Sustainability Report.

As of December 31, 2021, we had 76 polymers manufacturing, research and technical sites that produce or handle pellets, flakes and powders, with a total production capacity of 12.3 million metric tons annually.

In 2021, approximately 43 kilograms were lost during four incidents at three sites. Loss is defined as an unplanned release of polymeric solids from a site boundary in a quantity greater than 0.5 kilograms (equivalent to 1.1 pounds) in a single incident. Monitoring and reporting are conducted in accordance with American Chemistry Council guidance. We cleaned the released material to the extent possible and conducted investigations to prevent similar incidents in the future.

To meet our goal of zero loss of these materials into the environment, we are working with our employees, contractors, transportation partners and customers in a way that is collaborative and transparent.

In 2021, we conducted 150 assessments of our operations to evaluate and improve pellet loss efforts, including monitoring, handling, recycling, safe disposal, cleaning and containment. We implemented a tool to better identify opportunities to prevent pellet loss and emphasized educating and empowering our employees in their continuing support of this effort.

We are also committed to value chain improvements. If empty railcars are not completely sealed when they are returned to us, any residual polymers in the railcars can fall out during the return trip. In 2021, we developed a system to prevent unsealed empty railcars and introduced this system to companies along the value chain. As a result of this effort the percentage of unsealed empty railcars returned to us was reduced by more than half in 2021.

LyondellBasell is a member of Operation Clean Sweep[®] (OCS), the plastics industry's global initiative that promotes collaboration, training and education in controlling and reducing the loss of pellets, flakes and powders. In 2019, we committed to OCS Blue, a U.S. program that enhances management and reporting requirements.

GRI 306-3

Waste generated

Waste by type (thousand metric tons)

	2017	2018	2019	2020	2021
Total waste	1,870	1,999	1,881	1,962	1,821
Hazardous waste onsite	1,376	919	883	853	882
Hazardous waste offsite	381	393	326	371	384
Non-hazardous waste onsite	1	472	498	601	459
Non-hazardous offsite	112	215	174	137	96

Waste intensity (metric ton per metric ton of product)

	2017	2018	2019	2020	2021
Total waste	0.046	0.048	0.045	0.050	0.043
Non-hazardous waste	0.002	0.017	0.016	0.019	0.013
Hazardous waste	0.044	0.031	0.029	0.031	0.030

GRI 306-4

Waste diverted from disposal (thousand metric tons)

	2017	2018	2019	2020	2021
Total waste diverted	66.9	71.7	101.8	65.9	62.6
Hazardous waste onsite	.015	.007	.022	.725	.313
Hazardous waste offsite	12.6	7.4	6.3	7.3	8.0
Non-hazardous waste onsite	0	.513	1.9	.177	.316
Non-hazardous offsite	54.3	63.8	93.6	57.7	54.0

GRI 306-5

Waste directed to disposal (thousand metric tons)

	2017	2018	2019	2020	2021
Total hazardous waste directed onsite	1,376.4	918.9	883.3	852.1	882.1
Onsite energy recovery	53.3	48.8	53.2	59.1	58.9
Onsite land disposal	.006	.005	0	0	0
Onsite incineration	1,323	870	830	793	823
Onsite other disposal	.054	.067	.066	.004	.202

	2017	2018	2019	2020	2021
Total hazardous waste directed offsite	368.3	385.3	319.5	364.0	383.7
Offsite energy recovery	82.7	96.4	77.0	86.2	98.2
Offsite land disposal	3.9	3.8	4.7	60.0	69.8
Offsite incineration	240.4	234.6	187.2	210.5	203.7
Offsite other disposal	41.3	50.5	50.6	7.3	12.0

	2017	2018	2019	2020	2021
Total non-hazardous waste directed onsite	.178	471.0	495.8	600.6	459.3
Onsite energy recovery	0	.042	.022	0	0
Onsite land disposal	.178	470.7	495.1	600.6	459.3
Onsite incineration	0	0	0	0	0
Onsite other disposal	0	.216	.642	0	.024

	2017	2018	2019	2020	2021
Total non-hazardous waste directed offsite	58.5	151.4	81.0	79.8	96.0
Offsite energy recovery	4.0	4.8	2.1	2.7	4.8
Offsite land disposal	41.7	115.6	54.0	50.6	57.2
Offsite incineration	6.8	7.8	7.6	6.6	12.0
Offsite other disposal	6.0	23.2	17.3	19.9	22.0



Environmental Compliance

Management approach

We carefully manage a range of environmental impacts including energy and GHG emissions, other emissions to air, water use and waste. We are granted our license to operate from multiple regulatory authorities that oversee our facilities, and we seek to maintain the trust of our communities by operating safely and responsibly.

Our environmental management system standard, part of our Operational Excellence system, provides a mechanism for compliance assurance and continuous improvement. This extends not only to our employees but also our contractors and suppliers performing work at our sites. In addition, we use ISO 14001 and [Responsible Care](#), the chemical industry program for improving health, safety and environmental performance, to support our compliance and improvement efforts.

We constantly monitor and manage environmental risk and are committed to complying with all regulations and permits. We aim to operate efficiently, which means using valuable resources responsibly, producing less waste and generating fewer emissions.

Management system certifications

The majority-owned and operated LyondellBasell sites in Australia, China, Europe and Thailand are certified to the Environmental Management System ISO 14001:2015, as is the Altamira site in Mexico, Pindamonhangaba site in Brazil, and Cerkezkoy site in Turkey. In the U.S., sites with ISO 14001:2015 certification are Edison, New Jersey; Jackson, Tennessee; and Mansfield, Texas. Additionally, Rio Claro, Brazil; Gempol, Indonesia, Dongguan, China; Kerpen, Germany; Astorp, Sweden; and Crumlin, U.K. are ISO 14001:2015 certified. The remaining sites in the Americas comply with our Operational Excellence requirements and have management systems in place that are ISO 14001:2015 certifiable. We aim to certify the remaining APS sites in Europe, Asia and Australia by the end of 2023, and APS sites in the Americas will be ISO 14001:2015 certified by 2025.

Additionally, the LyondellBasell sites in Germany, France and Spain are certified to the Energy Management Standard ISO 50001:2011.

GRI 307-1

Non-compliance with environmental laws and regulations

Although we work hard to reduce our environmental impact, sometimes incidents can occur. We manage our environmental obligations and work diligently to investigate each incident and understand the cause. We then develop action items and share learnings throughout the organization to prevent future incidents.

We classify incidents on a scale from 0 to 5, with 5 having the highest impact. We report on environmental incidents that are Level 2+, indicating a failure to meet a policy, standard or applicable law due to an unplanned release or discharge into the environment. Information on fines and penalties paid to resolve environmental, health and safety enforcement actions is also provided below.

Environmental incidents

	2017	2018	2019	2020	2021
Number of incidents	81	97	65	76	73
Fines and penalties paid	\$643,038	\$984,640	\$210,165	\$280,615	\$404,594

Environmental Incident is defined as an incident that results in a release or discharge, from a permitted or authorized emission or discharge point, in excess of a permitted or otherwise authorized level that is typically required to be reported to a regulatory or governing body. Data presented reflects the most current data available. Data entered for prior years may be updated in subsequent reports if additional information becomes available.

For more information on legal proceedings related to environmental matters, see our [2021 Form 10-K, page 33](#).

GRI 308-1

New suppliers that were screened using environmental criteria

Management approach

We expect our suppliers to comply with applicable laws and adhere to internationally recognized ESG standards. This includes a commitment to conduct business ethically and with integrity, protect human rights, provide for the safety and well-being of their employees, and operate in an environmentally responsible manner. In 2020, we adopted a [Supplier Code of Conduct](#) outlining our ESG expectations for those with whom we do business, and in 2021, we expanded our sustainable procurement program with the goal of assessing performance of at least 70% of key suppliers by 2025. These suppliers represent approximately 90% of our procurement spend.

