LyondellBasell

Sustainability Report 2024

Vision to value

Vision to value

At LYB, we have set out a bold vision and are leading the charge to meet demand for circular and low-carbon solutions. To do this we're transforming our business, creating new models, forming partnerships and transitioning from non-core operations.

We set out this vision with the firm conviction that it will generate lasting value for our stakeholders – delivering economic value for our shareholders while contributing to key environmental and societal challenges.

Read our report to find out how we're moving forward from *vision* to **value.**

About this report

This Sustainability Report covers the period from January 1 to December 31, 2024, and includes sustainability performance information related to LyondellBasell Industries N.V.

We include consolidated data from the operations over which we, or one of our subsidiaries, have operational control. Unless otherwise indicated, the "company," "we," "our," "us," "LYB" and "LyondellBasell" are used in this report to refer to the businesses of LyondellBasell Industries N.V. and its subsidiaries within the operational control boundary. The narrative may include information related to our non-operated joint ventures, and activities that occurred during 2025 prior to publishing. Financial data includes joint ventures to the extent appropriate under Generally Accepted Accounting Principles in the U.S. (U.S. GAAP). Consolidated Financial Statements are prepared from the books and records of LYB. This report intends to address those stakeholders interested in our overall sustainability performance.

The Health, Safety, Environmental & Sustainability Committee of our Board of Directors reviews our Sustainability Report annually.

We have considered the following sustainability reporting standards and frameworks in our disclosures. See page 121 for more detail.

- Global Reporting Initiative (GRI)
- Sustainability Accounting Standards Board (SASB)
- Task force on Climate-related Financial Disclosures (TCFD)

Report boundaries

The environmental, social, and governance (ESG) data in this report relate to operations at our majority-owned or operated manufacturing sites, pipelines, research or technical centers and large offices for 2024, unless stated otherwise. Assets that are acquired or divested will be accounted for in our base year greenhouse gas (GHG) emissions in accordance with the Greenhouse Gas Protocol. The narrative may include our non-operated joint ventures. Reporting against our recycled and renewable-based polymer goal includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.

Subsidiaries are defined as those companies over which we, either directly or indirectly, have control through a majority of the voting rights or the right to exercise control or to obtain the majority of the benefits and be exposed to the majority of the risks. Subsidiaries are consolidated from the date on which control is obtained until the date that such control ceases. All intercompany transactions and balances have been eliminated in consolidation.

Contact information: sustainability@lyb.com

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 LYB, which are believed to be reasonable at the time made and are subject to significant risks and uncertainties. When used in this report, 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; our ability to successfully implement initiatives identified pursuant to our Value Enhancement Program and generate anticipated earnings; 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; receipt of required regulatory approvals and the satisfaction of closing conditions for our proposed transactions; final investment decision and the construction and operation of any proposed facilities described; our ability to align our assets and expand our core; 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 to meet our targets and forecasts, and reduce our emissions and achieve net zero emissions by the time set in our goals; our ability to procure energy from renewable sources; our ability to build a profitable Circular and Low Carbon Solutions business; the continued operation of and successful shutdown and closure of the Houston Refinery, including within the expected time frame; 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 repay 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, 2024, which can be found at www.lyb.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 LYB at the time the statements are made. LYB does not assume any obligation to update forward-looking statements should circumstances or management's estimates or opinions change, except as required by law. This report contains time-sensitive information that is accurate only as of the date hereof. Information contained in this release is unaudited and is subject to change. We undertake no obligation to update the information presented herein, except as required by law. Our reported emissions and expected reductions are based on a combination of measured and estimated data and are based on industry standards and best practices, including the Greenhouse Gas Protocol and guidance from the American Petroleum Institute. Emissions reported are estimates only, and data is subject to change as methods, data quality, and technology improvements occur. Our goals to reduce emissions are good-faith efforts based on current relevant data and methodology, which could be changed or refined as we evolve our approach to identifying, measuring, and addressing emissions.

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"To move from vision to value, we must collaborate with all our stakeholders to bring the best solutions to life."

Peter Vanacker,
Chief Executive Officer, LYB

A message from our Chief Executive Officer

Sustainability, at heart, is about reimagining the future. It's about looking at the status quo and envisioning how we can do better. It's about reinventing and revitalizing old ways of working. It's about creating that vision and translating it into genuine, tangible change.

At LYB, we believe value is created by being at the vanguard of that change. Through innovation and strategic execution, we are securing an early-mover advantage as a leader in the circular and low-carbon solutions market, driving sustainable growth while continuing to deliver from our core business, and actively addressing critical global issues: ending plastic waste, taking climate action, and supporting a thriving society.

A message from our Chief Executive Officer *continued*

Sustainability is central to our strategy

Our corporate strategy defines a roadmap for business transformation, ensuring we continue to deliver long-term value to our stakeholders. Sustainability is integral to this transformation. It is embedded deeply within the three pillars of our strategy, namely in how we:

- **Grow and upgrade our core:** shaping our portfolio to leverage strengths, support growth, increase resiliency, and drive higher returns;
- **Build a profitable Circular and Low Carbon Solutions (CLCS) business:** building a leading CLCS business at scale to meet current and growing future demand for sustainable solutions; and
- **Step up performance and culture:** unlocking significant opportunities across our portfolio through continuous value creation.

These strategic pillars are designed to reinforce each other, creating a powerful engine for sustained success.

Investing in our Circular and Low Carbon Solutions (CLCS) business

We are already seeing encouraging results from our work to build a profitable CLCS business. With a full portfolio of high-performance solutions, technical and commercial expertise, and an asset base offering global scale and continuous innovation, we are rapidly becoming the partner of choice for brand owners. In 2024, we increased our recycled and renewable-based polymer volumes by 65% to more than 200,000 metric tons of polymers based on mechanical recycling, chemical recycling, and renewable feedstocks[1]. This means we are making good progress toward our 2030 goals of producing and marketing at least 2 million metric tons of recycled and renewable-based polymers a year and capturing more than $1 billion of CLCS incremental EBITDA[2].

A personal highlight for me this year was laying the foundation stone of our first commercial-scale chemical recycling unit, *MoReTec*-1, in Cologne, Germany. This signifies our commitment to advancing the circularity of plastic materials on an industrial scale. This facility, set to begin operations in 2026, is designed to convert hard-to-recycle plastic waste from the equivalent of approximately 1.2 million German citizens each year into valuable raw materials for new offerings. Additionally, we are studying the possibility for a second facility in Houston, U.S., with double the capacity of *MoReTec*-1.

Unlocking transformation from within

Transforming our business is possible because of the innovation and imagination of the people within LYB. We have already made big strides in transforming our culture through initiatives like the Value Enhancement Program (VEP), which empowers employees to pursue opportunities for continuous value creation. Since the inception of the VEP program, projects completed through this effort have unlocked more than $800M in recurring annual EBITDA[3]. In 2024, as a result of VEP and other projects, we reduced scope 1 and 2 carbon emissions by 200,000 metric tons, the equivalent of taking approximately 43,400 gasoline powered cars[4] off the road a year.

The safety of our employees and contractors is a top priority and has always been a cornerstone of our culture. In 2024, we achieved an industry-leading total recordable incident rate (TRIR) of 0.127, marking our second-best year ever for TRIR. We also celebrated six sites with 10-plus years of no recordable injuries, and our APS segment had record-breaking safety performance, reducing incident rates by 39%, compared to 2023.

The need for collaboration

Transformation doesn't happen in a vacuum. To move from vision to value, we must collaborate with all our stakeholders to bring the best solutions to life. We will continue to engage in open and trustful dialogue across the value chain, positioning our company as a leader in translating the vision for a sustainable, circular economy into tangible change.

To close, I just want to say how much of a privilege it is to lead a team so committed to championing people, striving for excellence and shaping the future. I look forward to our coming successes, and creating lasting value for our shareholders and employees, customers and suppliers.

Peter Vanacker
Chief Executive Officer

We increased our recycled and renewable-based polymer volumes[1] by

65%

in 2024

1. Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.
3. Year-end EBITDA run rate based on 2017-2019 mid-cycle margins and modest inflation relative to 2021 baseline.
4. Greenhouse Gas Equivalencies Calculator | US EPA.

At a glance sustainability performance

0.127

Total Recordable Incident Rate (TRIR), representing industry-leading performance, marking our second-best year for TRIR

70

Manufacturing sites achieved GoalZERO[1]

100%

allocation of Green Bond funds to eligible projects

72

Manufacturing sites were injury-free

Laid the foundation for our first commercial-scale chemical recycling plant using our *MoReTec* technology

Produced and marketed more than

200,000

metric tons of recycled and renewable-based polymers[2]

Volumes of our recycled and renewable-based polymers have increased since 2023

65%

1,820 MW of renewable energy capacity secured under power purchase agreements, which will enable us to meet our goal to procure at least 50% of our electricity from renewable sources by 2030[3]

Safely completed the shutdown of refining operations at our Houston Refinery in the first quarter of 2025, marking our exit from the refining business, which will reduce our annual scope 3 emissions by

~40MMt CO_2e

1. We classify incidents on a scale from 0 to 5, with Level 5 having the highest impact. Our GoalZERO program relates to Level 2+ incidents, which generally means at minimum, an impact resulted in reporting or record keeping under an applicable regulatory program.
2. Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
3. Based on 2020 procured levels.
4. Identified items include adjustments for lower of cost or market (LCM), gain on sale of business, asset write-downs in excess of $10 million in aggregate for the period and refinery exit costs.

At a glance financial performance

Net income

$1.4B

Net income excluding identified items[4]

$2.1B

EBITDA

$3.5B

EBITDA excluding identified items[4]

$4.3B

Diluted EPS

$4.15

Diluted EPS excluding identified items[4]

$6.40

About LyondellBasell who we are

LYB is a leader in the global chemical industry, guided by our purpose to create solutions for everyday sustainable living.

As one of the world's largest polymers producers and a leader in polyolefin technologies, we develop, manufacture, and market high-quality and innovative products for applications ranging from sustainable transportation and food safety to clean water and quality healthcare. Through advanced technology and focused investments, we are working to enable a circular and low-carbon economy.

Our strategy

- Grow and upgrade the core
- Build a profitable Circular and Low Carbon Solutions business
- Step up performance and culture

Our values

- We champion people
- We strive for excellence
- We shape the future

Our purpose

Creating solutions for everyday sustainable living

Our competencies

- Build partnerships
- Deliver results
- Drive innovation
- Grow capabilities
- Promote inclusion

Our GoalZERO mindset enables our strategy

GoalZERO is our commitment to operating safely with zero injuries and zero process safety, product safety, environmental, and security incidents.

Our commitments

- Sustainability-focused innovation
- Ever-better performance
- Outside-in perspective
- Impactful collaboration

About LyondellBasell what we do

We participate globally across the petrochemical value chain.

Our chemicals businesses primarily consist of large processing plants that convert liquid and gaseous hydrocarbon feedstocks into plastic resins and other chemical building blocks. These products serve as the foundation for various chemicals and plastics, used in both high-volume and specialized applications. Our customers rely on them to manufacture everyday items, including food packaging, home furnishings, automotive components, paints, and coatings. Additionally, we develop and license chemical and polyolefin process technologies and produce polyolefin catalysts. We manage our operations through six operating segments. In 2022, we formed our Circular and Low Carbon Solutions business within our O&P-Americas and O&P-EAI segments. This page and the next provide an overview of our reportable segments.

For more information please visit www.lyb.com

Olefins and Polyolefins (O&P) – Americas[1]

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

Selected products:

- Olefins and co-products
- PE
- PP
- *Catalloy* and polybutene-1

Major markets:

- Packaging
- Automotive
- Films
- Pipes
- Textiles
- Roofing
- Appliances

O&P – Europe, Asia, International (EAI)[1]

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

Selected products:

- Olefins and co-products
- PE
- PP
- *Catalloy* and polybutene-1

Major markets:

- Packaging
- Automotive
- Films
- Pipes
- Textiles
- Roofing
- Appliances

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, and acetyls.

Selected products:

- PO and derivatives
- Intermediate chemicals
- Oxyfuels and related products

Major markets:

- Insulation
- Home furnishings
- Coatings
- Adhesives
- Automotive
- Fuel additives

1. Our CLCS business is a part of our O&P-Americas and O&P EAI segments.

Advanced Polymer Solutions (APS)

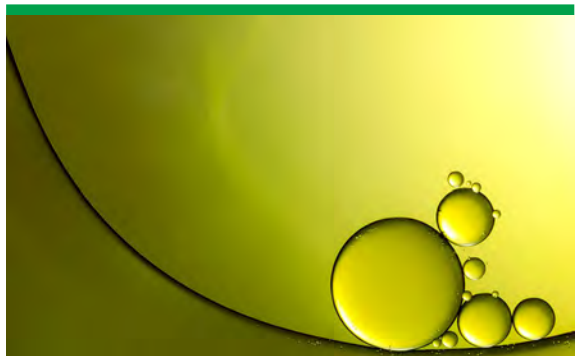
Our APS segment produces and markets compounding and solutions, such as PP compounds, engineered plastics, masterbatches, engineered composites, colors, and powders.

Selected products:

- Compounding and solutions

Major markets:

- Automotive
- Packaging
- Films



Refining[1]

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

Selected products:

- Diesel
- Gasoline
- Jet fuel

Major markets:

- Transportation fuels
- Chemical feedstocks

1. In the first quarter of 2025, we ended our crude oil refining operations at our Houston Refinery and have exited the refining business.

Technology

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

Selected products:

- Licensing
- Catalysts

Major markets:

- Polyolefin and chemical manufacturing

We are proud to deliver solutions for a better tomorrow through our high-quality chemicals, polymers, fuels and technologies.

Notable changes to our business in 2024

In February 2024, we acquired mechanical recycling assets including rigid plastics recycling processing lines in California. In May 2024, we divested our Ethylene Oxide and Derivatives business, acquired a 35% stake in the National Petrochemical Industrial Company (NATPET) joint venture, and announced a strategic assessment of certain European assets in the Olefins & Polyolefins and Intermediates & Derivatives business units. In October 2024, we acquired APK AG, a solution-based plastics recycler in Merseburg, Germany.

LYB Green Bond allocation update

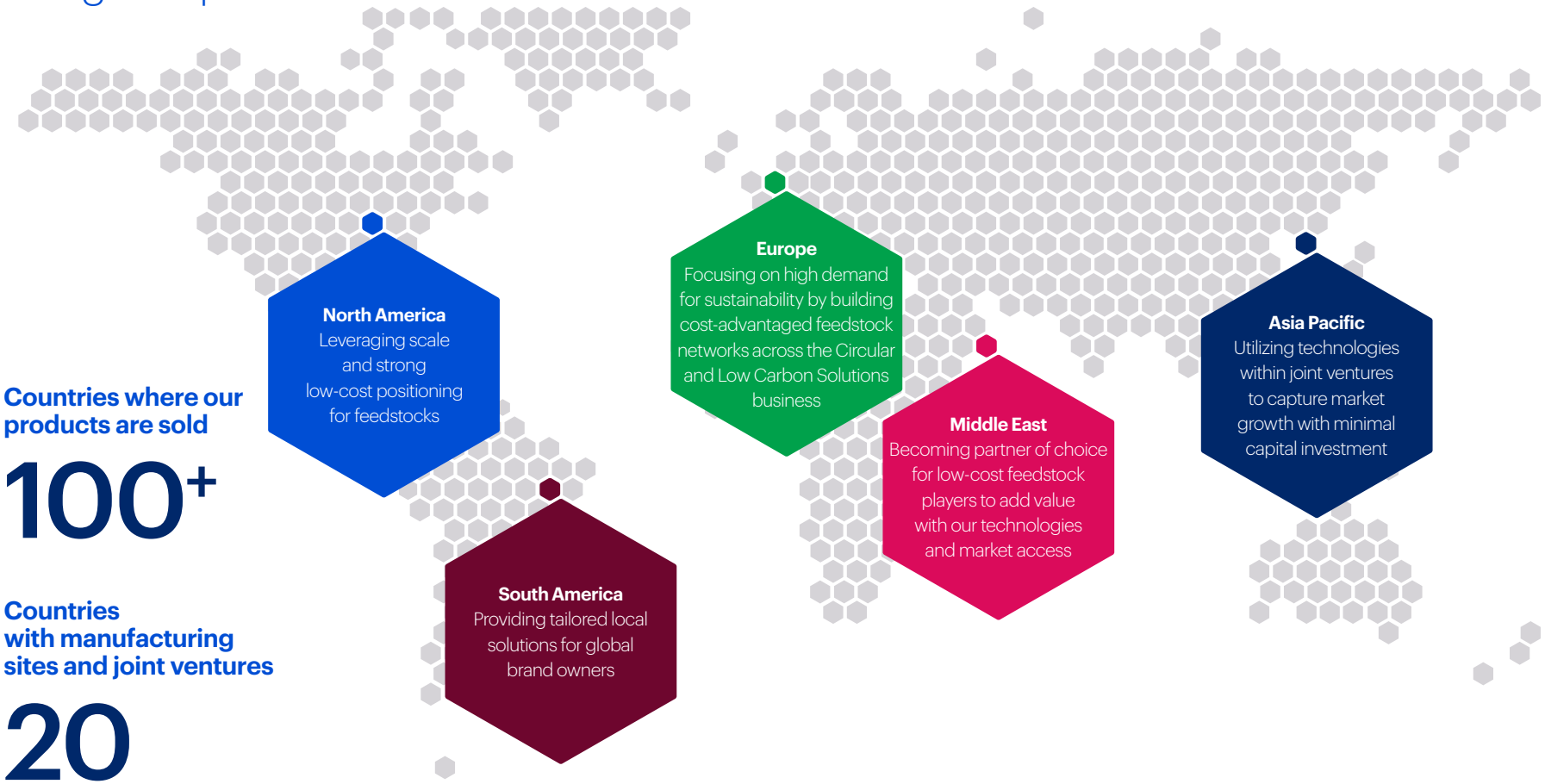
We issued our inaugural $500 million Green Bond in May 2023. As of December 31, 2024, we have fully allocated the approximately $495 million net proceeds to eligible green projects in the areas of circular economy, renewable energy, pollution prevention and control, and energy efficiency. Projects that received allocation are identified in this report with the Green Bond icon. Our final Green Bond allocation and impact report will be published in the second quarter of 2025 on our website at www.lyb.com, where our Green Financing Framework and S&P Global's second-party opinion are also available. We encourage you to read our impact and allocation report to learn more about the projects we are pursuing and the impact we have made.

About LyondellBasell where we are located

LYB is one of the world's largest producers of polymers and a leader in polyolefin technologies.

Our global presence

For more information please visit www.lyb.com



Countries where our products are sold

100+

Countries with manufacturing sites and joint ventures

20

Largest producer of oxyfuels worldwide

#1

Largest producer of PP worldwide

#2

Largest producer of PO worldwide

#2

Largest producer of PE and PP in Europe

#1

Our operating context

As a leader in the global chemical industry, we operate in a rapidly-evolving landscape being shaped and reshaped by global trends, political and regulatory developments, and sector-specific challenges.

Global trends and challenges are constantly influencing consumer behavior and preferences and impacting supply and demand. Our strategy leans into these trends and challenges by capitalizing on emerging opportunities. Our strengths in innovation and industry leadership have given us a strong foundation to navigate this complex external environment, and our approach is to create value for our stakeholders by translating our sustainability vision into action that provides real commercial value to our customers.

Leading position in producing and marketing global olefins and polyolefins

We are one of the leading worldwide producers of O&P: materials used every day in a variety of applications such as automobile parts, renewable energy technologies, packaging, piping, and textiles. Our production in North America and the Middle East is cost advantaged, primarily due to the low cost of feedstocks in these regions. Overall, profitability is affected not only by supply and demand for O&P, but also by raw material costs and price competition among producers, which may intensify due to, among other things, the addition of new capacity.

In general, demand is a function of economic growth, driven by population increase and the human drive for better standards of living. We compete globally with other large marketers and producers, including global chemical companies, chemical divisions of large oil companies and regional marketers and producers. Based on published capacity data and including our proportionate share of our joint ventures, we believe as of December 31, 2024, we are the third largest producer of ethylene and PE in North America, the largest producer of PP in North America, the third largest producer of ethylene in Europe, and the largest producer of PE and PP in Europe.

Technology advantages in PO, derivatives and co-products

We are a leading producer and marketer of PO and its derivatives, oxyfuels and related products, and intermediate chemicals such as styrene monomer and acetyls. PO and derivatives are used in a variety of durable and consumable items with key applications, including polyurethanes used for insulation, automotive and furniture cushioning, coatings, surfactants, synthetic resins and other household usages. We produce PO through two distinct technologies, one of which yields tertiary butyl alcohol (TBA, a precursor for oxyfuels) as the co-product and the other of which yields styrene monomer as the co-product. The revenue from these co-products is a significant benefit to our overall cost position.

We are a leading producer of essential materials for diverse applications, competing with top chemical companies worldwide

We produce oxyfuels, which are used as high-octane gasoline components that help gasoline burn cleaner and reduce automobile emissions. Profitability is affected by the worldwide level of demand along with price competition, which may intensify due to, among other things, new industry capacity and industry outages. Demand growth could be impacted by further development of alternative bio-based methodologies.

Our major worldwide competitors include other multinational chemical and refining companies as well as some regional marketers and producers. Based on published capacity data and including our proportionate share of our joint ventures, we believe as of December 31, 2024, we were the second largest producer of PO worldwide and the largest producer of oxyfuels worldwide.

Increasing demand for circular and low-carbon products

We recognize plastic pollution is a critical issue, and consumers are increasingly aware of their carbon footprint. Recycled and renewable-based polymers have the potential to support the transition to a circular and low-carbon economy while continuing to enable modern living, from applications in food preservation and healthcare to transportation. Shifting consumer preferences and European regulatory developments, such as the EU's Packaging and Packaging Waste Regulation (PPWR), are driving demand for recycled and renewable-based polymers but the infrastructure build-out for collecting, sorting, processing and recycling plastic waste is growing at a slow pace. Many other operators in the plastics circular economy lack the economies of scale to meet growing demand and as a result, a significant supply shortage of circular plastics is likely to persist into the next decade.

As a result, we expect to sustain healthy margins for our recycled and renewable-based products, creating value for our shareholders while providing sustainability benefits. We are already providing multiple recycling solutions with our *Circulen* brand (read more on page 24) and using our market access and knowledge to scale these operations globally. Our target is to produce and market 2MMt+ of recycled and renewable-based polymers annually by 2030, which we expect will add $1 billion of CLCS incremental EBITDA[1] by 2030.

The rapidly-evolving regulatory landscape

The regulatory landscape is rapidly changing, and our strategy capitalizes on emerging opportunities. For example, the PPWR entered into force in February 2025, with the objective of minimizing quantities of packaging and packaging waste generated while fostering the transition to a circular economy through increasing the use of recycled materials in packing. The PPWR mandates minimum recycled content requirements for packaging, which is expected to drive approximately 4-5 MMt of demand for recycled PE and PP in the EU by 2030. At LYB, we are uniquely positioned to address this demand with our *Circulen* portfolio (see page 24) and *MoReTec*-1 plant under construction in Cologne, Germany (see page 25).

Read more in our "Ending Plastic Waste" chapter on page 19

Our *Circulen* portfolio enables customers to achieve their sustainability goals through high-quality, customizable solutions.

4-5MMt

expected demand for recycled PE and PP in the EU by 2030

1. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.

Our sustainability approach

Setting out our **vision**

to create value through **sustainability**

"We are **leading the way in industry innovation** *and catalyzing circular business models."*

Andrea Brown,
Chief Sustainability Officer

A message from our Chief Sustainability Officer

In 2024, we made great strides embedding sustainability into the core of our business, demonstrating that sustainable business practices and financial performance go hand-in-hand.

We see LYB as a company whose solutions not only drive progress toward global climate and circularity goals but also create clear business value for our customers. Sustainability is an opportunity, one that will allow us to lead innovation and capture value in the emerging markets critical to our industry's future.

From our Chief Sustainability Officer *continued*

Sustainability is embedded in our corporate strategy as a key value driver. Our ambitious financial goals include adding $1 billion of CLCS incremental EBITDA by 2030[1], as we believe that sustainability plays a key part in our long-term profitability.

Key achievements in 2024 included:

- **Expanding our circularity strategy and portfolio:** our investment in *MoReTec*-1 underscores our commitment to scaling up our chemical recycling technology and demonstrates to stakeholders that we are leading in the transition to a circular economy as we deliver material innovation.
- **Accelerating our Carbon Value Creation and Capture initiative:** we formalized this initiative in 2024, ensuring a sound business case for low-carbon products derived from our GHG reduction investments or projects. This effort is generating strong internal momentum by aligning our climate ambition with emerging market opportunities. By developing differentiated low-carbon solutions, we are positioning ourselves to capture first-mover advantages as demand for these products grows.
- **Continuing strong safety performance:** our safety performance demonstrates our ability to implement large-scale operational improvements, while maintaining a strong safety culture. We are committed to the well-being of our people and our safety performance is the result of our strong operational excellence program.

"LYB is **uniquely positioned to grow** *in circular plastics by leveraging existing world-scale assets."*

Andrea Brown,
Chief Sustainability Officer, LYB

- **Advancing our culture:** Being a champion of people and promoting inclusion are integral to our values and competencies, and we embed fairness into our policies and processes.
- **Confirming our priority areas:** through our 2024 double materiality assessment, we determined our material topics to be climate change, circularity, pollution, own workforce, consumers and end-users and business conduct. As sustainability disclosure requirements continue to increase, we are committed to maintaining a strong competitive position relative to our sector.
- **Embedding sustainability into our business functions:** in 2024, we leveraged cross-functional teams from sustainability, commercial, and government relations to drive impact. Rather than creating stand-alone functions, we ensure execution of sustainability initiatives happens where it makes the most sense and this cross-functional collaboration reinforces sustainability as a core business driver.
  Education as a transformation enabler: we enhanced the capabilities of commercial teams to engage in educated customer conversations on sustainability and drove usage of learning and job resources to advance employee engagement in sustainability practices.