A contractual commitment to comply with our Supplier Code of Conduct is included in the standard contract templates and purchasing terms and conditions of LyondellBasell's global procurement organization.

We are also evaluating many of our suppliers' sustainability practices utilizing the globally recognized EcoVadis platform to better understand their environmental, labor and human rights, business ethics and sustainable procurement performance.



Suppliers are invited to complete an Ecovadis assessment or share their existing scorecard. We will initiate an improvement plan if a supplier does not meet a minimum overall score requirement.

Additionally, we are updating processes and procedures to assess the sustainability performance of new suppliers as part of our supplier onboarding and qualification process.

We are also a member of Together for Sustainability (TfS), a global, procurement-driven initiative designed to improve the sustainability performance of chemical companies and their suppliers through the development of common approaches to audits, scope 3 measurement tools and assessments issued by EcoVadis. The program is based on the UN Global Compact and Responsible Care[®] principles, and will allow LyondellBasell to assess and improve our procurement operations and supply chains, against a set of well-defined ESG criteria.

Our Supplier Code of Conduct includes the following HSE standards:

- Comply with all applicable health, safety and environmental laws and regulations
- Protect the health and safety of employees, contractors and local communities and operate with a goal of zero injuries and incidents
- Use resources efficiently, seek to reduce water use and greenhouse gas emissions and encourage the use of energy-efficient technologies
- Responsibly manage and seek to reduce waste, wastewater discharge and air emissions
- Promote the safe and environmentally sound development, manufacturing, transport, use and disposal of products, and ensure product quality and safety meet applicable standards and requirements
- Utilize management systems, such as ISO14001, EMAS and the chemical industry's Responsible Care[®] program, to continuously improve HSE performance
- Whenever possible, participate in industry, national and international initiatives with HSE impact



Social

Employment

Management approach

Our success as a company is tied to the passion, knowledge and talent of our global team. We believe in integrity, diversity and fairness, and we focus on creating a work environment that is safe, respectful and inspires employees to strive for excellence.

We recognize that individuals cannot succeed alone; we believe in the power of many and place a strong emphasis on teamwork. LyondellBasell provides all workers with fair wages and upholds all applicable fair wage laws, wherever we work. We pay wages that meet or exceed the legally required wage or local industry standard. We reward performance based on personal, team and company results.

We engage in open and ongoing dialogue with employees and their representatives to ensure a proper balance between the best interests of the Company and its employees. In several of our locations, we collaborate with employee representatives on initiatives such as health and safety.

We use the services of contractors, primarily to assist with non-core business functions, and we require that all contractors adhere to our Operational Excellence standards and GoalZERO, a comprehensive program to protect the health and safety of our employees and contractors.



GRI 401-1

New employee hires and turnover

	2021		2021
New employee hires		Employee turnover	
Global (#)	2,214	Global (#)	2,270
Rate	11.5%	Rate	11.7%
Average headcount	19,335	Average headcount	19,335
U.S./Canada	996	U.S./Canada (#)	1,414
Rate	11.7%	Rate	16.7%
Europe (#)	813	Europe (#)	638
Rate	9.8%	Rate	7.7%
Latin America (including Mexico) (#)	151	Latin America (including Mexico) (#)	106
Rate	18.6%	Rate	13.0%
Asia Pacific (#)	246	Asia Pacific (#)	109
Rate	14.0%	Rate	6.2%
Middle East & Africa (#)	8	Middle East & Africa (#)	3
Rate	29.2%	Rate	11.0%
Age group		Age group	
<30 (#)	998	<30 (#)	619
Rate	40.6%	Rate	25.2%
Average headcount	2,461	Average headcount	2,461
30–50 (#)	1,013	30–50 (#)	869
Rate	9.8%	Rate	8.4%
Average headcount	10,375	Average headcount	10,375
>50 (#)	203	>50 (#)	782
Rate	3.1%	Rate	12.0%
Average headcount	6,499	Average headcount	6,499
Gender		Gender	
Men (#)	1,652	Men (#)	1,728
Rate	10.5%	Rate	11.0%
Average headcount	15,661	Average headcount	15,661
Women (#)	562	Women (#)	542
Rate	15.3%	Rate	14.8%
Average headcount	3,671	Average headcount	3,671

Data as of December 31, 2021.

GRI 401-2

Benefits provided to full-time employees

We want to attract the brightest and most qualified employees and doing so requires competitive compensation and benefits packages. Full-time and part-time employees receive a wide variety of benefits based on geographic location, applicable local and national law, and labor, or works council agreements.

Employees at our major offices and manufacturing sites receive competitive benefits which may include, depending on location and employment status, the following: basic health and welfare benefits, including medical coverage; life and accident insurance; business travel accident insurance; disability protection; retirement, savings and pension plans; share programs; and paid vacation, holidays and personal leave.

As of January 1, 2021, the Employee Assistance Program is available to all employees globally. The program helps employees be more successful meeting their responsibilities at home and at work. It offers tools and resources on a variety of topics, including resiliency, emotional wellness, workplace success, work-life balance, personal and family goals and good health. The Employee Assistance Program also helps with referrals to financial or legal resources. Services are available at no cost to employees 24 hours a day, 7 days a week.

During the COVID-19 pandemic, the Company encouraged non-location critical employees to work from home even where not required by local law. As of the publication of this report, some employees continue to work from home. In 2021, LyondellBasell adopted a global remote work policy that allows many employees whose jobs are suitable for telecommuting to work from home or an alternate work site up to two days per week as part of our ongoing efforts to implement changes that better promote wellness and balance for all employees. This policy is intended to apply on a global basis and is being implemented at sites that have returned to work fully as determined by their COVID-19 return to workplaces plan. In some locations, this policy will become effective when an implementing agreement has been reached with staff representatives.

In the U.S., employees can purchase additional health benefits and insurance coverage at lower group rates. They also can contribute to a tax-free Health Care Flexible Spending Account for reimbursement of certain medical expenses as well as a Dependent Day Care Flexible Spending Account for child-care costs.

Reward and recognition

Exceptional performance, dedication to safety, attendance and years of service are recognized in many ways, including annual bonuses and special cash awards; share points that may be redeemed for merchandise; awards based on years of service; and our corporate Excellence Awards, which are the highest honor an employee can receive.

Global family-friendly programs

We are dedicated to family-friendly practices and recognize the need for work-life balance. Our Global Family-Friendly programs include paid parental leave, an adoption reimbursement, and providing all employees globally with a minimum of 10 paid vacation or personal leave days. U.S. employees may also take advantage of the Caregiver Support Program which includes back up child and elder care.

GRI 401-3

Parental leave

Employees across the world who bring a child into their family by birth, adoption or foster care are eligible for parental leave, as allowed by applicable local and national law. In the U.S., employees and spouses enrolled in a company medical plan have access to fertility benefits, and we have a parental leave policy that offers paid leave for the birth of an employee's child, the placement for adoption of a child in an employee's home, and foster care or adoption of a child. In addition to short-term disability benefits, as applicable, eligible employees who are the primary caregiver receive up to seven weeks of paid parental leave per 12-month period; those who are the secondary caregiver receive up to one week of parental leave. Employees who are the spouse or domestic partner of an employee who has given birth or who is adopting or fostering a child receive up to one week per 12-month period. Primary and secondary caregiver and spouse/domestic partner leave is available regardless of gender. The benefit is paid at 100% of the employee's regular base pay (less withholdings and excluding overtime, shift differential, premiums, bonuses, commissions or other allowances) on the date leave begins.

The Global Adoption Reimbursement Policy provides employees who have adopted a child or had a child placed with them for adoption with a financial reimbursement of up to \$10,000 or equivalent in the employee's local currency at the time of the reimbursement, less any applicable withholdings and deductions, per adopted child.



Occupational Health & Safety

Management approach

We are committed to the safety of our people and our operations. Our safety standards apply to everyone involved in our business, including employees, and contractors and suppliers performing work at our sites.

GoalZERO is our commitment to operating safely and with zero incidents, zero injuries and zero accidents. This core value guides our HSE function. We cultivate a GoalZERO mindset with clear standards, regular communication, training and targeted campaigns and events, including our annual Global Safety Day. Health, safety and environmental indicators are monitored continuously using a performance dashboard. Every manufacturing site sets goals to improve process safety and the safety of our people, and reduce environmental incidents.

Goals:

- | Zero injuries
- | Zero process safety incidents
- | Zero product safety incidents
- | Zero environmental incidents
- | Zero plastic pellet loss to the environment

Operational Excellence is the management system we use to deliver our GoalZERO objectives. It is designed to deliver safety, environmental responsibility and reliability in everything we do. It sets out clear requirements for how we work and applies to our employees and contractors.

The Operational Excellence system contains nine key elements that help identify and manage risks, and ensure our employees and contractors understand their roles and responsibilities. It is further supported by detailed standards and preferred practices that support our GoalZERO objectives. We conduct internal audits at our manufacturing sites to verify compliance with Operational Excellence standards and perform periodic reviews to drive continuous improvement.

LyondellBasell Operational Excellence System Framework	
Leadership and personal accountability	We are committed to achieving excellence in every aspect of our performance. We set high expectations and hold each other accountable. We operate our businesses with the highest principles of integrity, ethics and corporate responsibility.
Organizational competency	We acquire and maintain the highest possible levels of competency. We empower people to deliver superior performance. We create a culture where employees have the freedom to act with agility and urgency while balancing the need for appropriate process and governance. We embrace diversity and inclusion, and promote learning and development.
Compliance	We manage our businesses with the highest standards of corporate ethics and with strict corporate governance systems that support compliance with all laws, regulations and internal requirements.
Technology and knowledge management	We document our operating practices and continually keep them updated. Knowledge management allows for safe, reliable operations through the sharing and combined efforts of people, processes and technology.
Risk management	We identify, prioritize, mitigate and manage risks to provide for the safety and health of employees, contractors, customers and the public, and for the protection of the environment.
Operations	We strive for flawless execution in our operations.
Product stewardship	We operate a worldwide product stewardship program to make health, safety and environmental protection an integral part of the development, manufacture, distribution, use, recycle and disposal of our products.
Community and stakeholder relations	We maintain strong relationships with our communities, employees, customers, suppliers, shareholders and other key stakeholders.
Assessment and improvement	We regularly review and take action regarding our systems, processes, metrics and stakeholder feedback to assure continuous improvement in our performance.



GRI 403-1

Occupational health and safety management system

Our Operational Excellence system sets out the standards and management approach we use to achieve GoalZERO. This includes clear requirements for people, process and product safety. We closely monitor safety risks, thoroughly investigate incidents and near misses, and take corrective action to prevent reoccurrence.

Recognizing and mitigating potential hazards in the workplace is a critical part of our approach to preventing incidents and injuries. Risk assessments are conducted for any potentially hazardous work. These range from completing safety checklists to a formal documented job hazard analysis process.

Sites undergo internal audits to verify compliance with Operational Excellence systems and procedures. Lessons learned and best practices are shared across the business. Onsite contractors, including logistics companies that handle and transport our products, are expected to comply with our HSE and Security Policy and support GoalZERO.

Our commitment to GoalZERO is championed at every level of the company. Excellent safety culture starts at the top with senior leaders, including the CEO.

Managers at each manufacturing site meet regularly to review safety performance and discuss issues relevant to their plant. HSE awareness teams evaluate injuries and find ways to prevent them in the future. Group meetings at offices and sites typically start with a safety message.

In 2021:

- | We completed 30 audits in five countries using COVID-19 safety protocols
- | 26 sites each achieved more than one million safe work hours
- | 82 locations reached at least one year without a recordable injury

GRI 403-2

Hazard identification, risk assessment and incident investigation

Our process safety program establishes how we safely design, operate and maintain our manufacturing processes to prevent or mitigate the unplanned or uncontrolled release of process material.

This program aims to prevent serious incidents and protect local communities and the environment.

We have clear standards for identifying and managing process safety risks within our Operational Excellence system. Regular turnarounds – during which we shut down plants and carry out essential maintenance, upgrades and safety checks – are a key part of our safety program.

In 2021:

| We expanded our Human Reliability Task Analysis program to all sites. This program uses a structured methodology to evaluate operating procedures and is aimed at identifying where human error could occur during execution. Safeguards are then applied to minimize the likelihood or severity of the potential error.

| We developed visual displays and information workflows that centralized key process safety performance indicators from multiple data sources allowing for faster and more diverse analysis of real-time trends..

| As part of our overall process risk management philosophy, we further enhanced the steps used to identify and analyze the impact of low temperature scenarios on pressure vessels. This added detail integrates within the process hazard analysis program to ensure both process and environmental factors are analyzed accurately and consistently when evaluating low temperature scenarios.

GRI 403-3

Occupational health services

We are committed to providing a safe workplace free from recognized hazards, and we comply with all applicable health and safety laws and recognized standards. Medical surveillance, an analysis of health information to identify workplace problems, is designed to detect potential workplace hazards before health effects can occur. We provide targeted comprehensive medical monitoring services to assess employees exposed, or potentially exposed, to occupational hazards. Employees have access to medical surveillance monitoring and other occupational health services at on-site clinics during paid worktime at many of our large sites such as in Wesseling, Germany; Berre, France; Ferrara, Italy; and Channelview, Texas. Information on occupational health services is provided globally throughout the new hire on-boarding process and offered in various languages dependent on the site location.

GRI 403-4

Worker participation, consultation and communication on occupational health and safety

Health and safety committees at the facility help drive our GoalZERO culture. They provide a representative forum to communicate, encourage and increase employee involvement in identifying and resolving health, safety and environmental concerns. Committees typically meet on a monthly or bimonthly basis and rotate members for continuous improvement and continuity. Members participate in identification of hazards, assessment of risks, investigation of incidents, implementation of corrective measures and audits.



GRI 403-5

Worker training on occupational health and safety

LyondellBasell provides required health and safety training to workers. Training differs between locations according to the role and tasks of each worker. Best practices and targeted discussions of opportunities to demonstrate safe behaviors are typically shared before each meeting to reinforce the value of safety.

All employees have access to SOURCES, a centralized Health & Safety resource on our intranet site. SOURCES offers training presentations, best practices, reference materials and a variety of other tools to educate employees about health and safety at work.

GRI 403-6

Promotion of worker health

Employees receive a wide variety of health benefits based on geographic location, applicable local and national law, and labor, or works council agreements.

Full-time employees at our major offices and manufacturing sites receive competitive benefits which may include, depending on location, basic health and welfare benefits, including medical coverage; life and accident insurance; business travel accident insurance; and disability protection.

To further promote total worker well-being, many of our large U.S. sites will begin providing additional non-occupational care to address worker mental health and chronic disease management. These expanded services are targeted to launch in 2022. Counseling for personal and work-related concerns is available in many regions.

Beginning January 1, 2021, the Employee Assistance Program was expanded and is now available to all employees globally. The program helps employees be more successful meeting their responsibilities at home and at work. It offers tools and resources on a variety of topics including resiliency, emotional wellness, workplace success, work-life balance, personal and family goals and good health. The Employee Assistance Program also helps with referrals to financial or legal resources. Services are available at no cost to employees 24 hours a day, 7 days a week.