Beyond these internal initiatives, we expanded our leadership in global sustainability initiatives over 2024. In several global forums, we transitioned from active participation to thought leadership, helping shape policies for circularity and sustainable business practices. This leadership has been visible in our activities in the Intergovernmental Negotiating Committee (INC) for the UN Global Plastics Treaty. We also elevated our leadership in key alliances, including the World Plastics Council, the Oceans Plastic Leadership Network, the Alliance to End Plastic Waste, and Together for Sustainability.

Reaffirming the basics: honesty, transparency and accountability

In 2024, we continued to refine and enhance our reporting practices with the aim of ensuring clear and accurate disclosure of impacts, risks, opportunities, and progress. Our use of financial mechanisms such as green bonds and targeted investments in innovation underscores our commitment to delivering sustainable value. Looking ahead, our objective remains clear: we will continue turning vision into value, putting our strategy into practice, investing in innovation, and fostering collaborative opportunities across industries.

At LYB, sustainability is a defining force for the future of our business and industry. With the foundation we have built over the past few years, we are well-positioned to accelerate our impact, delivering solutions that benefit our stakeholders.

Andrea Brown,
Chief Sustainability Officer

1. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.

Turning our vision into value

To reach our 2030 goals and in line with our corporate strategy, we are transforming our business. This transformation will be enabled by our people, investments, and partnerships.

Transformation from the ground up

Our employees are essential to achieving our goals. We are empowering them through the Value Enhancement Program (VEP), mentorship programs, educational initiatives, and employee networks. Through the VEP, employees have helped drive continuous value creation, including significant carbon emission reductions and financial benefits. In 2024, VEP projects resulted in estimated annual GHG emissions savings of nearly 310,000 metric tons of CO_2e (read more on page 63).

Investing strategically

We are investing upstream to secure access to plastic waste material and exploring opportunities to expand mechanical and chemical recycling capacity globally through strategic investments and commercial agreements. We are also strategically investing in greenhouse gas emission reduction projects, which are at different stages of development. Our capital spending to support our sustainability goals, including climate and circularity ambitions, represented approximately $200 million of our total capital expenditures in 2024.

Building partnerships

Achieving our targets requires collaboration with customers, suppliers, and regulators. We work closely with suppliers of feedstock, raw materials, and logistics services to identify opportunities for emissions reduction, while partnering with customers to develop circular and low-carbon solutions tailored to their needs. We advocate for policy frameworks that support investment in renewable energy, hydrogen, and carbon capture and storage (CCS) and increase market demand for low-carbon products.

Addressing global challenges

We have structured our sustainability approach around three global challenges: ending plastic waste, taking climate action and supporting a thriving society.

Our 2024 sustainability report is structured around these global challenges.

1. Million metric tons. Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.
3. Our 2050 net zero goal includes scope 1 and 2 emissions.
4. Relative to a 2020 baseline.
5. Based on 2020 procured levels.

Ending plastic waste

2MMt+

of recycled and renewable-based polymers will be produced and marketed annually by 2030[1]

zero

plastic pellet loss to the environment from our facilities

adding

$1 billion

of CLCS incremental EBITDA by 2030[2]

Taking climate action

net zero

greenhouse gas emissions from operations by 2050[3]

42%

absolute scope 1 and 2 greenhouse gas emissions reduction from operations by 2030[4]

30%

absolute scope 3 greenhouse gas emissions reduction by 2030[4]

50%

minimum of electricity procured from renewable sources by 2030[5]

Supporting a thriving society

zero

incidents, injuries, and accidents

achieve

33%

gender diversity in global senior leader roles by 2032

assess a minimum of

70%

of our key suppliers globally using sustainability criteria by 2025

Making progress toward our goals

In 2024, we continued to make good progress toward our ambitious goals.

We increased our recycled and renewable-based polymer volumes by 65% in 2024. While we still have some way to go to meet our 2030 goal, we are expecting production volumes to ramp up as *MoReTec*-1 begins operations in 2026. We achieved our goal of zero plastic pellet loss to the environment from our facilities.

Progress toward our climate goals was slower, but we did secure power purchase agreements with an aggregate generation capacity that will enable us to meet our goal of procuring at least 50% of our electricity from renewable sources by 2030.

By the end of 2024, 71% of key suppliers had been assessed against sustainability criteria, achieving our previous stated target of 70%. Having achieved this goal, we have increased our ambition to assess 80% of our key suppliers by 2027.

Our goals

		2022	2023	2024
Ending plastic waste				
2MMt+	of recycled and renewable-based polymers produced and marketed annually by 2030[1]		123kt	**203kt**
Zero	plastic pellet loss to the environment from our facilities	11kg	10kg	**0kg**
Taking climate action				
net zero	greenhouse gas emissions from operations by 2050[2]			
42%	absolute scope 1 and 2 greenhouse gas emissions reduction from operations by 2030[3] 2020 baseline emissions (scopes 1 and 2): 23.2 MMt	22.1 MMt	22.3 MMt	**22.1** MMt
30%	absolute scope 3 greenhouse gas emissions reduction by 2030[3] 2020 baseline emissions (scope 3): 82.6 MMt	87.9 MMt	89.8 MMt	**93.8** MMt
50%	minimum of electricity procured from renewable sources by 2030[4]	50%	90%	**100%**
Supporting a thriving society				
Zero	incidents, injuries, and accidents[5]	46	48	**43**
achieve 33%	gender diversity in global senior leader roles by 2032[6]	22%	25%	**25%**
70%	assess a minimum of 70% of our key suppliers globally using sustainability criteria by 2025		55%[7]	**100%**

1. Million metric tons. Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Our 2050 net zero goal includes scope 1 and 2 emissions.
3. Relative to a 2020 baseline.
4. Based on 2020 procured levels. Progress represents renewable energy capacity secured under power purchase agreements, as a percentage of the capacity representing 50% of our 2020 procured levels.
5. Progress represents the number of recordable work-related injuries for both employees and contractors.
6. In accordance with Dutch law, our aspirational goal is to have at least 33% of female senior leaders and at least 33% male senior leaders, globally, by 2032.
7. Key supplier definition refined in 2024 following data cleanup exercise.

Ending plastic waste

Ending plastic waste why it matters

As lightweight, hygienic, and durable materials, plastics play an essential role in our everyday lives.

Innovative plastic materials help keep food fresh for longer, enabling it to be safely stored and transported long distances, and reduce food waste. In the healthcare sector, plastics provide safe, high-quality solutions for applications ranging from pharmaceutical packaging to medical devices. They also contribute to the energy transition, from advanced automotive components that enable vehicle lightweighting to integral components for wind turbines and solar panels.

We, along with many other stakeholders, recognize the pressing need to eliminate plastic waste in the environment. Shifting from linear to circular models – where materials remain in use through recycling and reuse rather than being discarded – offers one of the solutions to this challenge.

Increasing consumer awareness and evolving regulations are driving demand for circular products, with many brand owners committing to recycled content targets. While demand is accelerating, supply is struggling to keep pace, creating a structurally attractive market for circular plastics.

We launched our Circular and Low Carbon Solutions (CLCS) business in 2022 to capitalize on this growing demand, providing value for our shareholders, while also creating value for society and the environment by helping address the plastic waste challenge.

Our approach

- Deliver circular and low-carbon solutions through our portfolio of recycled and renewable-based polymers.
- Leverage and enhance our existing infrastructure to create vertically integrated hubs that enable scalable capabilities at our Cologne and Houston sites to deliver value to our stakeholders.
  - Expand our mechanical and chemical recycling capabilities.
  - Invest in plastic waste sorting infrastructure, through partnerships, such as Cyclyx and Source One Plastics joint ventures, to drive access to feedstocks.
- Use our 70+ years of innovative expertise to keep developing and scaling up our proprietary *MoReTec* chemical recycling technology, and further develop our newly acquired *Newcycling* solution-based recycling technology to broaden our portfolio of recycled polymers.

Renewable-based polymers with lower carbon footprints, tailored solutions, and strategic partnerships for innovative, sustainable products.

Our goals:

Produce and market at least 2 million metric tons of recycled and renewable-based polymers annually by 2030[1]

Generate at least $1 billion of CLCS incremental EBITDA[2] by 2030

Zero loss of plastic pellets to the environment from our operations

1. Production and marketing includes (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.

Ending plastic waste

Producing and marketing recycled and renewable-based polymers

Read more on page 22

Recycled and renewable-based polymers produced and marketed in 2024[1]

203kt

1 Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.

Preventing plastic pellet loss

Read more on page 21

Pellet loss

0.0 kg

Producing and marketing recycled and renewable-based polymers

Our goals:

Produce and market at least 2 million metric tons of recycled and renewable-based polymers annually by 2030[1]

Generate at least $1 billion of CLCS incremental EBITDA[2] by 2030

1. Production and marketing includes (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.

Context

With growing global demand for recycled and renewable-based plastics – and limited supply – securing access to plastic waste feedstock and profitably expanding production capacity is key. This has been the focus of our CLCS business since its inception in 2022.

Through mechanical, solvent-based, and chemical recycling, we transform plastic waste into valuable resources, helping our customers meet their recycling and sustainability commitments, while reducing plastic waste that would otherwise end up incinerated or landfilled or in the environment.

Our renewable-based polymers offer our customers a lower product carbon footprint through the use of bio-based wastes and residues as feedstock.

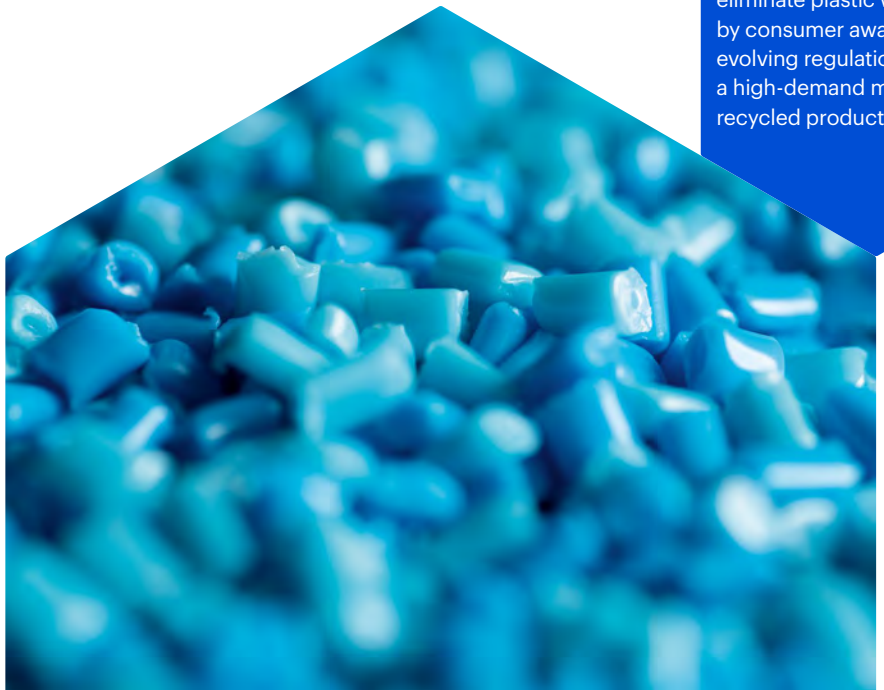
Mechanical and solvent-based recycling repurposes plastic waste into new products without altering its chemical structure, meanwhile chemical recycling breaks plastic waste back down to its molecular building blocks, enabling the production of high-quality plastics with the same characteristics as those from fossil-based feedstocks.

To meet regulatory requirements and sustainability commitments, customers are increasingly seeking higher-quality recycled and renewable-based content. We deliver differentiated value in markets such as consumer packaging (non-food), automotive, and consumer durables, through mechanical recycling. For end-markets requiring high-quality specifications – such as food and contact-sensitive consumer packaging – we provide solutions through our chemical recycling and renewable-based product portfolios.

We have a full scope of solutions in our CLCS business, tailored to meet brand owner requirements, including highly regulated applications. Strategic partnerships with select brand owners allow us to collaboratively develop innovative solutions, while product carbon footprint and life cycle assessment information build confidence and help customers meet their sustainability goals. Our production-ready, drop-in solutions enable seamless collaboration up and down the supply chain.

We believe attractive demand in targeted segments will continue to support our goal of producing and marketing at least 2 million metric tons of recycled and renewable-based polymers annually by 2030[1] and CLCS incremental EBITDA[2] of $1 billion by 2030. Although CLCS currently represents a small portion of our overall business, it is expanding rapidly, and we remain committed to its growth.

Embracing circular models to eliminate plastic waste, driven by consumer awareness and evolving regulations, creating a high-demand market for recycled products.



Our approach

To grow our Circular and Low Carbon Solutions business, we are investing upstream to secure feedstock supply, enhancing our recycling capabilities, and developing and scaling up technologies for the *Circulen* product portfolio – our portfolio of recycled and renewable-based polymers.

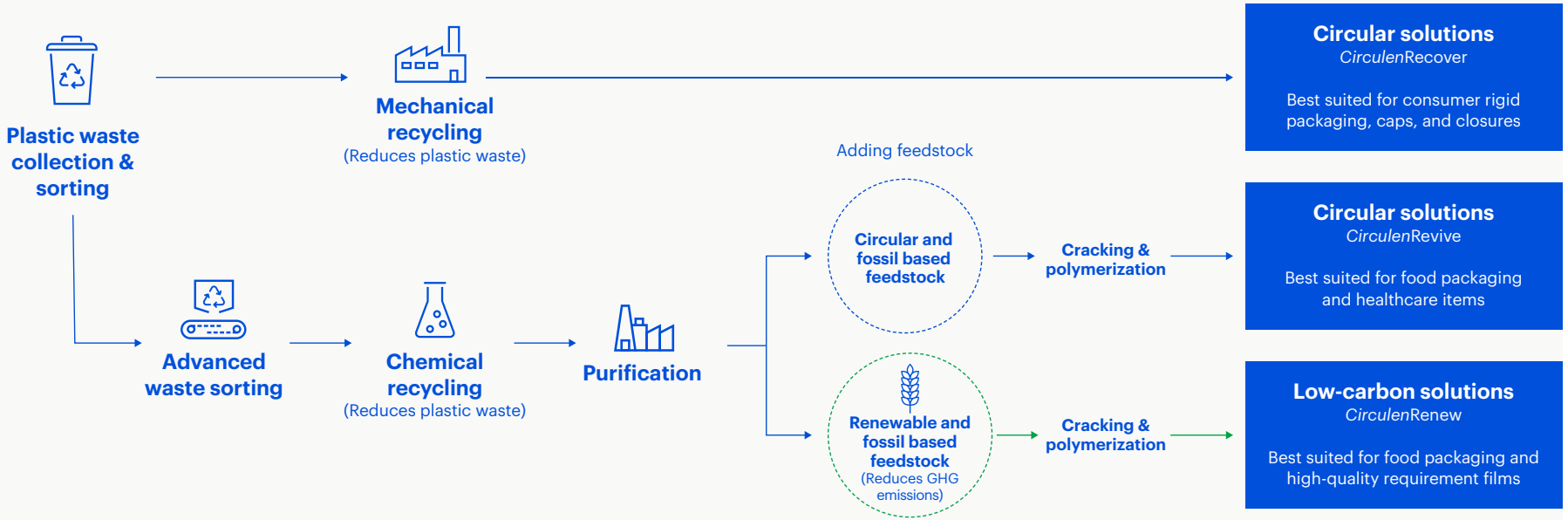
We are building integrated hubs in Cologne and Houston that will combine advanced sorting, mechanical recycling, and proprietary technologies like *MoReTec* and *Newcycling* with our existing cracking and polymerization capabilities.
These hubs also allow us to take advantage of an external network of partners to deliver continuous innovation at a global scale. Our *Circulen* portfolio—comprising *Circulen*Recover, *Circulen*Revive, and *Circulen*Renew—enables customers to achieve their sustainability goals through high-quality, customizable solutions.

Leveraging our hub model to scale up supply of plastic waste feedstock

We are investing upstream in the value chain to unlock access and increase the supply of recycled feedstocks and improve the quality of recycled products. Our integrated hub model combines existing assets in Cologne and Houston with new advanced sorting and recycling capabilities to scale operations, reduce costs, and capture value from plastic waste. Future strategic collaborations with upstream partners and joint ventures in Europe, North America and Asia will enhance our supply chain flexibility, ensuring a steady flow of high-quality circular products to meet global customer needs.

The LYB integrated hub model

- Regional hubs to access or supply feedstock
- Preferred strategic partner to feedstock owners
- Leveraging existing capabilities at Cologne and Houston sites
- Differentiated, advantaged technologies *(MoReTec)*
- Brand-owner collaborations via *Circulen* brand portfolio



Expanding global mechanical recycling capabilities

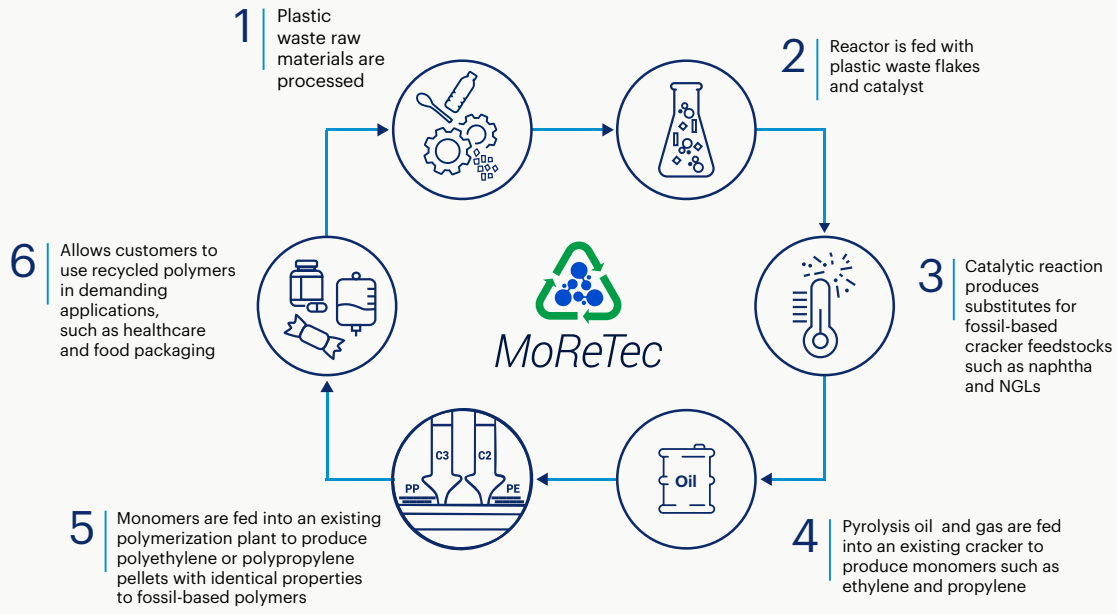
In 2024, we expanded our mechanical recycling footprint through joint ventures and acquisitions:

- Purchased rigid plastics mechanical recycling site in Jurupa Valley, California and reached final investment decision for a project to upgrade the facility. Manufacturing of post-consumer recycled resin began in 2024, with the upgrade project expected to be completed in early 2026.
- Invested in a closed-loop preparation center in Germany that will convert automotive and appliance plastics, such as bumpers and trim, into quality feedstock for high-performance materials. These recycled materials will be sold under the LYB *Circulen*Recover brand, offering recycled content for demanding applications in the automotive and white goods sectors.
- Opened a plastics recycling facility through our joint venture with Genox Recycling in China to produce polymers via mechanical recycling.
- Enhanced our capabilities to produce mechanically recycled, high-performing technical compounds at our APS facility in Riese, Italy.
- Achieved RecyClass certification at our APS facility in Ferrara, Italy ensuring transparency and traceability of high-quality post-consumer recycled content in polymers across the value chain.
- Acquired APK AG in Germany, bringing the *Newcycling* solution-based recycling technology into our portfolio, which enables recycling of multi-layer LDPE waste into high-quality polymers.
- Materials produced will be marketed under the *Circulen* portfolio, with plans to further develop the technology including assessing the possibility to construct multiple commercial scale plants. The technology offers a unique solution for separating different polymers types in hard-to-recycle, multi-layer, flexible plastic packaging materials, and producing recycled materials with a high degree of purity suitable for end-use applications including personal care products.

Advancing *MoReTec* chemical recycling technology

In 2024, we started construction of our *MoReTec*-1 plant in Cologne, a commercial scale chemical recycling facility utilizing our proprietary *MoReTec* technology. This facility is planned to operate using renewable energy. As of end of 2024, we have secured renewable electricity through power purchase agreements to supply the *MoReTec*-1 facility. The plant, which is expected to produce 50,000 metric tons of feedstock annually, was awarded a €40 million EU Innovation Fund grant[1]. We also started engineering of *MoReTec*-2[2], which is expected to have double the capacity of *MoReTec*-1, significantly enhancing our ability to meet the growing demand for recycled polymers and would be located at our Houston refinery site. The *MoReTec* technology's catalytic process delivers high yields (>80%)[3] with a 50% lower carbon footprint compared to fossil-based processes.[4] The feedstock will be used for *Circulen*Revive products, which can be used in demanding applications such as medical and food packaging.

How *MoReTec* works



Proceeds from our Green Bond were allocated to our *MoReTec*–1 project, and investments in Genox Recycling and APK AG.

1. Funded by the European Union. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.
2. Subject to the final investment decisions.
3. Yield depending on the quality of the waste plastic feedstock. We define yield as the percentage by weight of the waste plastic (with >85% polyolefin feed) fed to the process that is converted into liquid and gaseous products (pyrolysis oil and pyrolysis gas) that can be used as feedstock to produce new polyolefins.
4. Feedstocks produced via the *MoReTec* process (pyrolysis oil and gas) displace fossil-based feedstocks in the olefins cracking process; the stated carbon footprint reduction is based on a comparison of Life Cycle Assessment (LCA) results for (1) pyrolysis oil and gas produced by the *MoReTec* technology, and (2) fossil-based naphtha feedstock. LCA for pyrolysis oil and gas based on *MoReTec* pilot plant data. LCA for fossil-based naphtha includes carbon emissions associated with the production of fossil-based naphtha feedstock, plus incineration of the equivalent amount of mixed plastic waste required to produce pyrolisis oil and gas via the *MoReTec* process.

Transparency and measurable footprint through product life cycle metrics

Fact-based evidence is critical when defining the sustainability advantages of our products and technologies, and we are growing our internal capability to calculate life cycle metrics such as life cycle assessments (LCAs) and product carbon footprints (PCFs). As consumer preferences evolve, we expect LCAs will increasingly be used to support customer information needs on the sustainability attributes of products and technologies. By conducting in-depth life cycle assessments and maintaining digital documentation, we ensure a transparent and measurable footprint that builds confidence and meets the latest regulatory standards.

We are undertaking LCA studies for our *Circulen* and *+LC*[1] product portfolio as well as our proprietary technologies like propylene oxide (PO) with co-product tertiary butyl alcohol (TBA), and PO with co-product styrene monomer (SM). We are also assessing our *MoReTec* technology and expanding our activities towards our olefins, polymers and compounded products. We aim to generate full LCAs and associated PCF calculations for the majority of our product portfolio by the end of 2026.

Our LCAs are conducted according to International Organization for Standardization (ISO) standard 14040/44 (including 14067 for product carbon footprints). They undergo a critical review with an independent expert reviewer or a panel of experts (ISO/TS 14071), using recognized tools and databases, aligning with Together for Sustainability (TfS). We also use LCAs to support our evaluation of new technologies, collaborations with customers on their scope 3 emission targets, and work to evaluate our supply chain.

Additionally, we are collaborating to support the harmonization of product life cycle metrics and their application (e.g., ISO 14040/44, Product Environmental Footprint, GHG Protocol Product Standard) and share best practices within the chemical industry. For example, we participate in TfS and the World Business Council for Sustainable Development (WBCSD) Partnership for Carbon Transparency (PACT) pathfinder framework project, where members design and publish standards and tools for data exchange on PCF information.

1. The +LC brand is an offering of O&P and I&D products, which uses alternative sources of carbon from recycled and renewable, and bio-based materials, offering a low-carbon solution compared to fossil-based alternatives.

Collaboration and innovation in advanced sorting

In 2024, our Source One Plastics joint venture began advanced plastic waste sorting operations at its Eicklingen, Germany facility, processing difficult-to-recycle plastics to supply feedstock that will be used in our *MoReTec*-1 facility in Cologne. Powered by renewable energy, the Source One Plastics facility uses dry processing to reduce energy consumption by 30% compared to conventional plastic recycling technologies while also minimizing environmental dust release.

In 2024, our Cyclyx joint venture reached a final investment decision to build a second Cyclyx Circularity Center (CCC2) in the Dallas-Fort Worth area. This new facility, expected to start operations in the second half of 2026, will produce approximately 136,000 metric tons of plastic feedstock per year for both mechanical and chemical recycling technologies. Combined with the first center (CCC1) in Houston which is currently under construction, the two facilities will have the capacity to produce an estimated 272,000 metric tons of plastic waste feedstock annually.

Proceeds from our Green Bond were allocated to our investments in Source One Plastics and Cyclyx.

Our portfolio of recycled and renewable-based polymers

We offer a full portfolio of high-performance recycled and renewable-based polymers that customers can count on to meet their end-use needs and help achieve their sustainability goals:

Circular solutions through mechanical recycling

Our mechanical recycling processes upgrade plastic waste into usable materials through processes including sorting, washing, grinding, melting, and forming new pellets. The resulting recycled polymers can also be blended or compounded with traditional fossil-based products, enabling us to deliver high-quality polymers with an optimal balance of performance characteristics. These polymers can be used in a wide variety of industrial, household, and consumer product applications.

Circular solutions through chemical recycling

We use a chemical recycling process to convert post-consumer plastic waste back to its molecular starting point. This feedstock is then used in our conventional production processes to produce new recycled polymers. Chemical recycling complements mechanical recycling in that it can address hard-to-recycle items such as post-consumer composites, multilayer, and flexible plastics. The chemically recycled feedstock is mixed with conventional feedstocks in our process and attributed to *Circulen*Revive products using a mass balance approach certified according to the ISCC PLUS standard. These polymers can be used in highly regulated applications such as food contact and healthcare.

Low-carbon solutions through renewable feedstock

Renewable feedstocks, which are sourced from bio-based wastes and residual oils, can be combined with conventional feedstocks in our conventional production processes to produce new polymers. The renewable feedstock is attributed to *Circulen*Renew products using an ISCC PLUS-certified mass balance approach. The use of renewable feedstocks offers a lower carbon footprint compared to fossil-based feedstocks. These polymers can also be used in highly regulated applications such as food contact and healthcare.

Performance

In 2024, we produced and marketed 203 kilotons (kt) of recycled and renewable-based polymers.[1]

Our CLCS business continued to grow at a rapid pace in 2024. LYB produced and marketed 203kt of polymers based on mechanical recycling, chemical recycling and renewable feedstocks in 2024, an increase of 65% from the previous year.

We are generating attractive margins which are incremental to our fossil-based polymers, and we are making good progress toward our 2030 targets.

1. Production and marketing includes: (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.

Mechanical recycling

Innovative vehicle design

Innovative recycling solutions for an iconic car brand
Our APS business undertook a groundbreaking collaboration with Dacia for the exterior design of their all-new Duster model automobile. The automaker incorporated an LYB polypropylene (PP) compound containing 20% recycled PP based on mechanical recycling into its "Starkle®" material for use in bumpers, trims and body side moldings. This single pellet recycled solution streamlined the manufacturing process, enhanced design efficiency and improved the potential recyclability of parts. It also allowed Dacia to deliver a design that catered to customers' growing interest in recyclability, all while underscoring the brand's strong commitment to sustainability.

Mechanical recycling

Heat shrink film technology

Advancing heat shrink film technology
We worked with Zhengxin Packaging Co. Ltd. to advance a polyethylene (PE)-based heat shrink film for beverage bottles and food packaging. The new packaging solution contains up to 60% PE sourced from post-consumer waste. The solution exhibits similar performance stability compared to traditional heat shrink films and satisfies consumer demands for superior quality, and more sustainable packaging.

Mechanical recycling

Supplier of the year award

Recognized leadership in circular economy: Stellantis Supplier of the Year award
In 2024, LYB was honored with the Stellantis Supplier of the Year award in the Raw Materials category, recognizing our innovative contributions to the circular economy. The award highlights our APS business for their leadership in delivering high-quality, customer-centric polymers that drive innovation and support the brand's strong commitment to sustainability.

Renewable-based polymers

Bio-based baby care

A bio-based plastic baby bottle to create a more baby-friendly world

Pigeon Singapore, a leading manufacturer of mother Southeast Asia, Middle East, Africa and Oceania regions, collaborated with LYB to renew its SofTouch™ nursing bottles with *Circulen*Renew polypropylene (PP) polymers. The cap, hood and PP bottle are made from *Circulen*Renew polymers and attributed with 20% bio-based *content* via an ISCC PLUS certified mass balance approach. These polymers are sourced from bio-based residual oils that are renewable and do not compete with food production. They help reduce the usage of fossil-based feedstock without compromising on product quality and safety, thus supporting Pigeon Singapore's goals of contributing to a more sustainable environment for children and their families.

Renewable-based polymers

Reducing virgin plastic use

Reducing virgin plastic use with renewable-based polymers for toothpaste caps

Haleon is looking to replace 700 million virgin plastic toothpaste caps across Europe with bio-based versions made from waste products. This helps the company make progress towards its 2030 goal of reducing the use of virgin fossil-based plastic by a third compared to 2022. The company has already launched bio-based toothpaste tube caps in several markets in Europe, with the aim for caps in most markets to be manufactured using bio-based or recycled plastic by 2025. We're helping Haleon meet its goal through our *Circulen*Renew polymers, enabling production of toothpaste packaging and toothbrushes sourced from renewable-based materials using an ISCC PLUS-certified mass balance.

Inspiration

From waste to art

KunstStoffWelt: merging art, sustainability, and innovation

In June 2024, LYB inaugurated KunstStoffWelt, an experience center at its Kerpen facility combining art, sustainability, and innovation. The center showcases artwork created by renowned designers using post-consumer plastic waste. These groundbreaking concepts demonstrate how plastics can be transformed into beautiful and thought-provoking pieces. Visitors can explore these creations, tailored to various industries, and gain inspiration for their own sustainable practices. KunstStoffWelt serves as a hub for workshops and collaboration, engaging customers and the public in helping to develop creative solutions for a circular economy.

What's next

Meeting the growing global demand for recycled and renewable-based plastics is a complex challenge that won't be solved overnight. We remain firmly committed to our ambitious targets with the expectation that progress will not always be linear. Our existing partnerships and joint ventures are helping us make strong progress, and we will continue to pursue opportunities for further collaboration, including engagement with policymakers, regulators and associations.

Some of our key future milestones include:

Mechanical recycling and related value chain

- Our Cyclyx joint venture is maturing with expected start-up of its advanced sorting facility in the Houston area, Cyclyx Circularity Center 1 (CCC1), in 2025, and plans to build a second center (CCC2) in the Dallas-Fort Worth area, expected to start up in the second half of 2026.
- We expect the upgrade project at our mechanical recycling facility in Jurupa Valley, California, to be completed in early 2026.
- We are working toward a final investment decision for a project to further develop our *Newcycling* technology.
- We expect our Genox joint venture to start-up an additional mechanical recycling line in 2025.

Chemical recycling and related value chain

- Construction of *MoReTec*-1 is underway with startup expected in 2026.
- We are working toward the final investment decision for a second *MoReTec*-2 facility in the Houston area in the first half of 2026.

Preventing plastic pellet loss

Our goals:

Zero loss of plastic pellets to the environment from our operations

Context

We sell polymer products in the form of pellets, flakes, and powders, which are handled at multiple points from production to transportation and delivery to customers.

Responsible pellet management and preventing pellet and polymer loss from our polymer handling sites is a high priority for us.

Our approach

LYB is a proud member of Operation Clean Sweep® (OCS), a global initiative aimed at reducing the loss of pellets, flakes, and powders into the environment. The initiative supports its members in their efforts to identify and improve practices to achieve zero pellet loss. Our manufacturing operations are guided by OCS's management system, which is embedded into our Operational Excellence Management System (OEMS).

We train our employees, conduct annual risk assessments associated with pellet handling, recycling, disposal and containment, and develop enhancement projects to address the identified risks.

We also encourage other companies that handle polymers to become members of OCS and work with our customers to prevent pellet loss during transportation. One example of our outreach efforts is our support and involvement in a regional OCS summit held in Houston, in September 2024. During the event, our Senior Vice President for Health, Safety and Environment provided a summary of our OCS program with the aim of encouraging others to join the initiative.

Performance

We had no reportable losses of pellets to the environment from our operations in 2024.

We monitor and report pellet loss in accordance with American Chemistry Council (ACC) guidance. For purposes of our reporting, 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. In 2024, we did not experience any reportable losses off-site. In the event of a release, we clean the spill, conduct an investigation, and implement corrective actions to prevent a similar incident in the future.

Pellet loss from our operations

	2021	2022	2023	**2024**
Number of polymer sites	76	75	77	**76**
Loss incidents	4	4	1	**0**
Loss (kilograms)	43	11	10	**0**

Elevating our commitment

Operation Clean Sweep® (OCS) EU and OCS Blue
We have elevated our commitment to the OCS management system by adhering to two regional certification schemes: OCS EU for EU sites and OCS Blue for U.S. sites. These programs introduce stringent management, measurement, and reporting requirements, which are embedded in our internal OEMS system, and require third-party audits to verify compliance and achieve certification. We began these third-party audits in 2023 and, to date, 16 of our EU sites have achieved certification.

We also conduct annual internal assessments and implement corrective actions as part of our OEMS program. For 2025 and beyond, we plan to advance the third-party audit program, with nine more EU sites, and seven more U.S. sites planned in 2025. We also plan to extend the third-party audit program beyond the EU and the U.S. once requirements become available.

Operation Clean Sweep®

Taking climate action

Creating **value** *through* **decarbonization**

Taking climate action why it matters

At LYB, we are committed to leading in value creation from low-carbon products, delivering solutions to advance our customers' climate ambitions and reduce greenhouse gas (GHG) emissions from our global operations and value chain. As companies increasingly set their own scope 3 goals and demand for low-carbon footprint materials increases, we believe our ambitious climate goals will be a competitive advantage, generating value for LYB, our shareholders, and society.

LYB supports the global objectives to limit global temperature rise to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 °C. Our climate targets are grounded in the latest climate science and guided by the Science Based Targets initiative (SBTi). Our goals include a 42% reduction in scope 1 and 2 emissions and a 30% reduction in scope 3 emissions by 2030 relative to a 2020 baseline.

In a hard-to-abate sector such as the chemical industry, achieving these goals will require significant investment in technologies with high upfront capital and operational costs such as hydrogen, process electrification, and carbon capture and storage. This investment needs to be supported by regulatory frameworks and other financial instruments as well as market demand drivers for low-carbon products. Moreover, certification standards and chain of custody frameworks need to be in place for low-carbon products. Industry associations and policymakers have the opportunity to work together to reduce emissions while also maintaining competitiveness.

In 2024, we engaged in initiatives such as the World Business Council for Sustainable Development's Center for Decarbonization Demand Acceleration and the Center for Green Market Activation to advance these efforts. Read more about this in our Stakeholder engagement section.

Our approach

- Create and capture value via low-carbon and circular solutions brought to the market, and collaborate with our customers to help them achieve their climate and scope 3 ambitions
- Align our climate ambition and associated targets with the latest climate science
- Develop and quantify transition pathways to attain our scope 1 and 2 targets through multiple levers, including energy efficiency, electrification coupled with renewable and low-carbon electricity, hydrogen, and carbon capture, storage, and utilization
- Develop and quantify pathways to attain our scope 3 targets through our exit from the refining business, our increased use of renewable-based and circular feedstocks, and our engagement with our suppliers with a priority on engagement with our feedstock, raw materials and logistic suppliers.
- Assign a monetary value on scope 1 and 2 GHG emissions, differentiated by region, to drive cost-effective climate action and align our capital expenditure and energy-related decisions with our overall climate ambitions
- Continue to analyze and integrate climate-related risks, opportunities and impacts into our business processes and strategy
- Engage with governments and industry peers, including through our trade associations, to support effective policies to achieve our climate ambitions

Our goals:

Achieve net zero GHG emissions from our global operations by 2050[1]

Reduce absolute scope 1 and 2 GHG emissions by 42% by 2030[2]

Reduce absolute scope 3 GHG emissions by 30% by 2030[2]

Procure a minimum of 50% of electricity from renewable sources by 2030[3]

1. Our 2050 net zero GHG emissions goal includes scope 1 and 2 emissions.
2. Relative to a 2020 baseline.
3. Based on 2020 procured levels.

Taking climate action

Reducing our operational emissions

Read more on page 32

Reduced total scope 1+2 emissions in 2024, compared to 2023 by approximately

200 kilotons (CO_2e)

Tackling emissions in our value chain

Read more on page 41

Climate change risk management

Read more on page 46

Reducing our operational emissions

Our goals:

Reduce absolute scope 1 and 2 GHG emissions 42% by 2030[1] and achieve net zero scope 1 and 2 GHG emissions from our global operations by 2050

Procure a minimum of 50% of our electricity from renewable sources by 2030[2]

1. Compared to a 2020 baseline.
2. Based on 2020 procured levels.

Context

Globally, our scope 1 and 2 emission footprint is about 22 million metric tons, with roughly 75% from North American operations and 25% from Europe.

Scope 1 and 2 emissions from other regions represent less than 1% of our total. Some of our operations are highly energy-intensive, requiring significant amounts of heat, electricity, and raw materials. From our manufacturing operations, our olefin plants are the largest GHG emission contributor, representing approximately 60% of our scope 1 and 2 footprint. Our PO plants within our I&D business are the second largest contributor, representing approximately 25% of our scope 1 and 2 footprint.

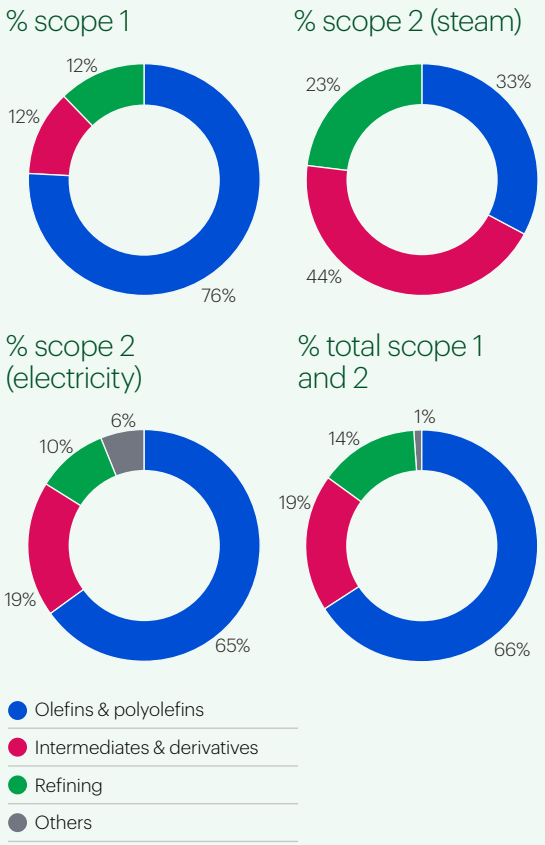
Procured electricity accounts for about 15% of our scope 1 and 2 footprint. We expect our total electricity needs to increase as a result of organic growth, investments and electrification projects. Procurement of electricity and steam is a key driver of GHG emissions in our non-olefin and non-PO assets. As a result, access to renewable electricity is crucial not only to address our current scope 2 emissions but also to support the development and implementation of GHG emission reduction technologies that require additional electricity demand.

European strategic assessment

In 2024, we initiated a strategic assessment of some of our European assets within our O&P and I&D business units, to reposition our asset base for continued long-term success. We expect to have more to share on the outcomes of our strategic assessment in the second half of 2025. In line with the GHG Protocol, a sale of assets would trigger a recalculation of our baseline emissions. While no final decisions have been made, a sale of the European assets announced as being within the scope of the assessment would result in a reduction of our baseline emissions by approximately 1.5 MMt, thereby lowering our 2030 scope 1 and 2 GHG emission reduction target by 0.6 MMt.

Exiting the refining business
In 2024, we made preparations for the successful shutdown of refining operations at our Houston Refinery in Q1 2025.

2020 baseline scope 1 and 2 GHG emissions by segment



Our approach

Our approach to net zero scope 1 and 2 GHG emissions:

Our pathway to net zero scope 1 and 2 GHG emissions across our global operations relies on four key reduction levers:

- **Energy efficiency:** Optimizing our use of energy in our manufacturing processes to lower our energy footprint, reduce GHG emissions, and reduce operational costs.
- **Renewable and low-carbon electricity and electrification:** Sourcing low-carbon electricity, including from renewable electricity projects, primarily through power purchase agreements (PPAs), and electrifying processes to reduce our reliance on fossil fuels.
- **Hydrogen:** Increasing the use of low-carbon hydrogen in our fuel mix used for energy on-site, to replace other more carbon-intensive fuels. We take a technology agnostic view when considering low-carbon hydrogen supply across its different production routes and are focused on sourcing cost-competitive low-carbon hydrogen as a key lever to reduce our site-level emissions.
- **Carbon capture and storage/utilization (CCS/CCU):** Capturing and either storing or reusing CO_2 from our operations to reduce direct emissions. We believe CCS can play an important role in capturing CO_2 emissions from the reforming process to produce hydrocarbons with a low-carbon footprint, as well as at other hard-to-abate point sources in our value chain.

Pathway to net zero from global operations

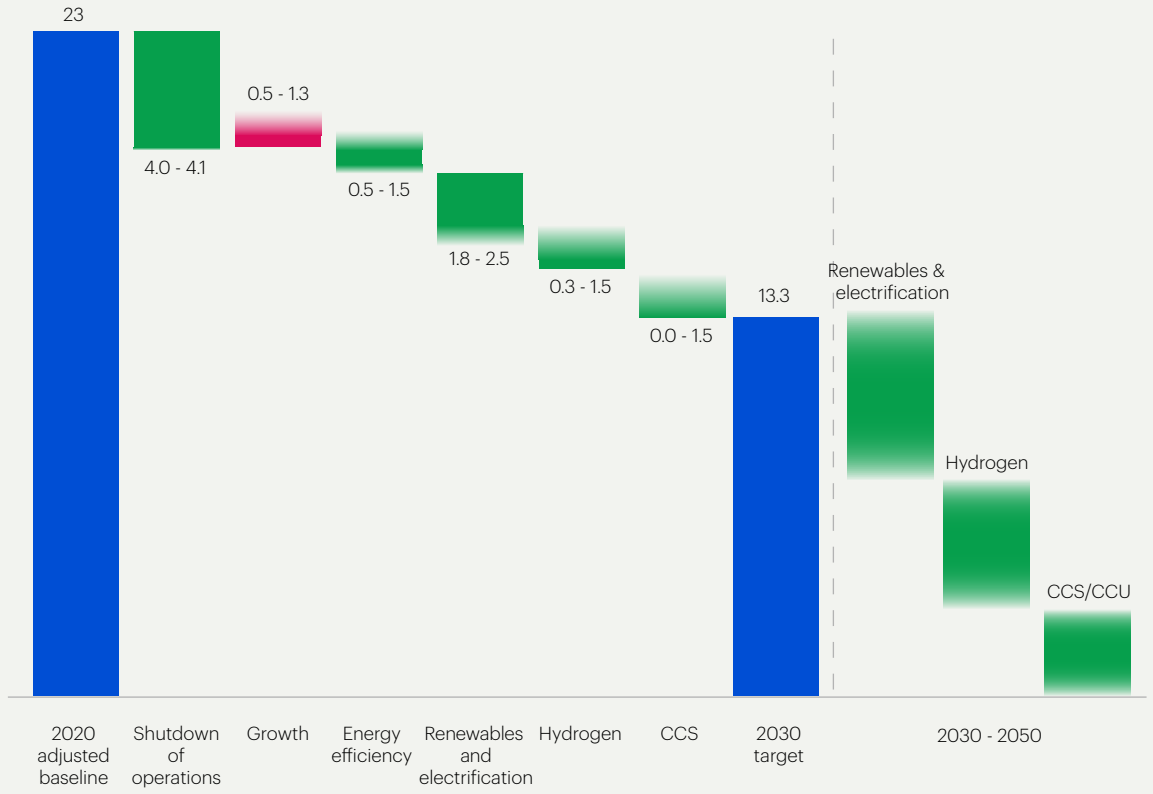


Chart represents projected pathway based on portfolio changes and potential reduction opportunities from our four reduction levers; our actual pathway may vary. Projects are in various stages of planning, development, and execution, and are subject to risks, uncertainties, and other factors. 2020 baseline takes into account anticipated adjustments based on announced transactions.

Beyond these four levers, we continuously investigate novel production processes with low to no GHG emissions, especially for potential application in our core olefin and propylene oxide businesses.

As we focus our asset base in market segments of core importance to us, we take into account as part of our climate approach organic growth, divestments, acquisitions and closures, including the shutdown of our Houston Refinery effective Q1 2025.

Our current path to meeting our 2030 climate goals does not include the use of offsets. However, we recognize that they may play a future role in meeting our long-term climate goals, as there will be emission sources where it will be either technically or economically infeasible to realize operational reductions. We are progressing on defining our offset strategy and the scope of its use in our overall transition plan.

Strategically investing in emission reduction projects

Our emission reduction projects are at different stages of development depending on their GHG reduction potential and business value. Projects scheduled for deployment later in the decade are in earlier stages of development, requiring further assessment of their economic feasibility and GHG reduction potential. We continuously evaluate the business case of each project and prioritize reduction opportunities based on value creation opportunities from low-carbon products to support customers' scope 3 goals. This includes evaluating value creation opportunity along with the project's rate of return, ensuring we continue to generate value for our shareholders while reducing our emissions footprint.

Several of these projects involve collaboration with external stakeholders, such as grid operators and our utility providers, and are dependent on several factors, including the development and availability of technology, our ability to secure permits and emissions credits, evolving regulatory requirements, customer and consumer preferences, and the construction of new infrastructure. Estimates of the associated expenditures are built into our long-range plan. We estimate capital spending to support our sustainability goals (including our climate and circularity ambitions). Approximately $200 million was spent in 2024. Additionally, we anticipate incurring costs for environmental compliance, including potential legislation and regulation related to climate change in subsequent periods.

We strategically invest in emission reduction projects, prioritizing opportunities based on their GHG reduction potential and business value to support our sustainability goals.

Reducing our scope 1 and 2 emissions

Our olefin and propylene oxide (PO) plants are the largest contributors to GHG emissions within our manufacturing operations, together accounting for approximately 85% of our combined scope 1 and 2 emissions.

Olefin plants are central to our business, producing key building blocks for other products like polymers and PO. PO is a basic chemical used as a building block in the production of intermediate products found in thousands of everyday products. We make PO using two different proprietary technologies, one which generates PO alongside co-product styrene monomer (SM) and the other alongside co-product tertiary butyl alcohol (TBA). We use TBA as a precursor in the production of oxyfuels, which are fuel additives that improve fuel efficiency and engine performance while reducing exhaust emissions, thereby reducing the GHG footprint of gasoline vehicles. As they account for a large proportion of our scope 1 and 2 emissions, reducing emissions from our olefin and PO processes will be crucial for achieving net zero scope 1 and 2 emissions and will contribute to carbon footprint reduction of products across the petrochemical value chain.

The GHG footprint of olefin plants is primarily driven by the heat needed for thermal cracking, which is typically generated by burning procured fossil fuels and fuels produced in the cracker such as methane. For our PO plants, the GHG footprint is primarily driven by their high demand for steam and power, which come from both on-site generation and third-party sources of energy. Our PO plants also produce liquid by-products that are reused for energy within the process. Our approach to reducing GHG emissions from our olefin and PO plants focuses on our four reduction levers, depending on site specific conditions, such as proximity to infrastructure and presence of industrial neighbors.

We are exploring technology pathways to alternatively manage the by-product fuel streams associated with our olefins and PO plants, with the aim of reducing GHG emissions and creating value. For example, reforming fuel streams into low-carbon hydrogen (with the use of CCS/CCU) or syngas could produce low-carbon energy and valuable intermediate chemicals, while reducing emissions associated with the use of these streams as fuel. Hydrogen is also a direct by-product of thermal cracking, with significant volumes generated in ethane-fed cracking. Previously directed to other uses such as desulfurization activities in our Houston Refinery, as we have prepared in 2024 for the shutdown of the refinery in Q1 2025, we are working to maximize the hydrogen reused for energy in our operations. By pursuing this approach and leveraging our vertical integration across steam crackers, PO units, and downstream production, we have the potential to meaningfully reduce the overall product carbon footprint (PCF) of products across the petrochemical value chain.

The role of internal carbon pricing

Through internal carbon pricing, we assign a monetary value to our GHG emissions which is integrated into our business planning and capital allocation processes, driving cost-effective climate action. We use a regionally differentiated approach, with price levels defined based on the EU Emissions Trading System (ETS) carbon market in the EU, and industry benchmarks in the U.S. and for the rest of our global operations. In 2024, price levels were defined at 89 EUR/ton CO_2e for EU projects and 42 USD/ ton CO_2e for projects in the Americas and globally.

The use of an internal carbon price is a key enabler for us to progress towards our scope 1 and 2 targets. As the energy transition progresses, we anticipate an increased value for carbon, driven by expected increases in global carbon regulations and growing customer willingness to pay a premium for low-carbon products.