GRI 403-8

Workers covered by an occupational health and safety management system

All employees and contractors whose work and/or workplace is controlled by LyondellBasell are required to comply with all health and safety management system requirements.

GRI 403-9

Work-related injuries

Process safety

	2017	2018	2019	2020	2021
Process safety incidents count (PSIC)	9	6	7	10	10
Process safety total incident rate (PSTIR)	0.030	0.018	0.019	0.030	0.026
Process safety incident severity rate (PSISR)	0.064	0.018	0.017	0.082	0.211

Represents number of Level 3 and above process safety incidents per 200,000 hours worked. We classify process safety incidents on scale of 0 to 5, with Level 5 having the highest impact. We define a process safety Level 3 event as Loss of Primary Containment (LOPC) resulting in either (1) Fire or explosion damage with a direct cost greater than or equal to \$100,000, (2) "Days away from work" injury, employee or contractor, (3) An officially declared community evacuation or community shelter-in-place including precautionary community evacuation or community shelter-in-place or (4) Release, within any 60 minute time period, greater than or equal to certain threshold quantities. Definition and weighting of Tier 1 PSI per ANSI/API RP 754 3rd Edition is applied for 2021. The 3rd edition update includes the reclassification of materials, clarification of definitions, expansion of data collection capabilities and other key changes. Rates for calendar years 2017-2020 were calculated using the 2nd edition of ANSI/API RP 754.



Worker safety

	2017	2018	2019	2020	2021
Employees:					
Fatalities as a result of work-related injuries (number and rate)	0 0	0 0	1 0.005	0 0	0 0
High-consequence work-related injuries (number and rate)	2 0.015	3 0.019	3 0.016	0 0	2 0.01
Recordable work-related injuries (number and rate)	33 0.24	36 0.22	39 0.20	33 0.18	34 0.17
Number of hours worked	27,200,000	32,300,000	38,100,000	36,920,000	39,276,500
Contractors:					
Fatalities as a result of work-related injuries (number and rate)	0 0	0 0	1 0.006	0 0	2 .01
High-consequence work-related injuries (number and rate)	1 0.008	1 0.006	0 0	0 0	3 0.016
Recordable work-related injuries (number and rate)	24 0.18	23 0.14	38 0.22	31 0.22	46 0.25
Number of hours worked	26,000,000	33,100,000	34,050,000	28,710,000	36,601,000
Combined workforce:					
LyondellBasell total recordable injury rate	0.21	0.18	0.21	0.20	0.21
American Chemistry Council industry average	0.63	0.65	0.62	0.65	0.69

Rates are calculated on the basis of 200,000 hours worked. High consequence injuries are LyondellBasell's Level 3 injuries (hospitalization required) and do not include fatalities. Recordable Injury counts and Recordable Injury rate include all injuries and fatalities.

American Chemistry Council data is as of March 18, 2022, and may be subject to change.

Contractor Fatalities

In 2021, we experienced a tragic event at our site in LaPorte, Texas, resulting in two fatalities, two hospitalizations and other recordable injuries. Our on-site incident response team, with support from third-party emergency responders, acted quickly to control and respond to the event. Our internal team is investigating this event and learnings will be shared throughout the organization. We will always remember the lives of those who were lost. Our workforce, and the communities where we operate, are our first priority.

Transport incidents

Our ability to transport and handle products safely is essential. Products are moved by railcar, tank trucks, pipeline, marine vessels and air freight. We own or lease railcars and tank trucks. We utilize third-party service providers for all transportation modalities. Transport incidents are defined in accordance with applicable laws, regulations and standards related to hazardous materials transportation and distribution which include, but are not limited to, those under the U.S. Occupational Safety and Health Administration, U.S. Department of Transportation, American Chemistry Council and the Europe Chemical Industry Council.

In 2021, we experienced one transportation incident classified as Level 2+¹ at our joint venture in Lake Charles, Louisiana. The event was a rail car incident which resulted in loss of product, but there were no injuries.

¹ We classify incidents on scale of 0 to 5, with Level 5 having the highest impact. We define a Level 2 transportation incident as any transportation/distribution incident meeting one or more of the following: Any event that requires summoning local law enforcement for immediate action or requires a response of Emergency Transportation Distribution Incident members and/or an Emergency Contractor to mitigate the event; An unpermitted release of a chemical into the environment in an amount that equals or exceeds a Transportation Regulatory Agency Reportable Quantity; In the absence of a Transportation Regulatory Agency Reportable Quantity, an unpermitted release of the entire contents of a single bulk container (>119 gallons); or a spill that results in a minor impact to the community (poly pellets in waterway).

Training & Education

Management approach

Employee growth and development are key elements supporting our vision of superior performance. Employees play an active role in their own development. They are encouraged and empowered to create plans for their development and to discuss those plans and goals with their managers on a regular basis. Having these conversations helps managers ensure that employees have opportunities to receive developmental experiences on the job, including learning from others. We also offer more formal and structured development opportunities for our employees via in-class and online learning.

Training needs are determined as part of individual employee assignment and development, on an equal employment opportunity basis.

GRI 404-1

Average hours of employee training

Employee training (average hours)

	2021
Average per person	39
Executive	13
Manager	24
Professional and technical	25
Administrative	6

Average hours of training per person includes all employees, not just the categories reported.

We offered a total of 4,550 training classes (virtual and in-person) in 2021 compared with 3,260 in 2020, which is a 40% increase. The average training hours per person increased from 15 hours in 2020 to 39 hours in 2021. Our DEI training was the primary contributor to this increase.

GRI 404-2

Programs for upgrading employee skills and transition assistance programs

Upgrading skills. Our targeted leadership development programs are designed to equip our current and future leaders with the necessary tools and skills to lead in any business environment. Through a blend of rigorous business and technical projects as well as a focus on personal mastery and career development, participants of these programs:

- | Gain insight on leadership strengths, gaps and development needs through assessment and coaching
- | Build individual career and development plans
- | Participate in comprehensive discussions with senior executives
- | Obtain insights into strategic global leadership skills from internal and external experts
- | Work across the enterprise to create and implement solutions for identified business initiatives

Education benefits

To encourage employee self-development, we offer a Global Educational Assistance Program that provides financial aid to those pursuing an associate, bachelor's or graduate degree. Any regular full-time, active employee with a minimum of one year of service and a current performance rating of "successful performance" or greater is eligible for educational assistance unless otherwise stipulated under a labor or works council agreement.

The Global Accelerated and Executive Graduate Degree Program offers additional financial assistance and modification in work schedule for those employees participating in an executive master's degree program, which typically requires an intense period of study over a shortened duration of time and carries substantially higher costs.

Transition assistance program

Employees whose positions are eliminated from the Company receive transition assistance provided by a leading outplacement services company. The program includes career assessments, resume writing, LinkedIn profile updates, skills training, personal coaching and access to online research tools, job search platforms and networking events.

GRI 404-3

Percentage of employees receiving regular performance reviews

We utilize a continuous performance management system whereby managers discuss individual performance throughout the year. This process ensures managers are equipped to provide continual, on-going and effective feedback to create a culture of ownership for our work and success, support a culture of recognition and accountability, and promote personal and professional growth for each employee.

While all employees receive continuous feedback on their performance, the number of employees participating in our corporate performance appraisal program is determined by local country employment laws and collective bargaining agreements. Performance reviews of non-exempt and hourly employees are voluntary by site. A total of 10,932 performance reviews were conducted in 2021, which represents 57% of employees participating in the program.



Diversity & Equal Opportunity

Management approach

We are committed to creating a workforce that represents and reflects our local communities; developing programs and policies that ensure equality of opportunity, experience and pay; and fostering a culture of belonging, empowerment and equality. Our [Code of Conduct](#) and [Human Rights Policy](#) underscore this commitment.