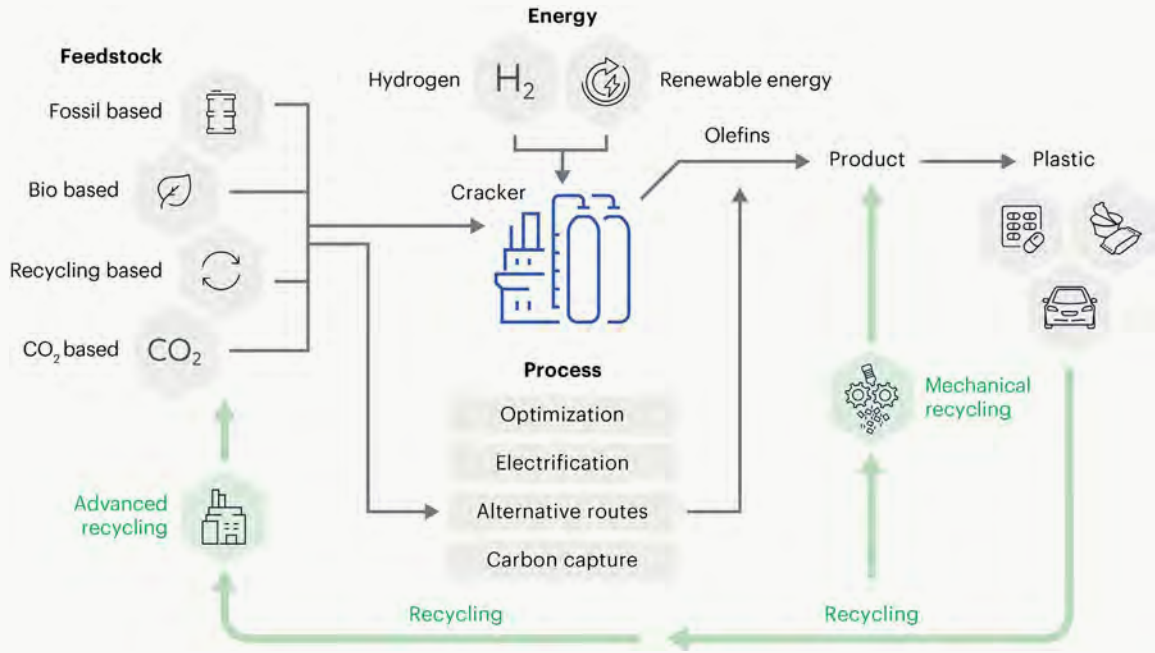
Internal carbon pricing drives cost-effective climate action by integrating the monetary value of GHG emissions into our business planning and capital allocation processes.

Our engagement with the Science-Based Targets initiative

In 2022, we committed to having our 2030 targets validated as science-based by the Science Based Targets initiative (SBTi). While our initial commitment was accepted by the SBTi, the validation of our targets was subsequently paused due to a global suspension on companies with oil- and gas-related activities. We remain committed to aligning our climate targets with the latest climate science and will continue to work with SBTi on a path toward validation.

Conscious of the need for standardized targets to drive climate action in the industry, we joined several of our peers in the SBTi's Expert Advisory Group (EAG) for the chemical sector to contribute expertise, insights and industry experience to the development of target-setting guidance for our sector, which is currently undergoing public consultation. While we recognize SBTi's industry-leading approach to evaluating companies' transition pathways, we have differing opinions on several points: notably, how the draft guidance considers the PO value chain; the level of ambition for alternative feedstock volumes; and the restrictions on the use of mass balance, a key enabler for the use of alternative feedstocks by the chemical industry. Through the EAG, we continue to collaborate with the SBTi to advance the development of the guidance document, which is expected to be published in 2025.

Tomorrow's net zero/circular cracker



Graphic depicts the most material sources of GHG emissions; remaining sources to be addressed through other site reduction measures to reach net zero scope 1 and 2.

GHG emissions reductions

200 kilotons (CO_2e)

Renewable electricity

5.71%[1]

2023: 4.81%

1. % of renewable electricity over total electricity.

Performance

In 2024, we reduced our scope 1 and 2 emissions by approximately 200 kilotons of CO_2e compared with 2023, through sustained efforts in deploying Value Enhancement Program (VEP) emission reduction projects and the procurement of renewable electricity.

VEP initiatives drive GHG emissions reductions

In 2024, VEP projects resulted in estimated annual GHG emissions savings of nearly 310 kilotons of CO_2e and estimated annual energy savings of over five million GJ, from a total investment of $32 million in operating expenses and capital expenditures.

For example, at our Frankfurt, Germany site, home to catalyst and HDPE manufacturing units and a major R&D center, we signed an agreement to purchase steam from a neighboring company producing excess steam. This initiative reduces the site's annual scope 2 emissions by 3.4 kt CO_2e per year, which is equivalent to a 10% reduction compared to 2023. Meanwhile, at our PO site in Fos-sur-Mer, France, we deployed technology to recover flared gas and reused it to produce steam for manufacturing, reducing scope 1 emissions by 18 kilotons. The adjacent table provides an overview of selected VEP initiatives' contribution to emission reduction.

Aggregated overview of GHG emissions

(Million metric tons of CO_2e)	Baseline (2020)	2022	2023	**2024**
Gross scope 1 GHG emissions	15.6	14.7	15.4	**15.0**
Gross market-based scope 2 GHG emissions	7.6	7.4	7.0	**7.1**
Gross location-based scope 2 GHG emissions	7.1	7.0	7.1	**7.2**
Total scope 1+2 GHG emissions (market-based)	23.2	22.1	22.3	**22.1**
Total scope 1+2+3 GHG emissions (location-based)[2]	121.5	128.1	127.1	**132.1**
Total scope 1+2+3 GHG emissions (market-based)[2]	122.0	128.5	127.2	**132.0**

2. Total scope 1+2+3 GHG emissions (location-based) and Total scope 1+2+3 GHG emissions (market-based) includes scope 3 categories 1, 3, 4, 11, 12, and 15.

GHG intensity per revenue[3]

	2020	2022	2023	**2024**
Revenue (millions of USD)	–	–	–	**40,302**
GHG intensity per revenue (location-based) (tCO_2e/USD)	–	–	–	**0.003**
GHG intensity per revenue (market-based) (tCO_2e/USD)	–	–	–	**0.003**

3. Our GHG intensity per revenue is based on our scope 1, 2 and scope 3 emissions, including categories 1, 3, 4, 11, 12 and 15.
"–" indicates a new metric beginning in 2024; prior years are not disclosed.

GHG intensity per ton of product[4]

	2020	2022	2023	**2024**
Global production volumes (MMt)	38.8	40.1	42.2	**42.1**
GHG intensity per ton of product (tCO_2e/MMt)	0.60	0.55	0.53	**0.52**

4. Our GHG intensity per ton of product is based on scope 1 and 2 emissions (market-based).

Type of VEP initiative

	Estimated annual GHG savings (kilotons CO_2e)	Estimated annual energy savings (GJ)	Investment required $M
Energy efficiency	264	4,530,000	29
Process optimization	19	350,000	1
Maintenance, unplanned downtime, quality	1	30,000	2
Flared material reduction	26	260,000	0
Total	310	5,170,000	32

Powering progress together

Driving progress through partnerships at our PO site in Botlek, Netherlands

Transitioning to a low-carbon economy can't be done in isolation; forging partnerships is essential to make progress at scale and speed. At our PO site in Botlek, we are collaborating on a multi-stakeholder project to reduce our scope 2 emissions from purchased steam, which we procure from external utility suppliers. Purchased steam accounts for a large part of our operational emissions due to the volumes needed in our manufacturing processes.

In partnership with other companies in the Rotterdam-Botlek area, we aim to reduce natural gas consumption and both GHG and nitrogen emissions by reusing steam generated from industrial processes. Steam produced by Dutch waste processor AVR and Cabot Corporation will replace steam previously generated using natural gas.

As the primary consumer of the expanded Botlek Steam Network, we will contribute to a combined reduction of at least 50 million cubic meters of natural gas across the network. This equates to approximately 100 kilotons of GHG emissions and 40,000 kg of nitrogen emissions annually, and represents the amount of natural gas consumed by roughly 45,000 households annually. At our Botlek site, these efforts will cut scope 1 and 2 GHG emissions by 15%. Construction of the network expansion, initiated in December 2024 alongside other partners in the project, is expected to be completed by early 2026.

Proceeds from our Green Bond were allocated to portions of our secured PPAs

15%

scope 1 and 2 GHG emissions reduction at our Botlek site[1]

1. Annual reduction anticipated upon project completion.

Helping to scale clean energy

Reducing emissions in our procured electricity through PPAs

By committing to procure renewable electricity, we are helping accelerate investment in wind and solar farms by providing financial certainty to developers. This not only reduces our scope 2 GHG emissions but also contributes to the energy transition by enabling the expansion of clean energy capacity. In 2024, we secured PPAs with an aggregate generation capacity that will enable us to meet our goal of procuring at least 50% of our electricity from renewable sources by 2030, based on 2020 procured levels. These agreements are expected to generate an estimated five million megawatt hours of renewable electricity annually, reducing our scope 2 emissions by more than 1.8 million metric tons of carbon emissions.

Proceeds from our Green Bond were allocated to portions of our secured PPAs.

Renewable energy PPA projects

Region	Technology	Estimated start up	Power generation capacity (MW)
USA	Wind	Active	100
USA	Solar	Active	431
USA	Wind	2025 – 2026	290
USA	Solar	2025 – 2026	175
Europe	Hybrid (wind & solar)	Active	54
Europe	Solar	Active	5
Europe	Solar	2025 – 2026	348
Europe	Wind	2025 – 2028	417
		Total	**1,820**

Projects listed are as of December 31, 2024, and represent the LYB portion of the project. Totals have been updated from our previous reporting to reflect changes to projects.

Energy intensity

	2020	2022	2023	2024
Gigajoule per ton of product	9.9	9.5	9.0	**9.0**
Total energy consumption from activities in high climate impact sectors per revenue from activities in high climate impact sectors (MWh/USD)[1]	-	-	-	**0.003**

Our energy data includes our manufacturing sites (also referred to as plants), pipelines, offices, and research or technical centers; and exclude small regional offices defined as those with energy consumption lower than a 3,500 gigajoules threshold for the reporting period.

"-" indicates a new metric beginning in 2024; prior years are not disclosed.

Energy

(Million gigajoules)	2020	2022	2023	2024
Total electricity procured volumes	30	31	32	**32**
% of renewable electricity over total electricity	1.04%	0.40%	4.81%	**5.71%**
% grid electricity procured over total energy consumption	7.8%	8.1%	8.4%	**8.4%**

Energy consumption and mix

(Million megawatt-hours)	2023	2024
Fuel consumption from coal and coal products	-	**2.1**
Fuel consumption from crude oil and petroleum products	-	**31.4**
Fuel consumption from natural gas	-	**27.7**
Fuel consumption from other fossil sources	-	**0.0**
Consumption of purchased or acquired electricity, heat, steam, and cooling from fossil sources	-	**26.9**
Total fossil energy consumption	-	**88.1**
Share of fossil sources in total energy consumption (%)	-	**83%**
Consumption from nuclear sources	-	**1.0**
Share of consumption from nuclear sources in total energy consumption (%)	-	**1%**
Fuel consumption from other non-renewable sources	-	**15.0**
Share of fuel consumption from other non-renewable sources in total energy consumption (%)	-	**14%**
Consumption of energy from renewable sources	0.4	**1.6**
Share of consumption of energy from renewable sources in total energy consumption (%)	-	**2%**
Total energy consumption	105.6	**105.7**

"-" indicates a new metric beginning in 2024; prior years are not disclosed.

What's next

Hydrogen olefin projects

Our olefin plants are a major contributor to our scope 1 and 2 emissions due to their high heat demand. To reach our 2030 targets, reducing GHG emissions from fossil fuel combustion is key to our strategy. One way to achieve this is by replacing fossil fuels with hydrogen, which produces no direct GHG emissions when combusted.

As part of our olefin process, we generate a methane- and hydrogen-rich gas stream, which is used as fuel in our operations. We are evaluating a new approach that would separate the methane from the hydrogen, and use a reforming process to convert the methane into additional hydrogen for reuse as fuel. This hydrogen would displace natural gas and other fossil fuels in our process.

At our Channelview site (U.S.), hydrogen was traditionally sent by pipeline to our Houston Refinery for desulfurization in fuel production. With the cessation of refinery operations, we are assessing the use of this hydrogen in our Channelview fuel system as a replacement for fossil fuels. Additionally, we are evaluating reforming excess methane into hydrogen, and capturing and storing the GHG emissions from the reforming process.

We are assessing similar projects at our sites in Wesseling, Germany and La Porte, Texas, U.S. A successful future methane reforming project could reduce an olefin plant's scope 1 and 2 emissions by over 90%, and enable a reduction in the carbon footprint of our olefin products. In 2025, we plan to continue assessment of these projects.

Hydrogen availability

We are also exploring ways to secure hydrogen supply through the market, although low-carbon hydrogen remains relatively expensive — ranging from two to more than five times the cost of "grey" hydrogen, which is the most common form of hydrogen production with a higher carbon intensity. This cost disparity poses a barrier to widespread adoption of hydrogen as a replacement for fossil fuels. Achieving cost parity will require technological advancements and supportive policies, along with abundant renewable energy at competitive prices and an efficient common carrier infrastructure.

We believe that governments have a critical role to play in fostering the development of this infrastructure. By providing a stable policy and investment framework, streamlining permitting processes, and stimulating diverse low-carbon hydrogen production, they can drive progress. Such infrastructure would contribute to U.S. energy independence by supporting growth of domestic hydrogen production and value chains and would enable economic growth and job creation.

Infrastructure development

Infrastructure development plays a critical role in enabling the transport and delivery of materials and energy that are essential for reducing the carbon footprint of our products and manufacturing operations. We are working with key stakeholders across our value chains to drive the development and availability of energy, CCS/CCU, and recycling infrastructure.

A great example of this is our Wesseling site in Germany, where partnerships across the value chain are helping deploy critical infrastructure to support our GHG reduction efforts. In Q1 2025, we signed an agreement with ThyssenGas to connect our Wesseling site with their hydrogen core network, facilitating the transport of hydrogen. At the same time, we are collaborating with grid operators to expand electrical grid capacity to support future electrification projects as well as to develop CO_2 infrastructure for CO_2 captured on-site.

Exploring ways to reduce GHG emissions by replacing fossil fuels with hydrogen and developing infrastructure.

Tackling emissions in our value chain

Our goal:

Reduce absolute scope 3 GHG emissions 30% by 2030[2]

Context

Globally, we estimate scope 3 emissions at around 112 million metric tons.

We are focused not only on reducing emissions in our own operations, but also on collaborating across the value chain. Our approach to reducing scope 3 emissions is centered on engaging with our suppliers, using alternative feedstocks and fuels, and our exit from the refining business. Our efforts to reduce scope 3 emissions enable us to offer lower-carbon products that help our customers reduce their scope 3 emissions, for example with our *Circulen*Renew polymers sourced from bio-based feedstocks.

Exiting the refining business will cut our scope 3 emissions by about 40 MMt annually.

Downstream, the most significant sources of GHG emissions are from the use and end life of sold products, accounting for 48% and 14% of scope 3 emissions, respectively. Purchased goods and services is the most significant source of upstream emissions, in particular those associated with purchased feedstock volumes. Although ceasing our refinery operations will reduce scope 3 emissions overall, it is expected to increase our supplier-related emissions.

Our approach

In line with SBTi target-setting standards, our scope 3 emissions target covers over two-thirds of estimated global emissions, totaling 83 MMt, and includes our most material sources: feedstocks, products, and equity investments. Our evolving strategy incorporates our four reduction levers while accounting for organic growth and investments affecting scope 3 emissions.

- **Exit from refining:** In the first quarter of 2025, we ended crude oil refining operations at our Houston Refinery. We estimate our exit from the refining business will reduce scope 3 emissions, including those related to crude oil procurement and the sale and marketing of petroleum refined products, by approximately 40MMt annually.
- **Circular feedstocks:** We are increasing our use of renewable bio-based and recycled feedstocks to meet our goal of producing and marketing at least 2 MMt of recycled and renewable-based polymers annually by 2030[1]. This can reduce feedstock-related scope 3 emissions by displacing fossil-based raw materials.
- **Supplier engagement:** Collaborating with feedstocks, raw materials, and logistics suppliers helps us better understand product carbon footprints and identify reduction opportunities. We promote international industry guidelines, such as the Together for Sustainability Product Carbon Footprint guidance and the Global Logistics Emissions Council (GLEC) Framework, to harmonize scope 3 accounting across the value chain.
- **Lower-carbon fuels:** Shifting to less carbon-intensive fuels to fire our furnaces has the potential to reduce scope 3 emissions, in addition to reducing our scope 1 and scope 2 emissions. By reusing captive hydrogen and reforming methane-rich gas streams into hydrogen, we can displace fossil fuels like natural gas in our fuel mix and avoid emissions linked to the upstream production of these fuels.

1. Production and marketing includes (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Relative to a 2020 baseline.

Primary reduction levers to achieve scope 3 GHG emissions reduction target[1]

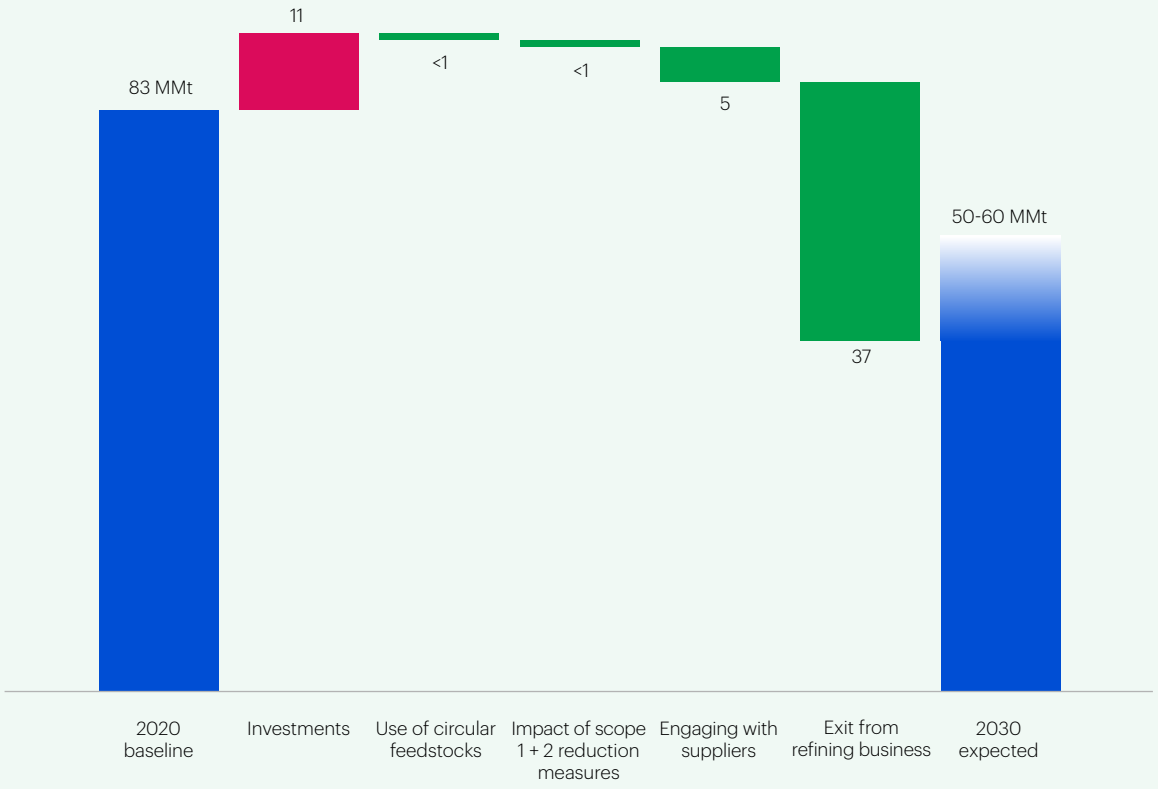
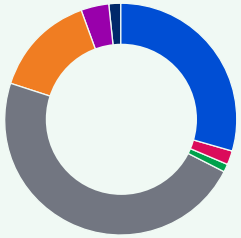


Chart represents projected pathway based on portfolio changes and potential reduction opportunities from our four reduction levers; our actual pathway is subject to change.

Performance

In 2024, scope 3 emissions increased due to higher sales and production volumes of oxyfuels in Category 11, as well as increased sales quantities in Category 12 and purchased goods in Category 1. Additionally, updated emission factors for 2024 in databases contributed to the overall rise of scope 3 emissions.

Breakdown of scope 3 emissions by emission source



Purchased goods and services	30%
Fuel and other energy related activities	2%
Upstream transportation	1%
Use of sold products	48%
End-of-life treatment of sold products	14%
Equity investments	4%
Other	2%

Aggregated overview of scope 3 GHG emissions[2]

(Million metric tons of CO_2e)	2020	2022	2023	**2024**
Total gross indirect (scope 3) GHG emissions	101.0	106.4	106.5	**111.7**
Scope 3 emissions (target boundaries)	82.6	87.9	89.8	**93.8**
Upstream scope 3 emissions	33.1	33.7	34.6	**37.5**
Downstream scope 3 emissions	67.9	72.7	71.9	**74.1**

Breakdown of scope 3 emissions

(Million metric tons of CO_2e)	2020	2022	2023	**2024**
Category 1: Purchased goods and services	28.5	28.5	30.0	**33.1**
Category 3: Fuel and other energy related activities	2.0	2.6	2.4	**2.3**
Category 4: Upstream transportation	1.0	1.0	1.1	**1.0**
Category 11: Use of sold products	48.1	50.6	52.3	**53.3**
Category 12: End-of-life treatment of sold products	16.2	16.3	15.0	**16.1**
Category 15: Equity investments	3.1	5.2	4.1	**4.2**
Other upstream scope 3 emissions[3]	1.7	1.6	1.2	**1.2**
Other downstream scope 3 emissions[4]	0.6	0.6	0.6	**0.6**

1. In line with SBTi target setting requirements, our scope 3 target includes emissions from at least two-thirds of our global scope 3 emissions. Emissions from our feedstocks and raw materials (category 1), our energy-related activities (category 3), our upstream transportation (category 4), use of our products (category 11), and our equity investments (category 15) are included in our target boundaries. Chart represents projected pathway based on portfolio changes and potential reduction opportunities from our reduction levers; our actual pathway may differ.
2. Scope 3 emissions have been restated for previous years, including the baseline year. For more information, see the GRI Index in the Additional disclosures section.
3. Other upstream scope 3 emissions include categories 2, 5 and 6.
4. Other downstream scope 3 emissions include categories 7 and 9.

Totals may not sum due to rounding.

Engaging key suppliers

Engagement with our feedstock and raw material suppliers on carbon footprint data
Upstream supply chain emissions, particularly from feedstocks and raw materials suppliers, account for 30% of total scope 3 emissions and are expected to increase once we exit the refining business, making it a central focus of our overall scope 3 approach.

In 2024, we updated our supplier climate maturity framework. This framework evaluates supplier climate maturity based on data from EcoVadis and supplier surveys as well as secondary CO_{22} emissions data. First, suppliers are categorized to help tailor our engagement approach and focus on engaging with suppliers with the highest impact. We then engage with the goal of increasing the share of primary data from these suppliers in our scope 3 category 1 (purchased goods and services) inventory, helping these suppliers better understand their own emission reduction activities, and identifying opportunities for collaboration.

Also in 2024, we focused on bilateral, in-depth engagements with suppliers of key raw materials for our cracker and I&D operations, along with selected high-priority raw material suppliers of our APS business.

More than 35 engagement meetings were held, which led to over 130 product carbon footprint (PCF) datapoints, marking solid progress toward more and better primary data for our own calculations. We continue to work together with key suppliers to reduce emissions in our value chain.

We also collaborated with members from the Together for Sustainability (TfS) platform to support the rollout of SiGREEN, a data exchange platform for PCF information in the chemical industry, which officially launched in October 2024. This data exchange solution allows companies to request detailed carbon footprint information from suppliers, streamlining the process of calculating PCFs for multiple materials across complex global supply chains. We have been actively involved in piloting the platform and are now focused on increasing its adoption by using it to request and share PCFs and onboard key suppliers.

130

product carbon footprint datapoints gathered from supplier engagement meetings in 2024

Supporting supplier learning

Supporting suppliers with climate strategies and carbon footprint calculations through a comprehensive toolkit, best practices, and collaborative training.

LYB supports suppliers via learning and development opportunities
Building on the findings of our supplier maturity assessment, we rolled out resources to support our suppliers in developing their own climate strategies, including resources to support calculation of carbon footprint data. We developed a climate action toolkit as a one-stop shop resource for suppliers. The toolkit includes information on the TfS PCF Guideline and SiGREEN, as well as resources to support suppliers in understanding and calculating scope 1, 2, and 3 emissions, and PCFs.

By sharing best practices and lessons learned, we aim to drive collective progress across our industry. We also collaborated with the World Business Council for Sustainable Development to publish a case study in their Climate Drive Action Library, providing insights from our own experience to help other companies navigate their scope 3 challenges. The case study – Optimizing company-wide management of energy efficiency – highlights the significant impact of our VEP on reducing GHG emissions. Developed with over 70 member companies of the WBCSD, the Climate Drive Action Library provides a comprehensive resource hub that empowers businesses to set and achieve ambitious climate targets, fostering measurable emissions reduction.

We also hosted a series of trainings for our suppliers including in-depth technical support on how to calculate PCFs. In these webinars, we discussed the importance of understanding and managing PCFs for sustainable business practices, regulatory compliance, and meeting customer demands for transparency and accountability. We introduced the TfS PCF Guideline as a harmonized approach for calculating PCFs in the chemical industry and the preferred method for LYB suppliers. We also outlined the minimum data requirements for LYB suppliers to share their PCF data with us, emphasizing the need for recent and ISO-compliant data, and encouraging the use of TfS SiGREEN. During the webinars, we addressed common challenges in PCF calculation, highlighting the importance of starting with available data and improving accuracy over time. More than 300 suppliers attended the webinars.

Reducing transport emissions

Engagement with our logistic service providers
In 2024, we focused on improving the accuracy of our scope 3 data related to upstream and downstream transportation and distribution emissions by engaging with our logistic service providers to provide us with emission calculations in line with the Global Logistics Emissions Council (GLEC) framework 3.1. We are also participating in projects such as iLEAP through the Smart Freight Centre and are already using primary emission data obtained from chemical tankers.