Our [DEI strategy](#) is led by the Chief Talent & DEI Officer and supported by the DEI Leadership Council which is comprised of global leaders representing employees across the company. We also engage external experts to help us assess trends, collect feedback from our employees globally, and benchmark our employment practices and processes to gain an evidence-based understanding of improvement opportunities.

In 2022, we announced our ambition to:

■ Achieve gender parity in senior leadership globally by 2032

- Increase women senior leaders by 50% globally in the next five years

■ Achieve general population ratio of people from underrepresented groups in U.S. senior leadership by 2032

- Increase underrepresented senior leaders by 50% in the next five years

In 2021, we launched new initiatives to attract and advance diverse talent such as expanding our external candidate pool; improving diversity of interview panels; increasing internal job posting transparency; enhancing our mentoring program; and improving movement of talent within our organization to sharpen and build skills.

By the end of 2021, 98% of all leaders, professional and administrative employees globally completed required DEI training and a total of 14,000 additional training courses were completed voluntarily.

An internal survey conducted by a third party showed that those who feel the least connected in the workplace are our Black, women, LGBTQ+ and early career professionals. As part of our work to build an inclusive culture, we launched four new global Employee Networks in 2021 organized around these groups. Employee Networks are open to all employees globally, including colleagues who do not share the identity of a particular network but are supporters and advocates for that community. Senior leaders serve as executive sponsors for each network. In 2021, our global employee participation rate was 17%.

Building on systematic improvements activated in 2021, we will continue to invest in programs that create a diverse and inclusive culture at our company and throughout our value chain. We are planning to cascade DEI goals to additional leadership levels, grow our Employee Networks and establish a Supplier Diversity Program to expand our supply chain and support inclusive economic growth.

Additionally, our Board considers diversity a priority and seeks representation across a range of attributes, including race, gender, ethnicity and nationality. Our Board is committed to increasing the representation of women in its membership and targets at least one-third female directors by 2023, alongside continued focus on increasing the racial and ethnic diversity of the Board. In accordance with our Corporate Governance Guidelines, the Nominating and Governance Committee and any outside consultants engaged to assist in identifying potential director candidates include women and minority candidates in each pool from which a director candidate is selected. For more information on Board nomination process, see our [2022 Proxy Statement, page 12](#).

We are committed to:

- Valuing and respecting each other's backgrounds, experience and ideas
- Enabling everyone to be themselves and achieve their potential
- Creating an environment in which people of all backgrounds want to work
- Making people decisions on merit and without bias
- Driving measurable change in the diversity of our workforce at all levels, including leadership

EMPLOYEE NETWORKS

The infographic displays four circular logos for LyondellBasell Employee Networks. Each logo features the text 'LyondellBasell Employee Networks' around the top and the network name around the bottom. The logos are: 1. Black Employee Network (BELIEVE) with a blue background and a white fingerprint graphic. 2. LYB Inspiring Females Together (LIFT) with a blue background and a green graphic of three people holding hands. 3. True Colors Employee Network (LGBTQ+) with a blue background and a colorful rainbow graphic. 4. Young Professionals Employee Network with a blue background and a colorful graphic of three people.

- Black Employee Network (BELIEVE)**: Black Employees Lead, Influence, Empower, Value and Embrace
- LYB Inspiring Females Together (LIFT)**: LYB Inspiring Females Together
- True Colors Employee Network (LGBTQ+)**: True Colors Employee Network
- Young Professionals Employee Network**: Young Professionals Employee Network

GRI 405-1

Diversity of governance bodies and employees

Employees/Board Diversity

	2021
Employees	19,113
Men	81.0%
Women	19.0%
Undisclosed	0%
Age group	
<30	12.6%
30–50	53.8%
>50	33.6%
Ethnicity (U.S. only)	
Black	9.3%
Hispanic	14.5%
Asian/Pacific Islander	4.7%
American Indian/Alaskan	0.4%
Native Hawaiian/ Other Pacific Islander	0.1%
Two or more races	1.5%
White	67.8%
Non-U.S. employee	0.2%
Undisclosed	1.5%

	2021
Executive	17
Men	88.2%
Women	11.8%
Management	333
Men	78.7%
Women	21.3%
Professional and Technical	5634
Men	66.8%
Women	33.2%
Undisclosed	0.0%
Board	12
Men	83%
Women	17%

Data as of December 31, 2021.

GRI 405-1

Diversity of governance bodies and employees

U.S. EEO-1 Data as of December 31, 2021

Job Categories	Male							Female						Total
	White	Hispanic or Latino	Black or African American	Native Hawaiian or Pacific Islander	Asian	American Indian or Alaskan Native	Two or More Races	White	Hispanic or Latino	Black or African American	Asian	American Indian or Alaskan Native	Two or More Races	
Executive/Senior Officials & Managers	133	6	6	0	18	0	1	43	3	6	2	0	1	219
First/Mid Level Officials & Managers	552	69	54	0	41	2	7	127	27	22	18	0	0	919
Professionals	1419	226	114	2	161	6	33	468	130	88	97	5	19	2768
Technicians	314	35	55	0	9	1	2	67	22	23	8	0	3	539
Sales Workers	80	7	2	0	2	0	1	20	5	1	1	0	1	120
Administrative Support	12	2	6	0	1	0	0	97	27	15	3	0	2	165
Craft Workers	2212	600	328	7	32	10	48	176	31	30	4	5	11	3494
Operatives	84	0	9	0	0	3	3	10	1	7	1	0	0	118
Laborers & Helpers	4	13	4	0	1	0	0	0	1	0	0	0	0	23
Service Workers	1	3	0	0	0	0	0	1	1	0	0	0	0	6
Total	4,811	961	578	9	265	22	95	1,009	248	192	134	10	37	8,371

GRI 405-2

Ratio of basic salary and remuneration of women to men

As part of our commitment to ensure fairness in our pay practices and performance review process, we engaged a third-party expert to conduct our first pay equity review and to evaluate our performance review practices. Our intention is to embed these reviews in our annual processes going forward.

For our pay equity review, we strive to achieve pay parity. In 2021, the pay equity review compared pay for like jobs and specifically focused on base pay for gender (globally) and ethnicity (U.S. only). The review reflected that pay for women and men on a global basis is generally administered fairly. It also found that, in the U.S., pay for employees in underrepresented groups is generally administered fairly when compared with those in non-underrepresented populations. We continue to conduct a detailed analysis to identify and address any pay inequities.

The performance review evaluation compared performance rankings for gender (globally) and ethnicity (U.S. only). The review did not have any significant findings and confirmed that performance appraisals are generally administered fairly.

Human Rights

Management approach

We have a responsibility to respect and protect human rights. Our [Human Rights Policy](#) makes clear our commitment to workplace health and safety; equal opportunity; prevention of discrimination, harassment and retaliation; diversity, equity and inclusion; workplace security; just and favorable conditions of work; fair wages; freedom of association; freely chosen employment and child labor protections.

Our [Code of Conduct](#) embodies our dedication to conducting business ethically and responsibly by obeying the law and enabling a safe and productive work environment.

GRI 408-1

Operations and suppliers at significant risk for incidents of child labor

We prohibit child labor. For purposes of employment, we define “child” as anyone under sixteen years of age, unless national or local law stipulates a higher mandatory school leaving or minimum working age, in which case the higher age applies. We do not hire people under the applicable mandatory minimum.

In 2021, we launched a three-year plan to assess manufacturing, pipeline and storage facilities owned or operated by LyondellBasell and our third-party shipping and logistics providers to ensure compliance with our Human Rights Policy and identify human rights risks, including child labor and forced or compulsory labor. The assessment is being conducted by a third party and is consistent with the UN Guiding Principles on Human Rights. In 2021, 26 manufacturing sites in the U.S. and Europe were assessed.

GRI 409-1

Operations and suppliers at significant risk for incidents of forced or compulsory labor

We forbid the use of forced, bonded (including debt bondage), indentured, or involuntary labor, exploitative prison labor, slavery, or trafficking in our operations. We prohibit harsh or inhumane treatment of all workers, including actual or threatened corporal punishment. We will not retain passports or other original employee documents unless required by law and will not restrict employee access to such documents. Neither we nor the recruitment partners we work with charge any fee for employment, and we do not ask for any refundable security deposit to be paid for employment purposes.

See GRI 408-1 for information regarding our three-year plan to assess manufacturing, pipeline and storage facilities owned or operated by LyondellBasell and our third-party shipping and logistics providers.

We publish an annual [Human Trafficking and Anti-Slavery Statement](#) in accordance with the U.K. Modern Slavery Act of 2015 and the California Transparency in Supply Chains Act of 2010 in the U.S.

GRI 410-1

Security personnel trained in human rights

We promote the security of our workers and premises and take affirmative steps to maintain a workplace that is free from violence, intimidation, or other disruptive conditions. We strive for a security response that is respectful of human rights, consistent with international standards and proportional to the threat identified.

GRI 412-1

Operations that have been subject to human rights reviews or impact assessments

See [GRI 408-1 and 409-1, page 83](#).



GRI 412-2

Employee training on human rights policies and procedures

New employees receive ethics and compliance training which includes the Company's Code of Conduct, and all employees are required to complete annual refresher training. In 2021, 100% of LyondellBasell employees received training on the [Code of Conduct](#). Additionally, depending on the work they do for the Company, some contractors also receive Code of Conduct training.

Local Communities

Management approach

Being a responsible, good neighbor in the communities where we operate is embedded in our mission. We provide jobs that create economic value, and we hire locally where possible. We also support economic growth and job creation throughout our supply chain by purchasing goods and services locally.

Additionally, we contribute to charities in cash or in-kind, and our employees volunteer in the communities where we operate through our annual Global Care Day and other activities.

GRI 413-1

Operations with local community engagement, impact assessment and development programs

Through our global corporate citizenship program, Advancing Good, we invest in three program areas: Advancing Our Communities, Advancing Our Planet, and Advancing Tomorrow's Workforce.

We are passionate about being a responsible, good neighbor and we invest in programs creating healthy, diverse and dynamic communities.

We are committed to being leaders in the efforts to end plastic waste and develop sustainable solutions to protect our planet for future generations.

We are dedicated to educating, training and preparing tomorrow's workforce to be our future leaders.

In 2021, our community investments included:

- A total of \$10.5 million in grants to 1,300 charities in the communities where we live and work worldwide

- More than \$1.1 million to 30 United Way chapters across the U.S. The Company matches money raised by employees on a dollar-for-dollar basis

Our employees are active volunteers and leaders within their communities. LyondellBasell supports and encourages employee engagement:

- More than 900 employees requested \$540,000+ to be contributed to global nonprofits through the employee match programs

- Employees from 61 sites around the world volunteered more than 8,800 hours focusing on sustainability and waste clean-up projects as part of LyondellBasell's 22nd annual Global Care Day

- U.S. employees funded 568 projects at public schools across the nation through DonorsChoose, of which 83% of projects supported Equity Focus Schools, where the majority of students come from low-income households and identify as Black, Indigenous, or Latinx

- In honor of the 20th anniversary of 9/11, the Company provided \$100,000 to the Texas Task Force Foundation and \$100,000 to The Texas A&M Engineering Extension Service to provide equipment and training to first responders

- In response to Texas Winter Storm Uri, the Company supported Kids' Meals with a \$25,000 Challenge Match that raised in total more than \$60,000 to provide meals to underserved children in Houston. Additionally, \$250,000 was contributed to the Harris County Winter Storm Uri Relief Fund.

- After devastating flooding in Germany, the Company provided €250,000 to the German Red Cross and matched every Euro donated by 140 employees, totaling more than €45,000, to the Aktion Deutschland Hilft.

- During a significant spike of the global pandemic in India, the Company donated \$100,000 to the U.S. India Friendship Alliance, helping the organization provide 250 oxygen concentrators to hospitals and medical facilities across India.



GRI 413-2

Operations with significant potential and actual negative impacts on local communities

For information on our engagement with local communities see [GRI 102-44, page 54](#).

GRI 414-1

New suppliers that were screened using social criteria

Management approach

We expect our suppliers to comply with applicable laws and adhere to internationally recognized ESG standards. This includes a commitment to conduct business ethically and with integrity, protect human rights, provide for the safety and well-being of their employees, and operate in an environmentally responsible manner. In 2020, we adopted our Supplier Code of Conduct outlining our ESG expectations for those with whom we do business, and in 2021, we expanded our sustainable procurement program with the goal of assessing performance of at least 70% of key suppliers by 2025. These suppliers represent approximately 90% of our procurement spend.

For a complete overview of our management approach to screening suppliers, see [GRI 308-1, page 71](#).

Our Supplier Code of Conduct includes the following social standards:

- Respect employees and provide a workplace free of discrimination, including unlawful workplace harassment
- Comply with all applicable labor and employment laws
- Empower employees and other stakeholders to anonymously report concerns or potentially unlawful practices at the workplace without retaliation
- Support the protection of internationally recognized human rights and prohibit the use of forced, indentured or involuntary labor (including modern slavery and human trafficking) and child labor
- Comply with, and provide documentation needed to facilitate LyondellBasell's compliance with, applicable laws, regulations, and disclosure requirements related to conflict minerals
- Recognize the freedom of association and the right to collective bargaining in accordance with applicable laws
- Observe minimum wages and working hours in accordance with local laws

Public Policy

Management approach

LyondellBasell believes active participation in the political process is essential to our long-term success. We advance our public policy agenda through direct lobbying, involvement in various trade associations and the LyondellBasell Political Action Committee ("LYB PAC"). Transparency and accountability are embedded into our public policy, political spending and lobbying actions. The Company maintains policies and procedures consistent with our Code of Conduct that support continued compliance with applicable political laws and regulations.

Management of our participation in the political process globally is overseen by CLO, who reports to the company CEO. Our Vice President of Public Affairs, who reports to the CLO, oversees the Government Relations department, which is led by the Managing Director of Government Relations.

As permitted under U.S. law, the Company oversees and administers a political action committee that is registered with the U.S. Federal Election Commission. The LYB PAC allows eligible U.S. employees to voluntarily support candidates for elected office who share LyondellBasell's perspectives and approaches to public policy issues. The contributions made by the PAC are not funded by corporate funds but are fully funded by voluntary employee contributions. Contributions made to the LYB PAC are entirely voluntary and PAC operations are governed by the LYB PAC By-Laws. In March 2022, our [Political Contributions Policy](#) was amended to prohibit the use of company resources (including monetary and in-kind services) to make direct political contributions to political parties or candidates, even when permitted by law. The revised policy also clarifies that all political contributions are made solely through the LYB PAC.

The LYB PAC is governed by its Board of Directors that is made up of members of senior management, including the Managing Director of Government Relations. The LYB PAC Board maintains responsibility for ensuring all LyondellBasell political activities promote ethical and transparent engagement, advance the company purpose, and comply with applicable laws and reporting requirements. The Policy Committee, a duly authorized oversight committee made up of company executives, reviews and approves the company's U.S. policy on political expenditures.

In Europe, we support transparency in relations between EU institutions and interest representatives. We joined the voluntary European Transparency Register and abide by its Code of Conduct.