We are continuously exploring emission reduction opportunities by engaging with our logistics service providers. We have conducted in-house studies on product sourcing, transport modality, and emission optimization. Furthermore, we have procured a shallow drafted PO barge, "Gas 96" (a propylene oxide barge that can transport our product even at low water levels in the Rhine), which will be delivered in 2025 and allow us to transport our PO volumes to customers with lower emissions.

Finally, as part of a VEP project, we introduced a new tank cleanliness inspection process for chemical tankers based on spectrophotometer readings for wash water. This process will reduce the amount of cleaning chemicals used and lower ship GHG emissions by reducing time spent waiting for readings, while also reducing costs.

Recognizing our suppliers

Collaborating with a supplier to reduce energy consumption and CO_2 emissions
Coperion, a global industrial and technological company in the areas of compounding and extrusion systems, sorting, shredding and washing equipment, won the LYB Sustainability Award for their efforts in reducing the carbon footprint of the raw material they supply to us. In a short period of time, they significantly reduced both energy consumption and CO_2 emissions at their HDPE extrusion plant through a pilot project. After thoroughly analyzing the entire process from the reactor outlet to the silos, Coperion implemented several key measures, including redesigning the extruder screws' configuration. This was a team effort, made possible by a close partnership that fostered collaboration and innovation.

What's next

We plan to continue focusing our supplier engagement activities on key upstream suppliers, including enhancing access to primary PCF data. With the shutdown of refining operations in Q1 2025, we anticipate a reduction in scope 3 emissions, including those related to crude oil procurement and the sale and marketing of petroleum refined products, of approximately 40MMt annually.

To advance our efforts in reducing emissions related to our upstream supply chain, we plan to deepen our collaboration with key suppliers while actively promoting and scaling the use of the TfS PCF exchange platform – SiGREEN. This initiative will enhance the collection of primary PCF data, enabling more comprehensive and efficient tracking of emissions.

We continue to prioritize collaboration and capability building, working closely with key suppliers. Through these efforts, we aim to accelerate upstream scope 3 emission reductions.

Climate change risk management

Climate change presents both physical risks, such as those affecting our assets and operations, and transition risks arising from the global move toward a low-carbon economy.

We assess climate-related risks, impacts and opportunities as part of our Enterprise Risk Management (ERM) program. Climate-related risk exposures throughout LYB and our extended supply chain are overseen by our Executive Vice President, Operational Excellence and HSE, with support from ERM, Sustainability, and cross-functional committees, including the Carbon Value Creation and Capture Steering Committee. Guided by the principles of the Task Force on Climate-related Financial Disclosures (TCFD), we have developed climate change risk management processes and embedded them in our ERM approach to support further analysis of risks from climate change and the development of climate scenarios to provide additional insight into future business decisions and inform our climate strategy. We are committed to transparent reporting and proactive management of climate-related risks and opportunities. The climate change risk management process utilizes the six-step ERM risk management process for both risks and opportunities based on the International Organization for Standardization (ISO) 31000:

- Understanding objectives
- Identification
- Assessment
- Evaluation
- Response
- Monitoring and reviewing

Climate-related risks and opportunities are evaluated across multiple levels in our organization including the Executive Committee, departmental, and program/project levels when applicable. Our approach involves analyzing the nature of climate-related risks and opportunities and determining a risk rating, which is based on both the likelihood of occurrence and potential impact across different time frames (short-term: 0-5 years, medium-term: 6 – 15 years, and long-term> 15 years).

Additionally, the risk assessment covers our own operations, upstream as well as downstream activities. This comprehensive analysis helps us effectively identify, understand, and manage climate-related risks and opportunities within our operations.

The likelihood rating is based on an analysis of past occurrences, both within and beyond the organizational sphere, an evaluation of current risk trends and available data sources, and a consideration of how risks may manifest in future scenarios in light of the organization's control measures. The goal is to comprehensively understand the probability of a risk materializing.

The impact rating is based on an analysis of the repercussions of a risk event, including financial implications and non-financial impacts such as regulatory compliance, safety protocols, reputation management, and the welfare of the workforce. This analysis considers both immediate consequences and downstream effects, offering a comprehensive view of the risk's impact.

We evaluate climate risks and opportunities through our Enterprise Risk Management program to enhance resilience and sustainability.

Together, the likelihood and impact ratings contribute to a risk rating, which is essential for informed decision-making and mitigating climate change-related risks effectively.

Each identified risk undergoes an evaluation process guided by established ERM criteria to assess its risk exposure, considering strategies for risk reduction. Potential risk responses are assessed to gauge their feasibility and potential benefits, using a cost-benefit analysis as a guiding framework. Our risk management strategy focuses on continuous risk monitoring and control. To achieve this, we develop key risk indicators that can be tracked over time for each specific risk. These indicators act as our compass, helping us stay informed about how risks are evolving and changing. If a risk requires attention, these signs prompt timely responses.

Moreover, we place a strong emphasis on accountability. Each identified risk is entrusted to a risk owner, a designated individual responsible for overseeing and actively managing the risk. This approach creates a system that bolsters our risk management framework and allows us to proactively address climate change-related risks.

We have developed climate-related scenarios to assess both physical and transitional risks. These scenarios align with the Intergovernmental Panel on Climate Change (IPCC) representative concentration pathways (RCP): RCP 2.6, 4.5, and 8.5. These pathways represent varying expectations of global temperature rise in the medium-term (2030) and long-term (2050).

Climate-related risks and opportunities

	Risk type	Description	Potential impacts	Value chain impact	Time horizon
Risk	Regulatory	As an energy-intensive business, LYB is impacted by existing and emerging energy and climate legislation. For example, the European Union Emissions Trading System (ETS) has a direct impact on our operational costs, and we incorporate the costs associated with ETS in our long-range financial planning. We expect our scope 1 and 2 emissions reduction targets to partially mitigate the risk associated with new or modified climate regulation.	Increased operating costs in order to comply with regulation	Direct operations	Short term
	Technology	Risks related to developments in GHG emission reduction technologies may have a direct impact on our ability to meet reduction targets, for example, through changes in our production processes and our ability to provide products meeting our customers' climate goals.	Increased costs for emissions reduction technologies	Upstream Direct operations	Medium and long term
	Legal	LYB considers the potential for litigation and other legal risks in its climate-related risk assessments. For example, we monitor the development of climate-related litigation in the jurisdictions that are relevant to the company and apply insights from those developments to our risk assessments. Should LYB become subject to a court ruling in climate litigation, it could increase the cost of meeting our climate goals due to an accelerated pace and may also lead to reputational risk or loss of stakeholder confidence.	Increased costs and/or reduced demand for our products	Direct operations	Short term
	Market	There is an increasing awareness in downstream markets of the overall carbon footprint of products. Changing customer demand related to climate change may also create threats based on our speed and ability to respond adequately. For example, should LYB be considered insufficient in addressing climate challenges to the expectations of our stakeholders and customers, this could result in adverse financial effects, such as loss of market share from customer deselection, departure of employees, or loss of shareholder support.	Reduced demand for our products due to shift in consumer preferences	Downstream	Medium term
	Reputation	If we are unable to meet our climate goals, or if we are perceived by customers, shareholders or other stakeholders to have not responded appropriately to climate issues, our reputation, and therefore our ability to sell our products, could be negatively impacted.	Reduced demand for our products	Downstream	Medium term
	Acute physical	Severe weather events and climatic factors pose an acute physical risk to our operations, especially in vulnerable regions like the U.S. Gulf Coast. Climate change intensifies this risk, increasing the frequency and severity of events like hurricanes, flooding, and drought. While we maintain preparedness and business continuity plans aimed at minimizing potential disruptions and enhancing safety, these events still have the potential to interrupt our supply chain and operations. Our facilities on the U.S. Gulf Coast, a region that has previously encountered hurricanes, have experienced such interruptions in the past, necessitating temporary shutdowns.	Reduced revenue from production interruptions	Upstream Direct operations Downstream	Short term
	Chronic physical	Long-term climate changes bring about chronic physical risks to our operations, notably global sea level rise and persistent drought conditions. For instance, we have witnessed feedstock shipping restrictions caused by unseasonal weather variations in Germany, affecting the Rhine river's water levels.	Increased operational costs	Upstream Direct operations Downstream	Medium and long term
Opportunities	Technology	We strongly believe in the role emerging technologies will have to play in reducing GHG emissions in the chemical sector. Cross-functional teams assess new technology developments and their suitability in our operations to meet our reduction targets; for example, in the areas of olefin production technology, carbon capture, hydrogen, and process electrification, including steam crackers.	Reduced operating costs through efficiency gains	Direct operations	Medium and long term
	Market	With increasing global demand for recycled and renewable-based plastics and limited supply, our CLCS business is well-positioned to capitalize on this opportunity. By transforming plastic waste into valuable resources through mechanical, solvent-based, and chemical recycling, we help customers meet their sustainability goals and reduce waste. Our solutions offer a lower carbon footprint and cater to various markets, including consumer packaging, automotive, and consumer durables. As we focus on the future, we aim to produce and market at least 2 million metric tons of recycled and renewable-based polymers annually by 2030[1], contributing to $1 billion of CLCS incremental EBITDA[2] by 2030.	Increased revenue through accessing new markets	Downstream	Short term

1. Production and marketing includes (i) joint venture production marketed by LYB plus our pro rata share of the remaining production produced and marketed by the joint venture, and (ii) production via third-party tolling arrangements.
2. Incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA.

Environmental management why it matters

We strive to conduct our operations in a manner that does not adversely impact the environment.

Our environmental management is organized around four areas: emissions to air, water, and land; water use and availability; waste; and biodiversity and ecosystem services. Given the nature of our manufacturing processes, we place particular emphasis on monitoring and managing our emissions. We implement a holistic environmental management system, aimed at protecting people and the environment while also generating value for LYB, our customers, and shareholders.

Our approach

Our approach to environmental management has three interconnected components that drive compliance, generate business value and enable a more sustainable future.

- **Assess and manage environmental aspects and impacts:** Our Health, Safety, Environment, and Security (HSES) Policy, and our Environmental Management Standard (EMS) set forth our expectations for systematically assessing key environmental aspects and impacts so we can better manage them. Our assessments drive our environmental focus areas and support our goal of zero environmental incidents.
- **Maintain our environmental management system:** Our EMS describes our environmental management system. It sets out clear expectations, along with roles and responsibilities and is embedded in our operations. Our large sites are required to maintain their own site-specific environmental management systems as well, and we verify conformance through periodic audits. We also seek to influence our supply chain partners to adopt similar management systems.
- **Promote excellent environmental performance:** Continuous improvement is foundational to our environmental management system. Our environmental and operations professionals optimize processes, monitor emissions, implement best practices, identify and implement improvements, and maintain transparent reporting.

Integrated approach to environmental management

Our goals:

Our commitment to operating safely and responsibly includes a goal of zero environmental incidents[1]

1. We classify environmental incidents on a scale from 0 to 5, with Level 5 having the highest impact. Our GoalZERO environmental incidents goal relates to "Level 2+ Environmental Incidents", defined as a failure to meet a policy, standard, or applicable law due to unplanned emissions or release into the environment.

Environment

Environmental management

Read more on page 48

~70%

of our sites are either ISO 14001 certified or participate in the Responsible Care® program

Emissions to air, water and land

Read more on page 51

84%

of our sites achieved GoalZERO performance for environmental incidents

Water use and availability

Read more on page 54

<0.1%

of our global water consumption is in high or extremely-high water risk locations[1]

1. As defined by WRI.

Waste

Read more on page 55

14%

In 2024, the percentage of total waste that was diverted from disposal doubled from 7% to 14%

Biodiversity and ecosystem services

Read more on page 56

10%

We have identified 9 priority biodiversity sites, making up 10% of our total sites

Alignment with international frameworks

Our EMS is aligned with relevant international frameworks, such as the International Organization for Standardization's (ISO) Environmental Management System Standard (ISO 14001) and the American Chemistry Council's (ACC) Responsible Care Management System (RCMS).

Approximately 70% of our sites are either ISO 14001 certified or participate in the Responsible Care® program.[1] We conduct regular management reviews of our EMS standard to ensure compliance and continuous improvement. To stay informed and aligned, we participate in technical working groups for ISO 14001 and Responsible Care® along with other organizations such as the European Chemical Industry Council (CEFIC), and American Fuel and Petrochemical Manufacturers (AFPM).

Embedding environmental considerations into our business processes

By identifying opportunities to improve our environmental performance, we can often reduce our environmental footprint while also adding commercial value. Proactive emissions management, for example, may yield cost savings through improved efficiencies and lower compliance costs.

In 2024, we enhanced our global capital funding request process to better assess and prioritize projects with potential environmental benefits, such as reducing emissions or improving metrics related to water use, land use, and waste generation. We also require project teams to provide additional data on relevant environmental impacts of their projects. In 2024, we spent $269 million for projects impacting health, safety and environmental compliance or improvement. Spending for these categories was similar to past years.

Improving environmental performance reduces our footprint and adds value through proactive emissions management and continuous improvement.

What's next

We will continue to evaluate and pursue continuous improvement opportunities to enhance our environmental management systems, processes and tools with an emphasis on the following areas.

- **Informed decision-making:** We aim to enhance our decision-making by driving transformation in the way we communicate and visualize environmental risks and performance data.
- **Updates to our EMS:** We update our EMS as needed and are focused on empowering our teams to apply updates in a consistent, site-specific manner, and aligning our resources with activities that can drive the greatest benefit.
- **Growth in organizational capabilities:** We strive to develop and retain world-class environmental experts across diverse teams in our global manufacturing and HSE organizations, to ensure our organizational capabilities align with our business needs.

1. 57% of our sites are ISO 14001 certified. 13% of our sites are RCMS certified.

Clarity through data

You can't solve what you can't see: environmental data visualization at LYB

In 2024, we adopted a user-friendly data visualization platform based on Geographic Information Systems (GIS). This tool will enable our environmental teams to collaborate and build a common understanding of the various environmental conditions and stressors around our sites, and our interactions with these conditions and stressors. We will use this data platform to better connect and prioritize environmental risks at our sites, as well as better connect environmental impacts with other aspects of our business. By aggregating our existing data into a data platform, we can break down information silos, identify actionable insights, enhance organizational awareness, reduce duplication of effort, and capture value that would be difficult or costly to achieve otherwise. All of this helps to promote well-informed management actions that align with our values and risk-management philosophy.

Emissions to air, water and land

Context

Clean air, water, and land are vital resources in supporting the functioning ecosystems upon which we all depend.

Our major manufacturing operations are located in countries with well-established, science-based environmental laws and regulations designed to protect people and the environment. We are committed to complying with applicable laws and regulations, while working to reduce our risk profile and the impact we have on the environment.

Our approach

Advancing pollution prevention while managing emissions to air, water, and land

Our approach to pollution prevention and emission management is embedded in our GoalZERO culture and Operational Excellence Management System (OEMS), including our EMS. Our GoalZERO culture includes a focus on compliance with applicable environmental laws and regulations and preventing incidents through awareness, reporting, and investigation. Our EMS includes requirements for how we manage emissions, while our OEMS includes requirements that direct the safe and effective operation of emission control and environmental monitoring equipment.

We prioritize critical information sources such as material safety data sheets to design safe operating processes, limit emissions, reduce risks of potential unexpected releases to the environment, and ensure safe handling. By tracking emissions to air, water, and land, we examine trends and deploy proactive measures to drive continuous improvement. Our approach to monitoring and managing GHG emissions is detailed on page 41.

Every facility is required to report emissions that exceed thresholds set by relevant environmental authorities and document corrective actions, including responsible cleanup when necessary. Monitoring systems, alerts, and notifications inform our corrective actions and protective measures. If releases to soil or water require extended mitigation, specialized HSE professionals oversee efforts, monitor conditions, as well as liaise with authorities and other stakeholders. We also apply action plans and share learnings to prevent future incidents and follow a mitigation hierarchy: seek avoidance first, then reduction and restoration.

Reducing environmental impact through compliance, incident prevention, effective emission control, and a mitigation hierarchy.

Our environmental efforts extend beyond our own operations and include engagement with our suppliers. The "Sustainable procurement" section on page 100 highlights our sustainability-related engagement with suppliers. We assess whether suppliers have management systems in place to comply with applicable environmental laws and regulations as well as manage environmental aspects. In 2024, we initiated a supplier environmental maturity framework, which evaluates suppliers based on data derived from EcoVadis. Our suppliers have been categorized based on environmental topic maturity and overall spend and we plan to use this categorization to focus our engagements on critical topics and suppliers.

We also educate communities on emission sources, communicate relevant information about emission events, and engage with them to understand their concerns and seek feedback on our operations.

Read more about our social impact on page 94

Performance

We report on our Environmental GoalZERO performance (defined as having zero level 2+ environmental incidents) and environmental-related penalties across our sites.

Although we work hard to ensure GoalZERO at all our sites, sometimes incidents do occur. If they do, we investigate them thoroughly in order to understand their causes and actively work to reduce the likelihood of reoccurrence. We strive to maximize the sharing and proactive application of relevant learnings across our business in ways that drive continuous improvement. The total number of environmental incidents and fines is reported in the adjacent table.

In 2024, 78 out of 93 operating sites (84%) achieved GoalZERO performance for environmental incidents.

Environmental level 2+ incidents and fines/penalties[1]

	2021	2022	2023	2024
Number of incidents	74	94	135	**78**
Fines and penalties paid ($, MM)	$0.40	$3.99	$3.81	**$1.92**

Air emissions[2]

(Metric tons)	2021	2022	2023	2024
NOx	7,508	6,839	7,345	**7,250**
SOx	1,042	1,017	889	**831**
VOCs	7,913	7,393	7,388	**7,471**
CO	6,555	6,850	7,131	**7,363**
PM	1,106	1,053	1,040	**1,053**

Air emissions intensity

(Metric tons per million metric tons of product)	2021	2022	2023	2024
NOx intensity	194	170	174	**172**
SOx intensity	27	25	21	**20**
VOC intensity	204	184	175	**178**
CO intensity	169	171	169	**175**
PM intensity	29	26	25	**25**

1. We classify environmental incidents on a scale from 0 to 5, with Level 5 having the highest impact. We track environmental GoalZERO status as Level 2+ environmental incidents, indicating a failure to meet a policy, standard, or applicable law due to unplanned emissions or release into the environment. Data presented reflects the most current data available. Data entered for prior years may be updated in subsequent reports if additional information becomes available. Fines and penalties paid are rounded amounts.
2. See page 17 for Greenhouse Gas emissions. See GRI Index for other emissions information and definition of the air emission compounds. Air emissions data relates to our normal operations.

In 2023, we experienced an increase in Environmental L2+ incidents related to the commissioning and start-up of our world-scale PO/TBA facility. With the PO/TBA facility progressing into steady operations, combined with continuous improvement efforts and innovative programs, we experienced significantly fewer Environmental L2+ incidents across different sites in 2024 compared to 2023.

We are committed to compliance and strive to eliminate situations that could lead to non-compliance. While enforcement actions often lag behind non-compliance events, we paid considerably fewer penalties to resolve enforcement matters in 2024 compared to the previous two years. Of note, in 2024 $1.5MM of the total $1.92MM paid was to resolve a matter related to the now-divested Bayport, Texas ethylene oxide facility.

The adjacent table provides our air emissions data for compounds we track globally[2]. This data relates to emissions produced by our normal operations and, for the most part, does not include emissions related to instances of non-compliance with permits.

Building positive momentum

Reducing our number of environmental incidents by 42%[1]

In 2024, we achieved a 42% reduction in Environmental Level 2+ Incidents, building momentum towards our GoalZERO. This trend was driven partially by a reduction in incidents at our new PO/TBA facility, which experienced incidents related to the start-up of processes in 2023, and partially – and most importantly – by continuous improvement efforts across all our sites. Cross-functional teams, including environmental experts, proactively identified areas of improvement and implemented targeted action plans. We plan to incorporate learnings into permanent programs that will help sustain the positive momentum. We will continue to review our progress regularly, provide ongoing training and development for our teams, foster innovation, and share best practices across sites.

42%
reduction in Environmental Level 2+ Incidents

1. Total number of Environmental Level 2+ Incidents for the company in the reporting period compared to the prior period.

With regard to emissions to water, our sites monitor and report various water quality parameters depending on site operations and relevant permit and regulatory requirements. We are enhancing our reporting this year by providing data on total discharges[2] of Chemical Oxygen Demand, Biological Oxygen Demand, and Total Suspended Solids. For information on our total water withdrawals, consumption and discharge, please see page 54.

Water emissions

(Metric tons)	2024
Chemical Oxygen Demand (COD)	2,727
Biochemical Oxygen Demand (BOD)	283
Total Suspended Solids (TSS)	767

With the shutdown of refining operations at our Houston Refinery, we expect emissions to air to decrease, with the most notable reductions being in total SOx and PM emissions. Emissions to water are expected to be about the same.

In 2024, sites reported a total of three environmental incidents involving spills to land classified as Level 2+ Incidents. Incident investigations have produced action plans aimed at preventing similar spills in the future.

Other environmental data is disclosed in our GRI Index.

2. Based on average yearly totals.

What's next

As we continue to manage pollution prevention and emissions to air, water, and land, we plan to focus on several key areas:

- **Enhancing safety and reliability programs:** Our efforts to reduce unplanned incidents by enhancing safety and reliability also improve environmental compliance and performance.
- **Prioritized improvements:** Using a science-driven and risk-based approach, we prioritize environmental improvements that are most impactful.
- **Reinforcing ISO 14001 principles:** Refreshing the structure and function of our environmental management framework to drive further consistency with ISO 14001.
- **Enhancing global data collection:** In 2025, we stepped-up our centralized collection of environmental data from our Olefins and Polyolefins (O&P) and Intermediates and Derivatives (I&D) manufacturing sites, shifting from annual to quarterly data collection, to drive enhanced trend analysis, enable proactive management actions, and better support routine third-party audits.

Water use and availability

Our goal:

Complete site-specific water risk management plans at our large sites and facilities in high and extremely high water risk areas by 2030

Our context and approach

Water is an essential global resource. It is important for LYB because of its role in our manufacturing processes.

We use water primarily for process temperature management, steam production, and sanitary purposes.

We could experience water risk related to climate change. Several of our facilities are located on the U.S. Gulf Coast, which can be impacted by hurricanes and associated flooding, causing operational challenges. Additionally, our sites rely on rivers and other waterways for transportation that may experience restrictions in times of drought or other unseasonal weather variation. Climate-related water scarcity and drought could reduce freshwater availability for our operations.

Thoughtful management of location-specific water risks helps manage potential negative impacts and identify opportunities for positive outcomes.

Most of our sites are in low to medium-water risk areas, with less than 0.1% of our global water consumption in high or extremely-high water risk locations[1]. We are committed to completing water risk management plans for our large sites and facilities in high and extremely-high water risk areas by 2030.

Performance

In 2024, our water withdrawals , discharges, and consumption totals decreased slightly compared to previous years.

The following table shows our aggregated data for the reporting period.

Water withdrawals

(Million m³)	2021	2022	2023	**2024**
Total	271	273	279	**248**
Fresh surface water	130	123	131	**121**

Water discharge

(Million m³)	2021	2022	2023	**2024**
Total	164	160	162	**138**
Fresh surface water	39	38	38	**36**

Water consumption

(Million m³)	2021	2022	2023	**2024**
Total	107	113	117	**110**
of which are evaporative losses	81	86	91	**88**

What's next

We are completing water risk management plans in a systematic manner across our in-scope sites, and plan to evolve our water-related risk assessment approach as we progress this effort in the coming years.
For the few sites located in high and extremely-high water-risk areas, we are evaluating opportunities to reduce consumption, including through reusing water in our processes. Please see the GRI Index for further water-related details and progress.

Some areas where we operate could become high-water risk in the future or be vulnerable to restrictions. In 2024, we completed a future water stress assessment using Aqueduct's "business as usual" water stress scenario (SSP3 RCP7.0). While most of our sites are generally classified as low- or medium-water risk, water stress is an important variable when calculating overall water risk. In this assessment, the modeling indicated that our sites that could be located in extremely high or high overall water stress areas of the world in the future were consistent with our current identified group of sites located in water-stressed regions. This reaffirms our current approach and commitment to site-specific water risk management plans.

1. Based on World Resources Institute (WRI) water risk framework, Aqueduct 4.0 (WRI Aqueduct).

Waste

Our goal:

Refer to our goal of zero environmental incidents on page 48

Our context and approach

Much of the waste we produce is dilute liquid aqueous waste from our plant operations. Our operations also produce non-hazardous solid waste such as general plant refuse, and construction and demolition debris.

We seek to recycle or reuse materials where we can and, where we can't, we provide for safe, responsible, and compliant handling, transportation, and disposal. For instance, sites must use waste management companies that are pre-verified to meet our safe handling, quality and compliance expectations. We have a minimization mindset, where we aim to keep waste stream volumes to a minimum, especially those that require special handling due to hazardous characteristics.

Recycling and reusing materials wherever possible delivers business benefits by keeping our material and waste disposal costs low. Sites report annually on projects that result in waste minimization and share learnings across the company.

Performance

Please see our waste data and trends below. The GRI Index includes further waste-related details and progress.

Read more about our GRI on page 135

Our total overall waste generation is shown in the table below.

Waste generation[1] can vary from year to year, based on annual production, scheduled downtime, new unit start-ups, and implementation of reduction activities. In 2024, our waste generation was consistent with the prior year. However, the total amount of waste sent to disposal decreased, while the amount of waste diverted from disposal increased by 120%. This is a result of our sites' commitment to effective waste management and identifying recycling opportunities for non-hazardous waste streams. Our overall generated waste has decreased by approximately 30% since 2021.