For more information on our public policy and advocacy activities, see our website under [Public Policy and Political Engagement](#) and our [Principles for Public Policy](#). We disclose details of our U.S. political contributions in our annual [U.S. Political Activity Report](#) which can also be found on our website.



GRI 415-1

Political contributions

Monetary value of financial contributions:

2017	2018	2019	2020	2021
\$159,000	\$157,500	\$140,000	\$129,500	\$85,500

Data includes PAC contributions for all years. Contributions in 2017 and 2018 also includes corporate political contributions. Dues paid to industry associations are not included. For information on our industry association dues, see GRI 102-13. No in-kind political contributions were made. U.S. federal contributions are disclosed in our filings with the Federal Election Commission (FEC), as required by law.

Customer Health & Safety

Management approach

As part of our commitment to improving product stewardship practices, we worked closely with other American Chemistry Council members to develop a Responsible Care® Product Safety Code. This code has been incorporated into our Operational Excellence [Product Stewardship Standard](#). Our Product Stewardship Standard is applied across the product life cycle, including raw material sourcing, product development, manufacture, distribution, use, recycling and disposal of all products we produce. Additionally, all business units and manufacturing sites are audited against these standards on a three-to five-year cycle.

We have chemical control procedures in place to comply with applicable regulations and we regularly monitor these requirements for changes. Relevant regulations include the Toxic Substances Control Act in the U.S. (TSCA), the European Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), the Act on the Registration and Evaluation of Chemicals in Korea (Korea REACH), and many more. We monitor the movement of materials, and we prevent transactions for materials, uses or customers that do not meet our safety requirements.

We manage the human health and environmental risks which may be involved with our products throughout their life cycle. In addition to screening new products in the research and development pipeline, we regularly monitor product end-use applications to anticipate any potential health and safety risks. Each year, we review the human health and environmental risks associated with existing and emerging applications in our polymer and chemicals business. Based on these assessments, we may replace raw materials used in production processes with safer alternatives or prohibit or place conditions on the sale of products into certain end-use applications.

Information regarding end-uses that are prohibited or require further review is published on our website to ensure complete transparency for our customers.

In addition, our global product safety team monitors, evaluates and advises the company on emerging global regulations potentially affecting product end-uses as well as regulations affecting circularity as it relates to technologies advancing across molecular and mechanical recycling and renewable feedstocks.

We measure our effectiveness by tracking product safety performance, reviewing customer feedback and communicating product safety information both internally and externally. Our global product safety team communicates information about our products to customers.

Public information we provide includes:

Safety Data Sheets: In 2021, we published approximately 73,000 safety data sheets, available in multiple languages depending on the region of product sale, that include information on product hazards and precautions to ensure safe use.

Product Stewardship Bulletins: We issue declarations for customers on regulatory clearances for our products and their end uses. In 2021, we answered more than 62,000 requests from customers, distributors and other stakeholders for regulatory information about our products.

Global Product Strategy (GPS) Safety Summaries: As a member of the International Council of Chemical Associations (ICCA) we take part in the GPS voluntary program to improve the safety of chemical products during their use and handling. The GPS safety summaries provide information about safe uses and applications of our products including:

- Uses and applications
- Physical and chemical properties
- Human health and environmental effects
- Potential exposure routes
- Risk management measures
- Regulatory information
- Classification and labeling

These summaries can be found on our website under [Product Safety and Stewardship](#).

Each business conducts an annual management review to assess products and uses for risk to human health and the environment, and to drive continuous improvement and ensure that any critical gaps are closed by an action plan. Further, we conduct Storage and Handling Assessments at customers site for relevant high hazard products. Despite the limitations of travel due to COVID-19, we continued these assessments both virtually and in person in 2021. We also work closely with research and development teams to assess the potential human health and environmental hazards and anticipated end-use clearances of new products in the development pipeline. This evaluation includes a review of raw materials used in the production process and any associated potential byproducts.



Use of animals in product safety testing

Our commitment to the safety and regulatory compliance of our products, and the transition to animal-free chemical safety assessments is outlined in our Animal Use and Welfare Policy.

We are actively engaged with research consortia to develop accepted alternative testing strategies and we advocate the use of sound scientific principles to minimize the number of animal tests required by regulatory authorities. These include using existing data to evaluate chemicals, categories to assess similar families of chemicals, and read-across from data on one substance to satisfy the requirements of another substance.

Currently, animal testing of our products is only performed when there is no accepted or validated non-animal method available. We utilize toxicology laboratories accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) International, a private, non-profit organization that promotes humane animal care and use in science, and follow the Organisation for Economic Co-operation and Development (OECD) Principles of Good Laboratory Practice.

Where animal testing is required, LyondellBasell is committed to following the “3Rs” established by the National Centre of the Replacement, Refinement & Reductions of Animals in Research (NC3Rs):

- Replacement or avoiding the use of animals in testing
- Reduction of the number of animals used per experiment
- Refinement of methods to ensure required studies are conducted humanely

GRI 416-1

Assessment of the health and safety impacts of product and service categories

Product portfolio safety assessment

Our product stewardship team is involved at the initial stage of researching and developing new products. We assess HSE and product safety risks before new products, raw materials or processes are approved for production. Product safety aspects are reviewed for each stage of the development process.

Raw materials sourcing

Every business function utilizes a global raw material evaluation and approval standard. Policies prohibit the use of some substances and restrict the use of others. If a safety issue is flagged, our procurement teams will not buy the raw materials in question. Changes to raw materials or their sources are also reviewed for product safety and regulatory considerations with respect to anticipated product end-uses.

Manufacturing

Our product stewardship standards help ensure that substances are handled properly during manufacturing to prevent harm to our employees and contractors. We conduct internal audits to confirm regulatory compliance and that risks are managed according to our standards when manufacturing, storing and loading our products.

Distribution and customer use

We promote safe transport and storage of our products by customers, and we work closely with our suppliers, carriers and distributors. We have standards for equipment used to transport and store products and our logistics compliance team routinely visits customers' sites to help ensure our products are handled safely. We communicate safety information to customers through safety data sheets, safety bulletins and global product safety strategy summaries.

Consumer end-use and disposal

Certain end-uses for our products may require review and approval or may be prohibited. Compliance information about our products is available on our website and product end-of-life considerations are addressed on safety data sheets.

For more information, see [Product Safety and Stewardship](#) on our website.

GRI 416-2

Incidents of non-compliance concerning the health and safety impacts of products and services

In 2021, we had no product recalls and no incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of our products.



Customer Privacy

Management approach

Data Privacy

LyondellBasell collects and uses personal data for the purpose of selecting and administering our workforce, managing business transactions, running our operations, marketing to current and potential customers, and managing vendors and service providers. As a result, the Company maintains a privacy program based on a documented global privacy framework. This program includes policies and practices to ensure the protection of such personal data through appropriate technical, physical, and organizational measures and through compliance with global personal data protection laws.

As part of its global privacy program, the Company maintains a dedicated Data Privacy Office and Data Privacy Committee (the “Committee”), which guides, monitors and stays accountable for data privacy compliance efforts globally. The Data Privacy Office and Committee assure that the global privacy program and the Company’s Personal Data Privacy and Protection Policy comply with all applicable privacy laws and regulations, including, but not limited to, the EU General Data Protection Regulation (GDPR). The practical implementation of the program is the responsibility of respective leadership of each business segment and functional unit.

The Committee meets quarterly and reports to the Company’s CLO, who reports directly to our CEO. All employees receive annual training on data privacy procedures, as well as their rights and obligations. Personal data protection laws and regulations continue to evolve and change, with regulators continuing to tighten up requirements and levy large fines. We closely monitor changing legal requirements and engage external resources and experts as necessary to help us appropriately adapt and improve our global program to data protection laws and regulations in the jurisdictions where we operate.