In 2024, the percentage of total waste diverted from disposal doubled from 7% to 14%.

Waste generated[2]

(Thousand metric tons)	2021	2022	2023	**2024**
Total hazardous and non-hazardous waste	1,884	1,344	1,223	**1,251**

Waste diverted from disposal[2]

(Thousand metric tons)	2021	2022	2023	**2024**
Total hazardous and non-hazardous waste	63	55	81	**178**

Waste directed to disposal[2]

(Thousand metric tons)	2021	2022	2023	**2024**
Total hazardous and non-hazardous waste	1,821	1,289	1,142	**1,073**

1. Waste generation includes both waste diverted from and directed to disposal.
2. Some adjustments to past reported values have been made based on internal data validation processes progressed in this reporting period.

Biodiversity and ecosystem services

Our goal:

Complete biodiversity impact assessments at our priority sites

Our context and approach

Biodiversity – the variety of all living things – is essential to maintain healthy ecosystems, which provide society with essentials such as food, water, and raw materials, as well as support a more stable climate.

In 2022, we completed an enterprise-wide screening level biodiversity assessment of our major manufacturing operations, large offices and significant upstream and downstream value chain activities. From this assessment, we identified our focus areas: nine direct operations sites, our fossil fuel-based feedstocks, and our propylene products. The nine priority sites were selected based on several factors, including proximity to protected areas or key biodiversity areas. We plan to complete baseline biodiversity impact assessments at our priority sites.

We plan to obtain further information on the sourcing locations for our raw materials derived from forest risk commodities (FRCs). For our *Circulen*Renew and *+LC* bio-based products, we purchase our feedstocks from ISCC PLUS certified suppliers and track various details about the source materials, such as the vegetable origin, and outgoing material type. We purchase other raw materials that are derived from FRCs, such as palm oil. We estimate consumption of these products relative to our overall product consumption to be low, although comprehensive data is necessary to make a reliable statement about the percentage of procurement spent on these commodities.

Performance

The work needed to complete biodiversity impact assessments at our priority sites is already underway, informed by our enterprise-wide 2022 screening assessment.[1]

We are prioritizing sites for assessment based on proximity to protected areas or key biodiversity areas. We are in the process of completing biodiversity impact assessments for three of our priority sites in the Netherlands, Germany and the U.S. Gulf Coast region. We research biodiversity features around these sites, including threatened species and endangered ecosystems, identify critical species and habitats and assess factors that may impact them, including GHG emissions, air emissions and changes in land use.

What's next

In 2025, we will continue to progress these three assessments to deepen our understanding of potential biodiversity impacts, and if an impact is identified, develop appropriate management responses. We also plan to incorporate any learnings into our EMS.

Please see the GRI Index for further biodiversity-related details and progress on page 135

1. See GRI supplementary information.

Biodiversity is crucial for healthy ecosystems and a stable climate. We are committed to assessing and managing potential impacts.

Signing up for a more sustainable future: *reflections on the UN Global Plastics Treaty*

By Tracey Campbell, Executive Vice President, Sustainability and Corporate Affairs

Plastics have transformed our world, enabling affordable access to clean water, healthcare, mobility, and more. As a long-time plastics professional, I am very proud of the technological innovations and benefits plastics have delivered across societies. What we didn't contemplate was a lack of infrastructure, in certain geographies, to manage the waste generated by growing populations, populations who benefited from the very products professionals like me developed. Today, waste, including plastic waste, is challenging our environment, and it's time for change.

*"At LYB, we're not just advocating for change—*we're leading it. *And I, for one, am committed to making sure we get this right."*

The UN plastics treaty: critical juncture

We support an international legally binding global instrument (ILBI) to eliminate new plastic pollution while ensuring plastics remain an integral part of everyday sustainable living. The agreement should promote a circular economy—one where plastics are designed for reuse and recyclability and where waste is effectively managed. To achieve this, we must ensure:

- Universal access to collection and recycling systems
- Increased production of plastics from circular and bio-based feedstocks
- Design innovations that enhance recyclability and reuse
- A focus on reducing applications that are primarily single use, hard to recycle, and where improper waste management may result in littering

During the negotiations, there's been some discussion of capping plastic production. This action would reduce availability and increase the price of products, especially in developing nations where populations continue to grow at high rates, and impact materials essential to infrastructure, food safety, and healthcare. Restrictive caps could also hinder the development of sustainable solutions and disrupt industries reliant on plastics for public health needs.

Rather than an arbitrary cap, we need a smart, science-driven approach which considers life cycle impacts and national circumstances. Policy decisions should be grounded in data, ensuring they support economic growth.

27%

Europe's approximated plastics recycling rate

€8B

Expected industry investments in chemical recycling in Europe by 2030

Reflections on the INC-5 negotiations

I had high expectations for the INC-5 negotiations in South Korea, and like so many, I was disappointed a final agreement was not reached. That said, significant progress has been made, and I am an optimist at heart. Some have suggested industry involvement has hindered the negotiation process, but I disagree with this view. The plastics industry is a stakeholder in the success of this treaty and in the success of ending waste from entering our precious environment. We need industry expertise and experience, to craft an effective agreement. As Inger Andersen, Executive Director of the UN Environment Program, said, "A strong negotiation process will be one which embraces different points of view."

The right policies can eliminate plastic pollution while preserving the many benefits plastics provide. Solving plastic pollution requires a comprehensive, circular approach that balances environmental, societal, and economic factors. Fortunately, demand for sustainable solutions is rising. More companies in more regions are investing in recycled, bio-based, and lower-carbon plastics. We're already seeing real progress: Europe's plastics recycling rate is nearing 27%, and investments in chemical recycling are expected to reach €8 billion by 2030. In the U.S., over $11 billion has been invested in mechanical and chemical recycling since 2017. These numbers are encouraging, but we need a global approach to truly drive impact at scale.

Innovation as the key to plastics circularity

At LYB, we've broken ground on our first commercial-scale chemical recycling unit in Germany and are evaluating an even larger unit in Houston. Once operational, the German facility alone will process hard-to-recycle plastics equivalent to the annual waste of 1.2 million German citizens. This technology is game-changing—it allows us to convert plastic waste back into oil-like raw materials, closing the loop on plastic use and replacing fossil fuels used as raw materials.

But tackling plastic pollution isn't something we can do alone. That's why LYB is a founding member of the Alliance to End Plastic Waste, which has grown to over 65 members in just three years. This coalition is delivering impact, particularly in developing nations where waste management infrastructure is lacking.

$11B

Industry investments in mechanical and chemical recycling in the U.S. since 2017

65

Members of the Alliance to End Plastic Waste in three years

"A successful ILBI must be ambitious yet practical*; it must foster innovation, ensure access to recycling infrastructure, and account for national differences."*

A sustainable future is within reach

The road ahead isn't easy, but I'm confident we will get there. A successful ILBI must be ambitious yet practical; it must foster innovation, ensure access to recycling infrastructure, and account for national differences. All of these things are possible. We can deliver a future where plastics contribute positively to society without adding to pollution.

At LYB, we're not just advocating for change—we're leading it. And I, for one, am committed to making sure we get this right.

Sustainability *as opportunity*

By Paula Sanabria Luque, Wisdom Dzotsi, Daniel White, Riccardo Lamperti, Chris Schmidt, Andrea Del Forno, Patricia Drake, Nathaniel McCrary, CLCS Commercial Team, and Chris Cain, CVCC Team at LYB

To us, sustainability is a lot more than just environmental responsibility: it's a core business opportunity. As members of the Circular & Low Carbon Solutions (CLCS) and Carbon Value Creation and Capture (CVCC) teams, we are involved in transforming LYB operations and value chain in a way that ensures low-carbon and circular solutions drive both environmental impact and commercial success. Both, that's the key. We want to make sustainability profitable while simultaneously accelerating the transition to a low-carbon, circular economy.

"The future of plastics is evolving, and so are we. By integrating circular and low-carbon solutions into our core business strategy, we are shaping a more sustainable and profitable future."

The MoReTec chemical recycling technology delivers high plastic-to-plastic yields of more than

80%[1]

Circularity and closing the loop

By shifting to circular business models, we are redefining how materials are produced and reused. Our goal is to create circular solutions that extend the life of plastics, reduce reliance on fossil-based feedstocks, and minimize waste. But to make circularity a mainstream reality comes with challenges—whether it's infrastructure gaps, cost structures, or regulatory complexities.

Achieving industry-wide transformation requires collaboration. That's why we are actively working with brand owners, and technology partners to integrate low-carbon and circular materials into their products. By aligning sustainability with consumer value, we help ensure circular and low-carbon solutions become viable at scale. Government engagement is equally crucial, and we are advocating for policies that incentivize innovation and infrastructure investment for the future. Change happens faster when stakeholders work together, and we are committed to leading through collaboration.

Innovation as a way to create, power, and sustain genuine change

We have placed a lot of emphasis on investing in R&D and technology to power progress towards our sustainability goals. One of the most promising breakthroughs is *MoReTec*, our chemical recycling technology. *MoReTec* converts plastic waste into virgin-quality feedstocks, which can be used to replace fossil-based inputs. What makes our *MoReTec* technology so exciting is the catalytic process that delivers high plastic-to-plastic yields (more than 80%)[1] and its potential for electrification, allowing its already efficient operations to run on renewable energy, further reducing the carbon footprint. This aligns with our broader strategy to meet our GHG emissions reduction goals, which would take advantage of electrification, hydrogen fuel, and carbon capture to significantly cut emissions.

1. Yield depending on the quality of the waste plastic feedstock. We define yield as the percentage by weight of the waste plastic (with >85% polyolefin feed) fed into the process that is converted into liquid and gaseous products (pyrolysis oil and pyrolysis gas) that can be used to produce new polyolefins.

Building a successful circular and low-carbon business model isn't without its obstacles. One of the challenges is securing high-quality recycled feedstock, which depends on better plastic waste collection and sorting infrastructure. Similarly, renewable feedstocks are in high demand as industries shift toward biofuels. To tackle these challenges, we are forging partnerships across the supply chain, investing in plastic waste sorting infrastructure, and refining the value proposition for emerging solutions. With these actions, we believe the business model we are building will position LYB to thrive and become a market shaper in circular and low-carbon solutions.

The business of low-carbon solutions

Sustainability is already reshaping industries, and demand for low-carbon products is rising, driven by heightened consumer expectations, government policies, and corporate sustainability commitments. In 2024, we formalized a Carbon Value Creation and Capture (CVCC) initiative focused on identifying, quantifying, and capturing the value of these shifts. It's not just about cutting emissions, it's about strategically positioning LYB to thrive in a changing market. By anticipating trends, advocating for supportive policies, and innovating scalable solutions, we are ensuring the company remains at the forefront of the low-carbon economy.

"By shifting to circular business models, we are redefining how materials are produced and reused. "

Exiting the refining business

In 2024, we made preparations for the successful shutdown of refining operations at our Houston Refinery in Q1 2025. Our plans to transform the site for future growth are aligned with our goal to grow a profitable CLCS business. The strategically located site is connected to existing LYB assets in the Houston area and can use existing infrastructure including hydrotreaters, pipelines, tanks, utilities, buildings, and laboratories. In the future, we envision the 700-acre refining site will be part of our Houston regional hub for CLCS and support the growth of our *Circulen* product portfolio. We estimate that our exit from the refining business will reduce scope 1 and 2 GHG emissions by around 3 MMt and scope 3 emissions by approximately 40 MMt annually, including emissions related to crude oil procurement and the sale and marketing of petroleum refined products.

The road to 2030 (and beyond)

To meet our goal of producing and marketing at least 2 million metric tons of recycled and renewable-based polymers annually by 2030, we need to hone our focus. Having a supportive regulatory environment is critical, which is why we're teaming up with stakeholders to advocate for policies that set realistic targets for recycled content and recognise the importance of chemical recycling processes. We're also expanding our *Circulen* portfolio, investing in recycling technologies, and working together across the value chain to create solutions that enable brand owners to integrate more sustainable and circular materials into their products.

The future of plastics is evolving, and so are we. By integrating circular and low-carbon solutions into our core business strategy, we are shaping a more sustainable and profitable future. The decisions we make today will define our industry for years to come. Through the combined efforts of the teams, as well as our broader corporate strategy, we are proving that sustainability is an opportunity to create lasting value for our business, customers, and the world around us.

Transformation from *the ground up*

By Achim Schmitz, Chief Transformation Officer

How our Value Enhancement Program (VEP) is driving change

"Looking forward, I am convinced that the VEP will remain a cornerstone to deliver the LYB strategy."

Across our entire organization, we are beginning to fundamentally change the way we think, talk and act in relation to value.

I've always viewed the Value Enhancement Program (VEP) as being at the heart of our cultural shift to focus on value. It began as a rather straightforward initiative designed to unlock incremental value within LYB, but over the years it has evolved far beyond our original scope into a company-wide transformation. With over 12,000 employees invited to contribute ideas, the VEP has become a catalyst for financial and environmental progress, aligning with our strategic goals in ways I couldn't have imagined at its inception. It has blossomed into a genuinely transformative way of fostering a culture of empowerment, ownership and innovation.

Tapping into value generation across our organization

The true power of the VEP lies in its ability to harness the collective expertise of our workforce. Unlike traditional top-down initiatives, the VEP is built on a foundation of bottom-up ideation. Front-line employees, those who know the intricacies of our operations best, submit ideas in a consistent way through the VEP management system. This allows the owners to set milestones for each initiative and continuously monitor progress towards achievement, with full transparency.

12,000

employees invited to contribute ideas to the Value Enhancement Program (VEP)

$800M

of recurring annual EBITDA[1] unlocked

If bottom-up ideation and consistent tracking are two of our foundational principles, then agility is the third. Given our global presence and numerous operations, we've worked hard to make the VEP adaptable across our whole workforce, and it's this agility that has made it so effective.

The results speak for themselves. By the end of 2024, VEP projects unlocked more than $800 million in recurring annual EBITDA[1], and resulted in estimated annual GHG emission savings of nearly 310,000 metric tons. These achievements stem from a combination of operational improvements, cost savings and sustainability-driven initiatives. Whether it is optimizing distillation towers to reduce energy consumption or leveraging our procurement strategies to drive efficiencies, every initiative—no matter how big or small—contributes to our overarching mission of value creation. And with over 5,000 initiatives created and actively being pursued, the impact of the VEP projects is certainly prepared to grow.

1. Year-end EBITDA run rate based on 2017-2019 mid-cycle margins and modest inflation relative to 2021 baseline.

By employees, for employees

Speaking personally, what really sets the VEP apart is the unprecedented level of employee engagement; so many employees are involved and acting like owners of LYB. To date, over 21,000 ideas have been submitted by more than 3,700 individuals—many of which have been brought to life in incredibly interesting ways. The numbers are staggering, but what's even more compelling is the mindset shift we've seen across the organization. People feel a sense of ownership and accountability. They're not just employees; they're value creators. By fostering a culture of collaboration and inclusion, the VEP has brought teams together in ways we've never seen before—breaking down silos and driving cross-functional innovation at an incredible pace. It's not just a program; it's an entirely new way of working.

Though important, VEP is not just about financial returns; it's a crucial enabler of our sustainability ambitions. Many of our initiatives have delivered both economic and environmental benefits. One standout example is our steam optimization project in our Wesseling, Germany site, where we built a pipeline to buy excess steam from a neighboring chemical company, reducing GHG emissions by 150,000 metric tons annually. Even smaller-scale projects, like swapping out oversized pumps to reduce electricity and steam usage, are making a meaningful difference.

"The true power of the VEP lies in its ability to harness the collective expertise of our workforce. Unlike traditional top-down initiatives, the VEP is built on a foundation of bottom-up ideation."

$1B

in recurring annual EBITDA[1] by the end of 2025—up from our original $750 million target

21,000

ideas have been submitted by employees to date

1. Year-end EBITDA run rate based on 2017-2019 mid-cycle margins and modest inflation relative to 2021 baseline.

Where do we go from here?

Looking forward, I am convinced that the VEP will remain a cornerstone to deliver the LYB strategy. We've already increased our original target of $750 million of recurring annual EBITDA[1] to $1 billion by the end of 2025, and I am confident that we can sustain this momentum. Of course, a transformation is never complete; it takes time to embed new ways of working into an organization's DNA. But that's why our focus remains on continuous improvement, ensuring VEP doesn't just drive short-term wins but becomes an evergreen process that supports our long-term strategic initiatives.

We're constantly refining the process, and our VEP playbook is already in its ninth iteration. But if I could take it one step further, what I'd really like to do is integrate the VEP even more deeply into our broader operating systems. With the collective power of our workforce driving us forward, I have no doubt the best is yet to come.

Supporting a thriving society

Creating a **culture** *where employees* ***are* inspired to innovate** *and deliver business results*

Supporting a thriving society why it matters

By working to advance a thriving society, we make a positive impact far beyond our company and deliver long-term value for our stakeholders.

We are creating solutions for everyday sustainable living, working to ensure the safety and well-being of our colleagues by holding ourselves to the highest standards. We embrace different backgrounds and perspectives, and foster respect among our global colleagues and within our communities, and align our suppliers' values with our own.

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 to achieve a goal of zero incidents, zero injuries and zero accidents.

Alongside keeping our employees safe, we provide opportunities for growth through on-the-job training and other development programs. In 2024, we further expanded our LYB University, which includes formal learning and development resources to empower our employees to grow their capabilities.

Our goal is to create a company where fairness and a sense of belonging are experienced by all, propelling individual and collective success. By increasing inclusion, we build high-performing teams that can effectively innovate and collaborate. All of which enable us to contribute to our financial outcomes and help to achieve our business goals.

Beyond our workforce, we support a thriving society by engaging with the communities we operate in and partnering with local organizations on initiatives to address critical needs. We also conduct supply chain sustainability due diligence to identify and assess risks and engage with suppliers to drive improvements.

Our efforts to advance a thriving society help preserve long-term financial value for LYB by building trust, improving our social license to operate and reducing risk. At the same time, they create a culture where employees are highly engaged and inspired to innovate and deliver business results.

Our approach

- We monitor safety risks, thoroughly investigate HSE incidents or near-misses, and take immediate corrective action to prevent recurrence.
- We work to recognize and mitigate hazards in the workplace to prevent incidents or injuries before they even occur.
- We look at every aspect of a product's life cycle to minimize the risks to people and the environment.
- We provide all workers with fair wages and uphold all applicable fair wage laws, wherever we work.
- We encourage and empower our employees to create plans for their development.
- We hold meetings, host Community Advisory Panels (CAPs), attend community events, and conduct surveys, to help us build and maintain strong relationships with our communities.
- We continue to develop a coordinated framework to identify, assess, and manage human rights impacts across our global operations.
- We use sustainability assessments and audits to gain in-depth insights into suppliers' sustainability management systems and identify areas for improvement.

Our goals:

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

Achieve at least 33% female senior leaders and at least 33% male senior leaders in global senior leadership roles by 2032

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

Safety

Health and safety

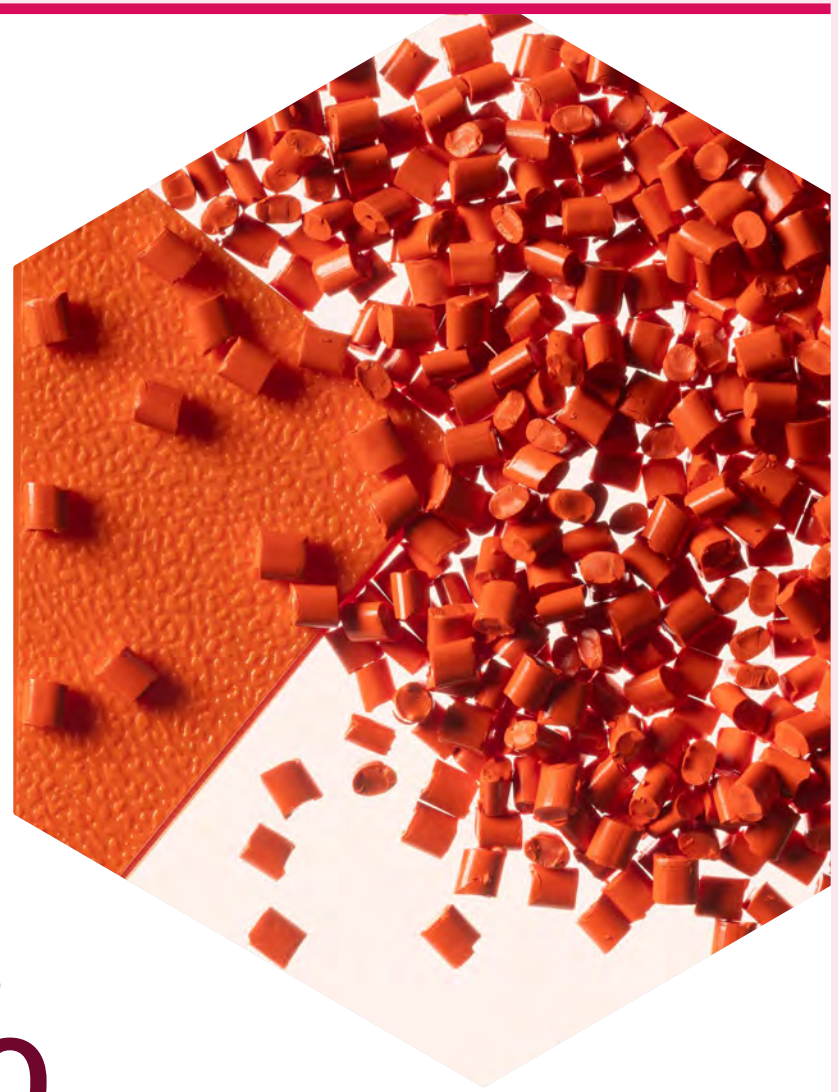
Read more on page 69

Our Total Recordable Incident Rate (TRIR) was

0.127

Product safety and stewardship

Read more on page 76



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 that resulted in a fine, penalty, or warning

0.0

Health and safety

GoalZERO:

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

Context

Our GoalZERO mindset enables our corporate strategy. Championing people is one of our core values, and we support the health, safety and well-being of our colleagues and communities by maintaining leading safety performance.

Health and safety issues in our industry are complex. We maintain industry-leading health and safety management systems, and are pleased to say that our facilities are some of the safest in our industry, with consistent top decile performance compared with other large and medium-sized companies in our industry.

Our approach

The health and safety of our people and the communities where we operate are our top priorities. We encourage everyone to speak up when they see something unsafe. We monitor safety risks, thoroughly investigate HSE incidents or near-misses, and take immediate corrective action to prevent recurrence. We also prioritize avoidance: recognizing and mitigating hazards in the workplace to prevent incidents or injuries before they occur.

Highlights of our work in 2024 included new training on safety principles, investing in talent development, and conducting human reliability task analyses to mitigate the risk of human error when conducting high-risk tasks. We carry out risk assessments for all potentially hazardous work, ranging from safety checklists to formal hazard analyses, and conduct routine drills to ensure our response readiness in the event of fires and incidents such as hazardous material releases and severe weather.

Our entire health and safety approach is underpinned by GoalZERO, which is our commitment to operating safely with zero injuries and zero process safety, product safety, environmental, and security incidents. We cultivate a GoalZERO mindset with clear standards, regular communication, training, targeted campaigns, and events including our annual Global Safety Day where all employees devote one day to enhance their learning about HSE at work and home.

0.127

LYB total recordable incident rate

Championing health, safety, and well-being through our GoalZERO mindset, with a commitment to zero incidents and proactive risk management.

How we're achieving GoalZERO

Embedding a safety-first culture at every level of the business

Company culture starts at the top. Our commitment to GoalZERO is championed at every level of the company, including by our CEO, and is overseen by our Board's Health, Safety, Environmental and Sustainability (HSE&S) Committee.

Leaders at each manufacturing site hold regular meetings to review safety performance and discuss issues relevant to their plant. HSE awareness teams also evaluate incidents and look for ways to prevent them in the future, while group meetings at offices and sites typically start with a safety moment.

Our HSE indicators are also monitored via a performance dashboard through which every site sets goals to improve safety while also reducing environmental incidents.

Signing up to the most rigorous voluntary industry standards

We are a signatory 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.

Safety performance and incident prevention are reviewed regularly, with GoalZERO championed by leaders at all levels.

Foundation of GoalZERO

People

We put people at the heart of everything we do. Ensuring that people make it back home to the people that matter to them is a priority

Excellence

GoalZERO success requires commitment and engagement from each of us. We work safely and do our best because it is the right thing to do

Future

We are future-focused by making responsible, safe decisions

Responsible Care® requirements include creating a corporate leadership culture that supports safe chemicals management, safeguarding people and the environment, and contributing to sustainability by developing innovative technologies and other solutions. Four of our sites are also certified to the International Organization Standardization (ISO) 45001 standard, a voluntary global framework for occupational health and safety management systems, which underscores our commitment to maintaining the highest standards, reducing risks, and driving continuous improvement across our operations.

Additionally, eight sites in the U.S. are recognized by the Occupational Safety and Health Administration as Voluntary Protection Program (VPP) Star Sites, demonstrating the cooperative partnership between the company, employees and the agency to continuously improve safety performance and meet rigorous safety standards.

Delivering safety and environmental responsibility through "Operational Excellence"

Operational Excellence is our management system for delivering continuous improvement in safety, environmental responsibility, and reliability across all our activities. The framework sets out clear requirements for how we work, for people, process, and product safety, and applies to both employees and contractors. Through it we undertake internal audits to verify whether sites comply with our systems and procedures, then share lessons learned and best practices across the business. On-site contractors, including logistics companies that handle and transport our products, are also expected to comply with our Health, Safety, Environmental and Security (HSE&S) Policy and support GoalZERO.

The LYB 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 business 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 processes and governance. We embrace inclusion and promote learning and development.
Compliance	We manage our businesses with the highest standard 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 of combined efforts of people, process, and technology.
Risk management	We identify, prioritize, mitigate, and manage risks to provide for the safety and health of employees, contractors, customers, the public and 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, recycling, 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 ensure continuous improvement in our performance.

2024 Highlights:

Safe, efficient turnarounds

Four major turnarounds executed injury-free
Turnarounds are a scheduled stoppage of operations for maintenance, inspections, and improvements. They require a lot of people and time. In 2024, our Global Turnaround organization executed five large, complex turnaround events. We are proud to say that four out of five events were executed injury-free, with the fifth event having a recordable injury. In total, over 4.2 million hours were worked on global turnarounds, for a TRIR of 0.047.

Occupational health services

We offer a range of occupational health services to employees:

Worker participation, consultation and communication on occupational health and safety

Many of our offices and sites have health and safety committees that help drive our GoalZERO culture. They provide a representative forum to communicate, encourage and increase employee involvement in identifying and resolving HSE 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, and implementation of corrective measures and audits.

Health and safety training

Health and safety training is vital to continuously upskill and educate employees. All employees have access to SOURCES, a centralized health and safety resource on our intranet site, which offers training presentations, best practices and reference materials. Best practices and targeted discussions of opportunities to demonstrate safe behaviors are typically shared before each meeting to reinforce the value of safety.

Health benefits

Employees receive a variety of health benefits based on location, and Corporate Medical has partnered with People and Culture to deliver global webinars focusing on the most common needs. We also work with local providers to provide periodic on-site medical delivery like flu shots, mammograms, and blood work analysis/interpretation, while counseling is available through a global Employee Assistance Program.

Medical surveillance monitoring

At LYB, medical surveillance, an analysis of workforce health information, is designed to detect potential workplace hazards before health effects can occur. We provide targeted comprehensive medical monitoring services to assess employees 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. Information on occupational health services is provided globally through the new hire onboarding process and offered in various languages dependent on the site location.

Active worker participation in health and safety, with training, health benefits, and targeted medical monitoring for occupational hazards.

2024 Highlights:

Safety milestone at Channelview

Channelview reaches 6.9 million safe working hours
In 2024, our Channelview site in Texas prioritized procedure audits and behavior-based observations focused on Human and Organizational Performance principles, to identify and implement improvements and adjustments to help prevent incidents.

Process safety

Our process safety program establishes how we 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 our workforce, communities, and the environment. We have clear standards within our Operational Excellence Management System (OEMS) to identify and manage process safety risks within our manufacturing sites and distribution functions.

We perform scheduled shutdowns of our manufacturing units known as turnarounds, during which we carry out essential maintenance, inspections, upgrades and safety verifications. Regular turnarounds are a key part of our safety program.

In 2024, we continued to enhance our incident investigation processes to better identify and correct systemic drivers for process safety incidents where human error was involved. We prioritized investing in our people and talent along with continuing to train our operations and maintenance employees on fundamental process safety principles. The training reinforced expectations for frequent tasks such as returning equipment to service, opening process equipment, energy isolation and loading and unloading materials from containers. We completed human reliability task analyses on certain tasks. The analyses identified steps where error mitigation techniques could be used to minimize the potential for human error.

"We celebrated six sites surpassing 10-plus years of no injuries, and our APS segment had record-breaking safety performance, reducing their incident rates by 39%, compared to 2023.

Peter Vanacker,
Chief Executive Officer

Read more about our GoalZERO in our Environmental management section on page 48

2024 Highlights:

Speaking safety fluently

Contractor safety training improvement
In order to equip everyone who works at our sites with the knowledge they need, we provide a Health and Safety Council Essentials training for contractors at all of our U.S. sites. The training is thorough and comprehensive. In 2024, we added a Spanish option. Providing training in a learner's native language makes relaying critical information easier and more efficient and enables increased engagement. It's important that we champion our people by promoting safety through continuous improvement.

2024 Highlights:

Committed to safety

Celebrating 15 years of Global Safety Day

We proudly celebrated our 15th year of Global Safety Day, a milestone that exhibits our unwavering commitment to safety and well-being. This year's theme was "We Champion People," demonstrating how safety has become an integral part of our corporate strategy and culture. The event brought together participants from around the world to reinforce the importance of safety in all our operations. Over the years, Global Safety Day has evolved to feature workshops and interactive sessions with the involvement of our CEO and Executive Committee designed to promote best practices and foster a proactive safety mindset.

Emergency preparation and response

We prepare and drill routinely to be ready to take immediate action in the unfortunate event of an incident. We continuously evaluate risks in order to maintain detailed emergency response plans. LYB manufacturing sites support their own emergency response teams, including groups trained to respond swiftly to medical incidents, fires, or releases of hazardous materials.

Team members are trained on the proper procedures to follow in the event of an emergency. These procedures are tested during regular drills. We also coordinate preparation and planning with local government agencies and emergency responders, and we participate in mutual support organizations and assist other industrial facilities when required.

LYB maintains severe weather preparedness and response plans for all of our locations. We utilize the platform StormGeo to ensure we have insight into any weather event that may impact our people. For example, our teams at manufacturing sites located on the U.S. Gulf Coast are well-trained for hurricane season and routinely drill for what to expect and how to prepare.

In the event a facility shutdown is required from any weather event, we conduct a thorough assessment and inspection, including a systematic review of all structures, equipment and operating systems. We also communicate this information to our local officials and community neighbors.

Occupational safety performance

		2021	2022	2023	2024
Employees					
Fatalities as a result of recordable work-related accidents	Number	0	0	0	**0**
	Rate (200K hours)	0	0	0	**0**
High-consequence work-related accidents	Number	2	1	1	**1**
	Rate (200K hours)	0.010	0.005	0.005	**0.005**
Recordable work-related accidents	Number	34	32	27	**23**
	Rate (200K hours)	0.174	0.163	0.139	**0.120**
	Rate (1M hours)	-	-	-	**0.600**
Hours worked	Number (millions)	39.3	39.1	39.0	**38.3**
Cases of ill health as a result of recordable work-related accidents	Number	–	–	–	**0**
Days lost to recordable work-related accidents	Number	–	–	–	**580**
Health and safety management system coverage	Percentage	–	–	–	**100%**
Non-employees (resident and non-resident contractors)					
Fatalities as a result of recordable work-related accidents	Number	2	0	0	**0**
	Rate (200K hours)	0.01	0	0	**0**
High-consequence work-related accidents	Number	3	2	0	**1**
	Rate (200K hours)	0.016	0.011	0	**0.006**
Recordable work-related accidents	Number	46	14	21	**20**
	Rate (200K hours)	0.252	0.077	0.140	**0.136**
	Rate (1M hours)	–	–	–	**0.682**
Hours worked	Number (millions)	36.6	36.4	30.0	**29.3**
Health and safety management system coverage	Percentage	–	–	–	**100%**
Combined workforce					
LyondellBasell total recordable incident rate (TRIR)	Rate (200K hours)	0.211	0.122	0.139	**0.127**
American Chemistry Council industry average		0.69	0.74	0.64	Data not yet available as of the publication of this report.

Beginning in 2024, the terminology changed from "incident" to "accident"; however, the criteria used to define recordable cases remain unchanged. Additionally, the term "contractors" was replaced with "non-employees," with no change to the underlying criteria.

Rates are calculated on the basis of 200,000 hours worked or 1,000,000 hours worked, as indicated. High-consequence accidents are LyondellBasell's Level 3 injuries (hospitalization required) and do not include fatalities. American Chemistry Council data can be found at www.americanchemistry.com.

"-" indicates new metric beginning in 2024; prior years are not disclosed.

Process safety performance

	2021	2022	2023	2024
Process Safety Incidents Count (PSIC)	10	10	12	**7**
Process Safety Incident Rate (PSIR)	0.026	0.026	0.035	**0.021**
Process Safety Incident Severity Rate (PSISR)	0.211	0.055	0.046	**0.044**

The table represents the number of Tier 1 process safety incidents per 200,000 hours worked. Tier 1 process safety events are classified as Level 3+ events by LyondellBasell. Level 3+ events include loss of primary containment (LOPC) resulting in either (1) an employee or non-employee recordable work-related accident resulting in "days away from work" and/or fatality; (2) a hospital admission and/or fatality of other workers; (3) an officially declared community evacuation or community shelter-in-place, including precautionary community evacuation or community shelter-in-place; (4) a fire or explosion damage with a direct cost greater than or equal to $100,000; (5) an engineered pressure relief device discharge to atmosphere whether directly or via a downstream destructive device greater than or equal to a Level 3 threshold, within any 60 minute time period, with negative effects; (6) an upset emission from a permitted or regulated source greater than or equal to a Level 3 threshold, within any 60 minute time period, with negative effects; or (7) an unignited release of material greater than or equal to a Level 3 threshold, within any 60 minute time period. Definition and weighting of Tier 1 PSI is in accordance with ANSI/API RP 754 3rd Edition. The third edition update includes the reclassification of materials, clarification of definitions, expansion of data collection capabilities, and other key changes.

Enhancing incident investigations and process safety to prevent serious incidents, with regular turnarounds for maintenance and safety verifications.

Performance

We are extremely proud of our safety performance in 2024. Our Total Recordable Incident Rate (TRIR) was 0.127, our second lowest in company history. Out of our 97 locations (manufacturing sites, technology centers and offices), 72 were injury-free.

In the U.S., our Texas manufacturing sites have achieved impressive safety records: Channelview with over six million hours, La Porte with over five million hours, and the Houston Refinery with over four million hours without a recordable injury. Our Louisiana Integrated PolyEthylene JV, a joint venture, achieved five million work hours without a recordable injury. In the Netherlands, our Botlek and Maasvlakte sites each reached four million hours without a recordable injury and our Global Projects team achieved six million safe work hours.

In 2024, we also completed 14 Operational Excellence audits in six countries.

"We have a very strong safety culture at LYB, maintained through our Operational Excellence standards."

Dale Friedrichs
EVP, Operational Excellence and HSE

2024 highlights:

Raising safety standards

Receiving the construction industry safety excellence award

LYB was honored to receive the prestigious Construction Industry Safety Award from the General Contractors of America in 2024, recognizing commitment to safety excellence in the construction industry. This award highlighted our dedication to maintaining the highest safety standards on projects, and ensuring the safety and well-being of our workforce and communities. We are honored to be recognized for our dedication to responsible business practices and leadership in contractor safety management.

Product safety and stewardship

Context

We look at every aspect of a product's life cycle and work to minimize the risks to people and the environment. Our aim, alongside our GoalZERO commitment, is to promote safer chemistries and technologies that help support a circular and low-carbon economy, while at the same time ensuring safety and compliance.

Safety for people and the environment: We help protect consumers, workers, and the environment by evaluating chemical risks and establishing risk management measures.

Regulatory compliance: We adhere to applicable standards and regulations to maintain license to operate and access to global markets.

Reputation and trust: We set high safety standards to build trust with customers, suppliers, and stakeholders alike. We are committed to safe chemical management and participate in industry groups that promote industry-wide initiatives such as the Responsible Care® Product Safety Code. Our Product Stewardship Standard, which is part of our OEMS, sets forth our commitment to continuous improvement.

Sustainability: Product safety supports our sustainability efforts through assessments of novel raw materials, chemistries, and technologies that can help our customers meet their sustainability targets.

Operational excellence: We complete safety assessments for procured raw materials, new product development and manufacturing processes, enhancing safety performance by reducing the likelihood of incidents.

Our approach

Our product safety team works with internal stakeholders to identify chemicals we use and produce, assess hazards and exposure risks, establish risk management plans, and support phase-out of harmful substances from our portfolios when reasonably possible[1]. We also collaborate with governments and industry leaders to share scientific expertise and help improve global standards.

Our customers must be able to trust in our products. This is why we enforce strict safety policies, rigorously evaluate raw materials, and uphold global standards. Through our participation in the International Council of Chemical Associations (ICCA), we are supporting the UN Global Framework on chemicals. We are also constantly working to improve our processes, and increase transparency across the value chain. When alternatives exist, we assess them to ensure that safety and functionality targets are met for all stakeholders.

Key accomplishments in 2024 included:

- **Supporting new applications:** We review and clear new end uses for our products, helping to grow our core business through new end use applications, such as wire and cable insulation driven by electrification and renewables.
- **Enhancing circular and low-carbon solutions:** Our work supports improvements in recycled and renewable-based products, including enabling recycled masterbatches for food packaging, toys, and cosmetics.
- **Completing product risk reviews:** We complete product portfolio assessments to identify potential product life cycle safety issues and establish mitigating actions at a global level. Key learnings are exchanged globally as best practices.

Supporting sustainability through comprehensive chemicals management and product stewardship.

1. Specifically, LYB endeavors to remove carcinogenic, mutagenic and reprotoxic (CMR) substances, as listed in the European Regulation on Classification, Labelling and Packaging of substances and mixtures, from our product portfolio or reduce them to less than 0.1% concentration by weight where reasonably possible.

Product stewardship across the value chain

We promote a comprehensive approach to chemicals management and sustainability in all aspects of our products' life cycles, including raw material sourcing, manufacturing, distribution, use, recycling, and disposal activities. Product stewardship is an approach to managing product safety that goes beyond regulatory compliance.

Raw material sourcing

- We **evaluate and approve** raw materials in line with global chemical regulations and best practices, considering all applicable jurisdictions and end-uses.
- **Post-consumer recycled (PCR) feedstocks** are subject to the same raw material approval process used for all LYB products. We perform a safety evaluation to ensure proper storage and handling, a physical and mechanical characterization, and an extended technical evaluation focused on application specific requirements.

Manufacturing

- When we use or produce hazardous chemicals, care is taken to mitigate or prevent risks to human health and the environment. Our OEMS and process safety program are key to successfully minimizing these risks.
- We have well-defined testing protocols to rigorously test finished products, including recycled content, prior to permitting their use in an end-use application. This testing includes full composition analysis and non-intentionally added substances (NIAS) screening. Where information does not support the use of recycled materials, they are prohibited or restricted under our policies or standards. This restriction is cleared only after a thorough risk assessment process which includes testing, validation for hazardous substances—such as substances of very high concern (SVHC) above 0.1 wt%—and ensuring sound governance and good manufacturing practices in our facilities.

Distribution

- We conduct **customer site assessments** before the first delivery, and regularly thereafter, to ensure safe storage and handling of certain high-risk products.
- We provide **training, technical assistance and logistics support** for suppliers, carriers, distributors and customers related to the handling and transportation of hazardous chemicals.

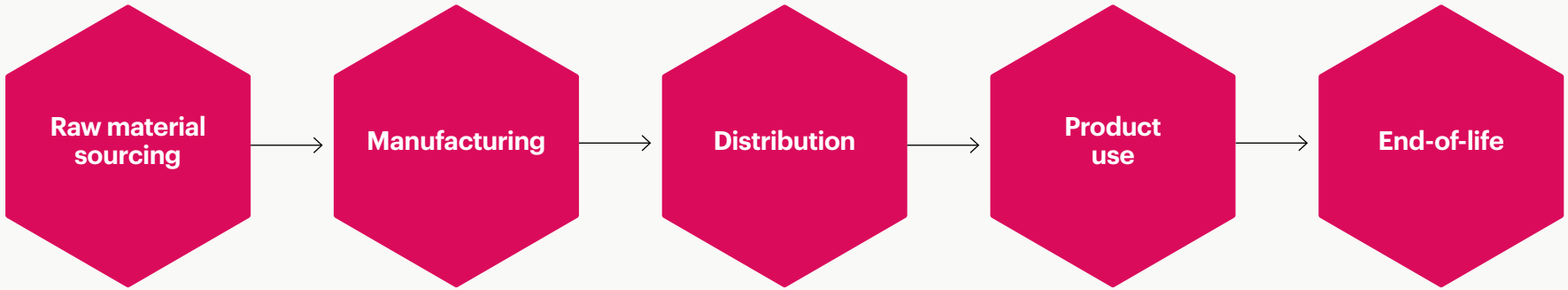
Product use

- Safety Data Sheets **communicating product hazards** and precautions, including handling and disposal, are supplied and available on our website for all products, whether or not legally required, in multiple languages. In 2024, we provided approximately 123,000 Safety Data Sheets.
- We regularly inform our stakeholders on the global regulatory status of each product through our **product stewardship bulletins.** Products may be sold into restricted applications only to approved customers upon fulfilling certain conditions as set forth in our prohibited and restricted applications policy. Alongside the 44,000 bulletins downloaded, we provided tailored responses to 29,000 product-related inquiries in 2024.
- We evaluate customer **end-use applications** of our products through our product risk management plan and provide necessary information to meet regulatory requirements.

End-of-life

- **Recycling and reuse:** We work with customers to help them achieve their sustainability goals by identifying products that are technically capable of being recycled, including conducting product safety assessments and testing.

Product stewardship across the value chain



Performance

In 2024, 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 that resulted in a fine, penalty, or warning.

Sustainability and safety are key considerations within our product innovation process. New products follow a global innovation stage gate process which integrates safety and sustainability criteria. Since 2022, we identify and seek to limit the use of substances with carcinogenic, mutagenic, reproductive toxicity (CMR); persistent, bioaccumulative, and toxic (PBT); very persistent and very bioaccumulative (vPvB); and endocrine-disrupting (ED) properties to less than 0.1% in finished products where reasonably possible. Our approach to chemicals management goes beyond regulatory compliance to remove CMR substances, as listed in the European Regulation on Classification, Labelling and Packaging of substances and mixtures, from our product portfolio or reduce them to less than 0.1% concentration by weight where reasonably possible.

Strengthening safety by managing hazardous substances

Beyond EU borders, we voluntarily follow the European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII restriction conditions through our Product Stewardship program even if there are no similar restrictions under applicable local law.

In 2024, less than 2% of our revenue was generated from products containing substances in the scope of REACH Annex XVII restrictions. Similarly in 2024, less than 0.1% of our total number of products and representing approximately 3% of revenue, contained substances in the candidate list of SVHC for authorization above 0.1wt%. Further, we note that these products were placed on the market almost exclusively (>99.9% by revenue) for monomer or intermediate uses.

Partnering for the safer use of recycled plastics

We have contributed to the CosPaTox Consortium, working with 38 major European brand owners and industry players to establish a safety guideline for high-quality post consumer recyclate (PCR) for cosmetics and other household packaging. The initiative produced a voluntary industry guideline, a scientific dossier, a substance list, and a calculation tool. We are now implementing these guidelines, testing recycled products, and collaborating with brand owners to support rigorous safety assessments. This effort reinforces our commitment to helping advance a circular economy.

External recognition of our approach to safer alternatives

Our comprehensive approach to chemical management was recently recognized by the International Chemical Secretariat (ChemSec), an NGO advocating for safer chemicals. As of August 2024, 54 substances in our portfolio are on the ChemSec Substitute It Now (SIN) List. In November 2024, ChemSec's ChemScore ranking identified LYB in the top quartile of companies driving safer alternatives, with a 76% ranking improvement and a 130% total score increase since 2020.

This recognition highlights our commitment to transparency, hazard reduction, and our risk-based approach to promoting safer chemicals while maintaining product integrity. A detailed view of our ChemSec SIN-listed substances is available on www.lyb.com.

What's next

Moving forward, we will continue to participate through the ICCA in the UN Global Framework on Chemicals, including engaging on the Framework's targets for industry.

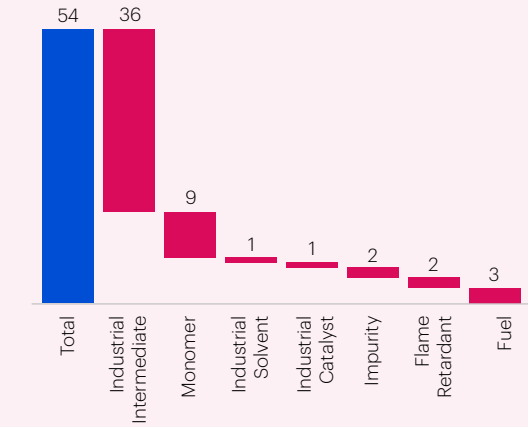
We will also continue our work to minimize CMR substances in our product portfolio by working with suppliers to obtain detailed chemical composition data and drive best practices throughout the supply chain.

Reducing Polyfluoroalkyl Substances (PFAS) reliance

Our efforts to eliminate PFAS from our products

Starting in 2022, we have been working to address intentionally added PFAS in our product portfolio. We have identified solutions for the majority of volumes with intentionally added PFAS. As viable alternatives are established for safety sensitive applications and customers accept reformulated products, our desire is to eliminate intentionally added PFAS from our product offering while maintaining the highest standards of quality and performance.

Substances on the SIN list



Recognized for our commitment to safer chemicals.

LYB products in plastic applications

LYB supports a global agreement to eliminate plastic waste in the environment and has been actively engaging to develop an international legally binding instrument on plastic pollution. For more details, see **Public Policy UN (United Nations) Plastics Agreement**.

We stand ready to offer the UN and country negotiators guidance on a criterion-based approach to assess so-called "problematic" applications at a national level, and we closely follow the development of bans on "single use" plastic items and proposals to include bans or restrictions in a global plastics agreement.

In line with our purpose of creating solutions for everyday sustainable living and commitment to addressing the global challenge of plastic waste in 2024, we proactively initiated a global assessment of the use of LYB products in plastic applications that are primarily single use. Our assessment looked at end-use applications which are hard to reuse, repurpose and/or recycle, and for which improper waste management may result in an environmental leakage.

Using these criteria, we identified certain end-use applications for LYB phase-outs in all global regions where such applications are not already restricted by regulation: fishing nets and ropes; straws, stirrers, and candy sticks; cotton bud and balloon sticks; non-detectable black masterbatch in food and cosmetics rigid packaging; synthetic polymer microparticles in fertilizers and consumer use applications; and cigarette butts and filters. Some of these applications we already avoid selling into globally; for others, we have varying levels of involvement. By 2030, we plan to end sales into the above-listed applications. This initiative supports the implementation of our business strategy, allowing us to grow and upgrade our core business and generate value for our customers, investors and society by focusing on high-quality and innovative products which provide solutions for a better tomorrow.
We plan to develop our approach over the coming year to ensure a smooth transition for our customers.

People and culture

Workforce management

Read more on page 81

Employees across the globe of more than

20,000

We champion people

Read more on page 88

Employee network participation increased to

22%

Workforce management

Our People and Culture function ensures strategic alignment of our workforce with our business objectives by cultivating a culture that embodies our global purpose. This culture not only reflects our unique value proposition and the impactful role we aspire to play in the world, it also shapes our daily behaviors and interactions, driving consistent excellence and organizational success.

Our success as a company is tied to the passion, knowledge, and talent of our global team. To achieve our purpose of creating solutions for everyday sustainable living, we must attract top performers and give them the tools they need to keep growing and leverage their potential. With more than 20,000 employees across the globe, a robust workforce management approach is essential to aligning talent with our business goals, fostering innovation, and supporting long-term value creation.

Our approach

We provide all workers with fair wages and uphold all applicable 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.

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 employees have opportunities to receive developmental experiences on the job and learn from others. We also offer more formal and structured development opportunities for our employees via in-class and online learning. Training needs are determined based on an employee's role, development, and on an equal employment opportunity basis.

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.

Our employees

Grouping by U.S. race/ethnicity	% population
Hispanic or Latino	17%
White	64%
Black or African American	10%
Asian	6%
Native Hawaiian or other Pacific Island	0%
American Indian or Alaska Native	0%
Two or more races	2%

Totals may not sum due to rounding.

Average training hours per person

All employees	32*
Exec	15
M level	17
E level	34
Administrative	13

* Average hours of training per person includes all employees, not just the categories reported. Data as of December 31, 2024.

New employee hires and turnover 2024

New employee hires		Employee turnover		Voluntary turnover	
Total new employee hires (#)	**1,738**	Total employee turnover (#)	**1,611**	Total employee turnover (#)	**1,207**
	9%		8%		6%
U.S./Canada (#)	624	U.S./Canada (#)	763		
	7%		9%		
Europe (#)	849	Europe (#)	645		
	10%		7%		
Latin America (#) (including Mexico) (#)	155	Latin America (#) (including Mexico) (#)	114		
	16%		12%		
Asia Pacific (#)	95	Asia Pacific (#)	87		
	5%		5%		
Middle East & Africa (#)	15	Middle East & Africa (#)	2		
	42%		6%		
Age group		**Age group**		**Age group**	
<30 (#)	683	<30 (#)	342	<30 (#)	280
	26%		13%		11%
30–50 (#)	891	30–50 (#)	687	30–50 (#)	482
	8%		6%		4%
>50 (#)	164	>50 (#)	582	>50 (#)	445
	3%		9%		7%
Gender		**Gender**		**Gender**	
Male (#)	1,333	Male (#)	1,316	Male (#)	973
	8%		8%		6%
Female (#)	404	Female (#)	294	Female (#)	234
	10%		7%		6%
Not reported (#)	1	Not reported (#)	1		

Unless otherwise stated, employee data in this report is based on employees excluding students as of December 31, 2024.
Our EEO-1 data is reported annually on our website at www.lyb.com.