For more information regarding how the Company processes personal data, see the [LyondellBasell Privacy Statement](#) on our website.

Cybersecurity

We recognize that sophisticated global cybersecurity threats and targeted computer crime pose a continuously evolving risk to the confidentiality, availability, and integrity of our data, operations and infrastructure.

LyondellBasell has implemented comprehensive practices to minimize these risks. Our cybersecurity program is certified to the ISO 27001 standard for information security management, which covers key areas of management, technical and physical controls, legal, compliance and business continuity management.

The Director of Cybersecurity leads our cybersecurity program and reports to the Senior Vice President of Global Business Services, who serves on the Leadership Team and reports to the CEO. The Audit Committee of the Board oversees the Company’s information technology and cybersecurity risks. The Committee conducts a deep dive into cybersecurity and data privacy topics and reviews our programs and practices with management at least semiannually, and receives management’s report on relevant activities and metrics at each quarterly Committee meeting.

Our cybersecurity program includes:

- Annual cybersecurity education for all company computer users on relevant policies and standards, best practices at work and at home, and how to identify and respond to key threats
- Protective software installed and configured on company systems and mobile devices, updated and patched on a regular basis, to provide the highest level of protection against malicious threats
- An established program based on the ATT&CK framework for dealing with ransomware and other cybersecurity incidents
- Regular technical risk assessments of our network, applications and manufacturing facilities, using a combination of trusted suppliers and a dedicated, objective team
- Penetration, discovery and vulnerability assessments conducted daily
- Mobile threat protection mechanisms and policies
- Business continuity plans that are well documented and tested regularly; disaster recovery plans that are also well documented and tested at least annually
- Coverage for non-damage business interruption or liability for data breaches as a part of the Company’s combined insurance programs



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Sector: resource transformation | Industry: chemicals

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GREENHOUSE GAS EMISSIONS		
110a.1	Gross global Scope 1 emissions, percentage covered under a regulatory program	16.1 million metric tons of CO ₂ e
110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Climate strategy, page 23
AIR QUALITY		
120a.1	Air emissions of the following pollutants: (1) NOx (excluding N ₂ O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	1) NOx 7,537 metric tons 2) SOx 1,042 metric tons 3) VOCs 8,217 metric tons

#	Description	Page #
ENERGY MANAGEMENT		
130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	1) 414 million GJ 2) 8% 3) 0.1% 4) 309 million GJ
Our adjusted 2020 data is as follows:		
1) Total energy consumed was 385 million GJ, not 382 million GJ as reported.		
2) Percentage grid electricity was 8 based on all energy sources. We inadvertently reported percentage of electricity (98.9).		
3) For the same reason as item #2, percentage of renewable was 0.1, not 1.1 as reported.		
4) Total self-generated was 280 million GJ, not 273 million GJ as reported.		
WATER MANAGEMENT		
140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	1) 293.1 million m ³ 2) 103.1 million m ³ , of which 80.5 million m ³ was evaporative losses
140a.2	Number of incidents of non-compliance associated with water quality permits, standards and regulations	4
140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	GRI 303, pages 63-64



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HAZARDOUS WASTE MANAGEMENT		
150a.1	Amount of hazardous waste (1) generated, (2) percentage recycled	1) 1,266 thousand metric tons 2) 3.4%
COMMUNITY RELATIONS		
210a.1	Discussion of engagement processes to manage risks and opportunities associated with community interests	GRI 102-43, Community Advisory Panels, pages 42-52
WORKFORCE HEALTH AND SAFETY		
320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	1) 0.21 2) a) 0 b) 2
320a.2	Description of efforts to assess, monitor and reduce exposure of employees and contract workers to long-term (chronic) health risks	GRI 403, pages 76-79
SAFETY & ENVIRONMENTAL STEWARDSHIP OF CHEMICALS		
410b.1	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	1) Less than 1% 2) 100%
410b.2	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	GRI 416, page 87

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410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	LyondellBasell produces no products containing genetically modified organisms
MANAGEMENT OF THE LEGAL & REGULATORY ENVIRONMENT		
530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Our Principles for Public Policy can be found on our website at www.lyondellbasell.com
OPERATIONAL SAFETY, EMERGENCY PREPAREDNESS & RESPONSE		
540a.1	(1) Process Safety Incidents Count (PSIC), (2) Process Safety Total Incident Rate (PSTIR), and (3) Process Safety Incident Severity Rate (PSISR)	1) 10 2) 0.026 3) 0.211
540a.2	Number of transport incidents	1 Level 2+ incident
ACTIVITY METRIC		
000.A	Production by reportable segment	GRI 102-7, page 45

UNITED NATIONS GLOBAL COMPACT

Communication of Progress—Active

#	Description	Page #
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1	Period covered by Communication of Progress	January 1–December 31, 2021
2	Statement of Continued Support by the Chief Executive Officer	CEO Letter, pages 4-5
HUMAN RIGHTS		
3	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.	Page 83
LABOUR		
4	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.	Pages 84

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ENVIRONMENT		
5	Principle 7: Businesses should support a precautionary approach to environmental challenges; Principle 8: undertake initiatives to promote greater environmental responsibility; and Principle 9: encourage the development and diffusion of environmentally friendly technologies.	Page 61
ANTI-CORRUPTION		
6	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	Page 59
MEASUREMENT OF OUTCOMES		
7	Highlights from Chief Executive Officer GRI Content Index SASB Index	CEO Letter, pages 4-5 GRI Content Index, page 89 SASB Index, page 95

FORWARD-LOOKING STATEMENTS

The statements in this report relating to matters that are not historical facts are forward-looking statements. These forward-looking statements are based upon assumptions of management of LyondellBasell which are believed to be reasonable at the time made and are subject to significant risks and uncertainties. When used in this presentation, the words “estimate,” “believe,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “should,” “will,” “expect,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. Actual results could differ materially based on factors including, but not limited to, market conditions, the business cyclicality of the chemical, polymers and refining industries; the availability, cost and price volatility of raw materials and utilities, particularly the cost of oil, natural gas, and associated natural gas liquids; uncertainties and impacts related to the extent and duration of the pandemic; competitive product and pricing pressures; labor conditions; our ability to attract and retain key personnel; operating interruptions (including leaks, explosions, fires, weather-related incidents, mechanical failure, unscheduled downtime, supplier disruptions, labor shortages, strikes, work stoppages or other labor difficulties, transportation interruptions, spills and releases and other environmental risks); the supply/demand balances for our and our joint ventures’ products, and the related effects of industry production capacities and operating rates; our ability to manage costs; future financial and operating results; benefits and synergies of any proposed transactions; legal and environmental proceedings; tax rulings, consequences or proceedings; technological developments, and our ability to develop new products and process technologies; our ability to meet our sustainability goals, including the ability to operate safely, increase production of recycled and renewable-based polymers, and reduce our emissions intensity; potential governmental regulatory actions; political unrest and terrorist acts; risks and uncertainties posed by international operations, including foreign currency fluctuations; and our ability to comply with debt covenants and to amend, extend, repay, redeem, service, and reduce our debt. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the “Risk Factors” section of our Form 10-K for the year ended December 31, 2021, which can be found at www.LyondellBasell.com on the Investor Relations page and on the Securities and Exchange Commission’s website at www.sec.gov. There is no assurance that any of the actions, events or results of the forward-looking statements will occur, or if any of them do, what impact they will have on our results of operations or financial condition. Forward-looking statements speak only as of the date they were made and are based on the estimates and opinions of management of LyondellBasell at the time the statements are made. LyondellBasell does not assume any obligation to update forward-looking statements should circumstances or management’s estimates or opinions change, except as required by law.



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Advancing Possible