Employees by geographical areas

Geographical area	Number of employees (head count)
U.S. & Canada	8,369
Europe	9,057
Latin America (including Mexico)	1,015
Asia Pacific	1,842
Middle East & Africa	44

Employees by gender

Gender	Number of employees (head count)
Male	16,099
Female	4,220
Other	0
Not reported	8
Total employees	**20,327**

Countries with at least 50 employees representing at least 10% of the total number of employees

Country	Number of employees (head count)
U.S.	8,362
Germany	3,356

Distribution of employees by age group

Age group	Number of employees (head count)	Percentage
<30	2,573	13%
30-50	11,126	55%
>50	6,628	33%

Percentages may not sum to 100% due to rounding.

Employees by contract type

	Male	Female	Other	Not reported	**Total**
Number of employees (head count)	16,099	4,220	0	8	**20,327**
Number of permanent employees (head count)	15,455	3,995	0	8	**19,458**
Number of temporary employees (head count)	644	225	0	0	**869**
Number of non-guaranteed hours employees (head count)	0	0	0	0	**0**

Our culture

Our culture reflects the role we seek to play in the world, what we uniquely deliver, and how we behave day to day.

In 2023, LYB introduced a new long-term strategy and began the transformation of our company culture. Along with our new strategy, we identified three core values: We Champion People, We Strive for Excellence, and We Shape the Future. Our LYB competencies reflect these values and guide our daily behaviors to help us achieve our strategic goals. Our competencies provide the framework to hire, reward, develop, and retain our employees for their careers and have been embedded into our processes and programs. In 2024, we focused on educating employees on our refreshed competencies and further embedding them in processes and systems across the enterprise.

Our employee networks bring our competencies to life through various workshops and education sessions with their members. Employee networks held approximately 270 global events in 2024, of which close to 30% were workshops and education sessions.

Culture Ambassador program

To help shape our culture and enhance our employee listening channels, we implemented a global Culture Ambassador program.

Our more than 100 Culture Ambassadors globally help build awareness and act as advocates for our culture change. Each ambassador is equipped with information on company context, initiatives, and training so they can promote global understanding and advocacy. Ambassadors are encouraged to share their genuine experiences and stories as they have discussions with peers. The program invites employees to share their feedback, resulting in more candid and informed communications with leadership. One of the first initiatives by the Culture Ambassadors was to host small group sessions with peers at their locations. They listened to feedback on our new competencies, identifying areas where they were well understood and where more information and education were needed.

The program not only strengthens employee engagement but also directly supports our strategic objectives by fostering a more connected, informed, and high-performing workforce. By promoting transparency and dialogue, the program enhances collaboration and alignment across global teams, leading to increased efficiency and productivity. The insights gathered from more than 100 listening sessions with 900 participants have directly informed competency development, ensuring that employees are better equipped with the knowledge and skills needed to drive business success.

LYB competencies

Build Partnerships

Developing and leveraging relationships with colleagues, customers, suppliers, and stakeholders to achieve results.

- Builds relationships
- Fosters trust
- Works collaboratively

Deliver Results

Executing plans and work to ensure that strategic priorities yield measurable results and safe outcomes for the organization, employees, and customers.

- Sets standards
- Drives high quality
- Takes ownership and accountability
- Acts with integrity

Drive Innovation

Generating novel solutions and impactful improvements that create sustainability and measurable value for existing and potential customers.

- Challenges current ideas
- Generates ideas
- Experiments to learn
- Advances ideas into action

Grow Capabilities

Creating a work environment where all employees can develop and realize their full potential, allowing the organization to meet current and future business challenges.

- Owns personal development
- Applies knowledge to skill
- Takes risks in learning
- Guides development

Promote Inclusion

Taking action to ensure that the capabilities and insights of all individuals are valued and included in ways that lead to organizational success, equitable outcomes, and a sense of belonging.

- Creates psychological safety
- Conveys respect
- Integrates differences
- Acts as an ally

"To put it in chemical terms, LYB Culture Ambassadors are like catalysts, initiating and sustaining reactions. It takes time and energy to align the molecules in the correct order, but once achieved, the result is a strong and coherent structure. We are transforming ourselves to be ready for the future. Culture is the foundation and essence of this process. As a Culture Ambassador, I strive to model our values by being entrepreneurial in my business development role, dedicating time to listening to and understanding my peers, and ensuring that corporate messaging is clearly communicated at all levels of the organization. These everyday actions help ignite and sustain the spark that positions LYB as a leader in championing people, striving for excellence, and shaping the future."

Luigi Bazzan,
Business Development Manager, Rotterdam

Performance management

LYB is dedicated to helping our people grow by setting achievable goals that foster personal and professional development. We provide ongoing, effective feedback to build a culture of ownership and success, as well as recognition and accountability.

Each calendar year, the goal-setting phase starts the annual performance process. This is an important opportunity for employees and their managers to identify clear expectations about what they are accountable for accomplishing in the coming year, as well as how they plan to accomplish those goals. Working with their manager, employees develop goals that align with company and department objectives. Cascading goals helps our employees see how the work they do impacts our company and delivers on our strategy.

Our approach to continuous performance management involves ongoing measurement and timely feedback to employees as they work towards achieving their goals. At the same time, employees are self-evaluating and seeking feedback throughout the year. This two-way dialogue is a critical part of our employees' development. The year-end self-assessment provides employees with a comprehensive view of their performance and helps employees engage in a meaningful discussion with their manager about their contributions and future development.

We are committed to auditing these key programs annually to ensure they are operating as intended. More than 10,000 performance reviews were conducted in 2024, which represents 53% of employees participating in the program.

Global learning and talent development

LYB is committed to creating continuous learning environments, providing ongoing development opportunities, growing capabilities, and unlocking potential for all employees to perform at their best. Our value, We Champion People, is exemplified by our focus on growth and development in an inclusive environment.

We develop our employees through a balance of experience on the job, learning from others, and formal learning. All employees can explore learning available to them through our LYBUniversity, an online one-stop shop for learning and development offerings and resources.

Within LYBUniversity we have a leadership development framework that offers programs with structured learning paths tailored to equip leaders at different stages in their careers with the necessary skills to excel in their current roles and prepare for future challenges. In 2024, we expanded LYBUniversity with new programs centered on leaders for the future. A program for aspiring leaders has gained global popularity, fostering networking and hands-on learning, and helping equip them to grow and succeed.

Another leadership program successfully piloted in 2024 focused on giving participants time and support to reflect on personal aspirations and purpose, expand their network across the company, and increase visibility and connection with senior leaders. We achieved remarkable results, seeing significant improvement in some skills such as networking by the end of the program.

Our e-learning platform empowers all employees to drive their own development through on-demand learning. More than 30% of our workforce is enrolled in the platform, and participants have completed more than 25,000 training hours building technology and personal development skills. We have taken steps to democratize learning and create equal opportunities for development by offering an open enrollment curriculum for our employees. Our learning is offered globally, providing employees with opportunities to build relationships in person or virtually, in addition to learning and growing in a safe and interactive environment.

On-the-job development is key to building the knowledge and skills to deliver our strategy. Through internal job postings, we provide transparency and opportunity for our employees to take ownership of their development and career growth. Additionally, we hold quarterly talent reviews across businesses and regions to not only identify our potential future leaders but also identify development opportunities. As a result of this focused approach, about 75% of our openings in senior leader roles were filled by internal talent, underscoring our commitment to growing talent from within the company.

"The development journey that the LYB University has taken me through this past year has been empowering. I have grown from someone who feels confident in my responsibilities to a person feeling strong and inspired. Nothing has been more invigorating than the community of leaders who have invested their time in helping me understand and enjoy my own strengths."

Supriya Vaidya,
Director Platform Services, Houston

Employee and labor relations

We are committed to equal employment opportunity, protecting the rights of all individuals and providing a work environment free of discrimination, harassment and retaliation.

Our company forbids discriminatory, harassing, or retaliatory conduct in our workplace by any employee, contractor, or other person that is based on race, color, national or ethnic origin, religion or belief, sex, gender identity or expression, sexual orientation, age, disability, medical condition, military service or veteran status, marital or familial status, family medical history or genetic information, or any other status categories protected by applicable laws or regulations in the locations where we operate.

We recruit, hire, train, promote, discipline, and make other employment decisions without regard to any of these protected statuses. Our Employee and Labor Relations team supports our efforts to ensure fair working conditions, promote job satisfaction, and facilitate effective relations with labor unions. We address employee concerns related to their jobs or well-being, provide training on employee and labor relations matters, and actively monitor and address any labor concerns within the company.

Mechanisms for employees' concerns

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, HR Business Partner, or any member of the Legal or Compliance departments. We also offer an independent whistleblower telephone helpline and website, which is available 24 hours a day and in multiple languages to all employees and stakeholders. It is operated by EthicsPoint, a company providing third-party reporting for many global companies. As provided in both our Code of Conduct and our European Union Whistleblower Policy, LYB prohibits retaliation against people raising concerns and investigates any allegation that such retaliation has occurred.

In 2024, we aligned the case categories used by People and Culture and the categories in our EthicsPoint system to provide for consistent reporting between the Compliance and People and Culture organizations.

We received 292 reports of concerns by employees regarding their jobs or workplace in 2024. Of these, 33% were received through our business-facing HR teams and 67% were filed through EthicsPoint. Of the EthicsPoint reports received, 70% were anonymous. Each report that alleges behavior that, if true, would constitute a violation of law or company policy, is fully investigated and documented with a written report of the investigation, conclusion, and remedial action, if any is warranted. In 2024, we added an option to EthicsPoint where employees could submit inquiries.

2024 Case outcomes

For combined People and Culture and EthicsPoint cases

as of March 2025	2024
Substantiated	30%
Partially substantiated	13%
Unsubstantiated	41%
In process	6%
No violation of company policy/law identified	2%
Referred to area outside of People and Culture	1%
Insufficient information	4%
Addressed	3%

Issues and remediations

Identifying issues that are substantiated and addressing them through appropriate remediations is crucial for maintaining a healthy and productive work environment. The top issues alleged were categorized as harassment, violence or threat of violence, and unfair treatment or favoritism. The disciplinary actions taken related to the subjects of these cases ranged from final warning to termination of employment. Additionally, managers at sites with the highest numbers of reports or substantiated cases have either received positive employee relations training or will receive culture enhancement training in 2025.

Labor relations

The way we treat our employees and their representatives is fundamental to our success. We respect the rights of workers to form and join trade unions of their own choosing, to bargain collectively, and to peacefully assemble as permitted under applicable law. We also respect the rights of workers to choose to refrain from such activities. We recognize the right of workers to share ideas and concerns with management, free of fear of reprisal, and we do not tolerate reprisals or retribution against anyone who lodges a complaint or concern in good faith. These commitments are based on core ILO conventions and internationally accepted frameworks from the UN and OECD, as well as compliance with applicable local legislation where we operate, and our company policies. See also our: Human Rights Policy.

As of December 31, 2024, approximately 9% 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.

Employee benefits

One way we champion people is by designing benefit programs that support our employees and their families.

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 depending on location and employment status, which may include the following:

- Basic health and welfare benefits, including medical coverage
- Life and accident insurance
- Business travel accident insurance
- Disability protection
- Share programs including the Employee Stock Purchase Plan offered to approximately 70% of our employee population, profit sharing programs in certain countries as well as the company's long-term incentive program where equity is granted to certain employees globally
- Paid vacation, holidays, and personal leave
- Retirement, savings and pension plan

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 Savings Account or Health Care Spending Account for reimbursement of certain medical expenses as well as a Dependent Day Care Flexible Spending Account for childcare costs.

The Employee Assistance Program is available to all employees globally. The program helps employees be more successful in 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, seven days a week.

In 2024, after reviewing our global benefits offerings and gathering employee feedback, we enhanced our financial wellness offerings. We partnered with a global financial services firm and now provide resources for financial planning, debt management, retirement savings, and personalized education to help employees overcome financial challenges and build long-term security. These initiatives support our corporate values while also promoting financial resilience and improving job satisfaction.

Defined benefit plan obligations and other retirement plans

We sponsor defined benefit pension plans and defined contribution plans which provide retirement benefits for most employees in the countries where we operate. We also sponsor post-retirement benefit plans other than pensions that provide medical benefits to certain U.S., Canadian, and French employees, and provide other post-employment benefits such as early retirement and deferred compensation severance benefits to employees of certain non-U.S. countries.

Reward and recognition

Exceptional performance, dedication to safety, attendance, and years of service are recognized in many ways, including annual bonuses, cash awards, and share points that may be redeemed for merchandise. The global Bravo! program allows leaders and employees to celebrate the hard work, exceptional achievements and many contributions of their teams and peers. In 2024, Bravo! was expanded to include peer-to-peer awards and My Celebrations, where milestones like retirements, new team members, promotions, or project completions are honored with comments, images, and videos.

Education benefits

To encourage employee self-development, we offer a Global Educational Assistance Program that provides financial aid to qualifying employees pursuing an associate, bachelor's, or graduate degree. The Global Accelerated and Executive Graduate Degree Program also offers additional financial assistance and modification in the work schedule for employees participating in an executive master's degree program, which typically requires an intense study period and substantially higher costs.

Family-friendly programs

Our family-friendly programs include paid parental leave, adoption reimbursement, and providing all employees with a minimum of 10 paid vacation or personal leave days. In the U.S., employees and spouses enrolled in a company medical plan have access to fertility benefits. They may also take advantage of the Caregiver Support Program, which includes backup child and elder care.

Parental leave

Employees 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., our parental leave policy also provides seven weeks of paid leave per 12-month period to all eligible employees who become parents. The benefit is paid at 100% of regular base pay (less withholdings and excluding overtime, shift differential, premiums, bonuses, commissions, or other allowances) on the date leave begins.

Workplace flexibility

Globally, eligible employees have the option to work remotely up to three days a week. This helps employees maximize productivity and collaborate effectively with colleagues, while also balancing personal needs and meeting job expectations.

Transition assistance program

Employees in the U.S. whose positions are eliminated from the company receive transition assistance provided by a leading outplacement services company. The program includes career assessments, resume writing, skills training, personal coaching, and access to online research tools, job search platforms, and networking events. In 2024, after a thorough benchmarking exercise, outplacement services for senior leaders were expanded to include a professional coach offering personalized, one-on-one advice on next steps.

We recognize and celebrate dedication to safety, exceptional performance and team contributions in various ways, including the Bravo! program.

We champion people

Being a champion of people is a key business imperative and embedded in our culture. At LYB, our goal is to create a company where fairness, and a sense of belonging are experienced by all, propelling individual and collective success. Our efforts enable us to attract top talent, minimize employee turnover costs, expand business opportunities, and promote inclusion. We are building high-performing teams that can effectively innovate, collaborate, and improve safety outcomes. This enables us to achieve our business goals by contributing to financial outcomes, and meeting the needs of our customers, communities, investors, and other stakeholders.

Our efforts reflect a holistic, multi-year strategy to ensure fairness in all of our processes and systems. We are actively building an inclusive workplace where employees are celebrated, leaders champion belonging, and everyone feels empowered to contribute fully.

In 2024, we continued to see positive impacts. Highlights include:

- Harnessing the power of high-functioning teams within our VEP initiative to enable continued success in creating business value. More than 10,000 employees are engaged across the world and it has captured more than $800 million recurring annual EBITDA in value
- Customized global strategies to local regions through increased focus and resources
- Launch of two new employee networks and increased network participation from 18% in 2023 to 22% in 2024
- Continued focus on delivering psychological safety workshops to leaders and manufacturing personnel to foster improved team dynamics and support our best in class safety performance

Strategic pillars

As part of our approach, we have developed strategic pillars based on outcomes, initiatives and our vision of how to achieve success.

Strategic pillar	Outcomes	Key initiatives	Vision
 **Representation**	• Increase gender diversity in senior roles globally to 33% by 2032*	• Talent and development • Hiring and advancement	• Equal opportunities for all employees • Robust diverse talent pipelines of future leaders
 **Fairness**	• Increase perception of fairness to 100%	• Pay equity • HR program analysis	• Employee believe they are treated fairly with opportunities to thrive • HR programs (hiring, promotion, pay, performance) regularly reviewed for bias
 **Belonging**	• Increase global participation rate in Employee networks to 55% • Increase perception of belonging to 100%	• Employee Network • Education • Community & outreach	• Reputation as inclusive employer • LYB leaders foster a culture of belonging • Positive employee culture of inclusion and belonging

*As a Dutch company, we are required to set ambitious goals for gender representation (both male and female) in senior management positions. In accordance with Dutch law, our aspirational goal is to have at least 33% of female senior leaders and at least 33% male senior leaders, globally, by 2032.

Our global reach at LYB

LYB continues to be the employer of choice for individuals working in 140 locations across 33 countries, representing 33 distinctive cultures and 99 primary nationalities and speaking 49 languages, along with a wide variety of local customs, social frameworks, achievements, belief systems, dress, values, and norms. Collectively, this is a global community of people coming together to form our LYB culture. We take pride in our commitment to fostering a corporate culture based on the principle that all of our employees deserve the same level of respect, as we design and implement corporate strategies.

Learning and education

Our company has prioritized inclusive training to accelerate change in our workforce at all levels. In 2024, we brought additional awareness to our initiatives by incorporating this topic into some of our leadership programs.

Early career talent

We are reimagining our approach to recruiting early career talent in the U.S.

We recognize that improving representation starts with better early career strategies. This includes the interns, co-ops, apprentices, and entry-level graduates who join LYB each year. Through data-led decision-making, we identified 14 strategic partner universities: eight core and six specialist. We also have a portfolio of 16 other schools that we partner with, utilizing virtual marketing and engagement activity. Broadening our pipeline will further diversify our early career talent population and ensure access to opportunities for students applying to LYB. We also implemented a consistent strategy framework across all universities focused on relationship building, student engagement, and outreach.

The new strategy has started to unlock broader channels of talent and enhanced our brand presence in the market. In 2025, we look forward to expanding the strategy across other LYB geographies.

Our new strategy includes:

- **Campus relationships:** Build and sustain strong, strategic, long-term partnerships with Career Services, Faculty, and Administration through planned engagements utilizing University Recruiting, Executive Sponsors, Campus Team Leads, and Discipline Tags.
- **Student engagement:** Focus on early engagement and building a talent pipeline for all target disciplines through differentiated engagement activities in the spring and fall semesters.
- **Outreach:** Build and sustain a talent pipeline by engaging with clubs, societies, and/or summer bridge programs.

Throughout 2024, we hosted 238 interns and co-ops across 18 different sites in the U.S. These students came from a variety of multi-disciplinary backgrounds from finance, to information technology, to engineering. We hired students into these early career programs from 36 different universities.

2024 Highlights:

Internships with impact

Vault ranking
This year, LYB was selected to participate in the annual Vault Internship survey. Vault is a leader in data-driven employer rankings and reviews. The rankings derived from Vault's 2024 Intern Survey polled almost 20,000 interns at nearly 300 companies.

In 2024, LYB hosted 197 Engineering co-op students across three terms: spring, summer and fall, and our summer corporate intern program included 41 students. Students undergo a rigorous selection to participate in the LYB program based on their academic achievements, relevant experiences, and alignment with our core competencies.

LYB is the proud recipient of several outstanding awards based on the survey data Vault collected from our interns/co-ops including:

- #1 in the Consumer & Industrial Products Industry
- #3 overall in Engineering
- Top quartile of companies for female and racial & ethnic minorities
- #24 overall out of nearly 300 companies

These awards are a testament to the culture and care of the entire LYB organization and our commitment to developing early career talent pipelines.

#1
in the consumer & industrial products lindustry

#24
overall out of nearly 300 companies

#3
overall in engineering

In 2024, LYB hosted 197 engineering co-op students across three terms: spring, summer and fall.

Our goal:

Representation

Achieve at least 33% female senior leaders and at least 33% male senior leaders in global senior leadership roles by 2032

As a Dutch company, we are required to set ambitious goals for gender representation (both male and female) in senior management positions. In accordance with Dutch law, our aspirational goal is to have at least 33% of female senior leaders and at least 33% male senior leaders, globally, by 2032.

Our approach to any goal, such as the gender goal required by Dutch law, remained the same in 2024. We focused on promoting our desired culture, enhancing fairness and belonging within the company.

Performance

As of December 31, 2024, females served in 25% of global senior leadership roles, and in the U.S., 22% of the senior leaders were from underrepresented populations. Of the 11 members of our Executive Committee, comprised of our CEO and senior executives who lead our businesses and functions, four are females, and together, they represent six different nationalities.

Global employee gender representation

	2023	2024
Total global employees		
Male	80%	79%
Female	20%	21%
Senior leaders		
Male	75%	75%
Female	25%	25%
Professionals		
Male	66%	65%
Female	34%	35%

U.S. employee ethnicity representation

	2023	2024
Total U.S. employees		
Non-underrepresented	64%	63%
Underrepresented	34%	35%
Undisclosed	2%	2%
Senior leaders		
Non-underrepresented	78%	75%
Underrepresented	19%	22%
Undisclosed	3%	3%
Professionals		
Non-underrepresented	61%	59%
Underrepresented	37%	39%
Undisclosed	2%	2%

Data is as of December 31, 2024. Senior leaders refers to employees that represent the top six pay grades of our employees and executives, which includes director level employees and higher (e.g., Vice President, Director), based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.

Professionals refers to employees in the next eight pay grades, which includes employees below director level (e.g., Manager, Engineer, Analyst) but excludes technical and hourly employees, based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.

Gender distribution at top management level

	Number of employees (head count)	Percentage
Male	354	75%
Female	115	25%
Other	0	0%
Not reported	0	0%

Our goal:

Fairness

Increase perception of fairness to 100%

Our approach

We focus on four pillars: market competitiveness, pay governance, pay transparency, and equal pay opportunities. We ensure competitive pay based on role, skills, and performance, with offers for promotions and new hires driven by market data rather than historical compensation, supported by ongoing benchmarking to stay aligned with market trends. Pay processes are screened for bias and tested across geographies to ensure fairness, with frameworks and governance measures in place to maintain consistent and equitable pay management. Since 2021, we have conducted annual pay equity reviews using external experts and statistical analysis, while HR teams continuously monitor pay equity for new hires and internal moves. We educate employees on how pay decisions are made and how our talent and reward processes work, with key fair pay analysis results published globally. Additionally, a new global career framework is being developed with a third-party expert to update outdated structures, meet new reporting requirements, and provide clear role guidelines, career paths, and fair pay decisions.

Performance

To measure our progress, we conduct annual engagement surveys with our employees. Our most recent survey in 2023 indicates that 83% of employees who responded believe they are being treated fairly. We also identified 22 teams of five or more people where the 100% goal was achieved.

Our most recent pay equity review found that globally, on an adjusted pay basis, females are paid $0.99 to $1.00 for males. This same analysis reflected that U.S. underrepresented employees are paid $1.00 to $1.00 compared with non-underrepresented employees. Consistent with 2023, this review demonstrates that generally, employees doing work of equal or similar value continue to receive equal or similar pay. While our global pay equity results are positive, we are committed to reviewing results deeper in the organization. HR business partners regularly review pay equity when considering any external offers and as internal talent moves within the organization.

Our median pay gap

We also conducted a global median pay gap analysis, which measures differences in the median pay of one group to another—females compared to males and underrepresented groups compared to the majority—without adjusting for factors designed to create a like-for-like comparison. This analysis is known as the unadjusted pay gap. Our analysis found that the median pay for females is 99% of the median for males (globally), and the median pay for underrepresented employees is 93% of the median for white employees (U.S. only).

	2024
Pay equity	
Global female-to-male	$0.99/$1.00
U.S.: Underrepresented to non-underrepresented	$1.00/$1.00
Gender base pay gap: Female to male median	
Total employees	$0.99
Senior leaders	$0.95
Professionals	$0.84
U.S. ethnicity base pay gap: Underrepresented to non-underrepresented	
Total employees	$0.93
Senior leaders	$0.99
Professionals	$0.92

Senior leaders refers to employees that represent the top six pay grades of our employees and executives, which includes director level employees and higher (e.g., Vice President, Director), based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.

Professionals refers to employees in the next eight pay grades, which includes employees below director level (e.g., Manager, Engineer, Analyst) but excludes technical and hourly employees, based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.

Our goal:

Belonging
Increase the perception of belonging to 100% and increase the global participation rate in Employee networks to 55%

Promoting a people focused culture is critical. We strive to have 100% of our employees feel they are included and belong. Our most recent engagement survey in 2023 indicates that 80% of respondents feel a sense of belonging at the company. In that same survey, we have also identified 41 teams who have achieved a 100% sense of belonging on their teams. Most importantly, we have 17 teams whose results are at 100% with both fairness and belonging, which is a strong indication that we can achieve our goals.

Our approach

Our employee networks

Employee networks conduct professional development and networking events and celebrate heritage, culture and history.

At LYB, our employee networks thrive with strong leadership support. We understand that Executive Sponsor involvement is essential to the success of this program and the development of its leaders. Each of our networks has the unique opportunity to partner with up to three Executive Sponsors who provide strategic guidance, advocacy, innovation, and leadership. In total, 18 Executive leaders are actively engaged across our networks. Through their involvement, these leaders contribute to positive cultural change by fostering support and allyship. They also help build meaningful connections between the networks' strategies and the LYB competencies, ensuring alignment and impact.

- Employees are selected as co-chairs, and they are responsible for selecting leadership team members and local site champions. The employee networks are provided an operating budget and additional funds for donations to select charities and causes that are important to their members and aligned with our Advancing Good and company strategies. This year, the networks focused their community engagement activities on projects that address food scarcity, urgent community needs, and education. Through their initiatives and strong partnerships, our employee networks are demonstrating the company's commitment to social responsibility, community engagement, and building a strong future. Additionally, business integration has been important this year as the networks partnered with key areas like Talent Acquisition to help recruit students and experienced professionals.

Performance

Our employee networks help cultivate a community where all employees feel valued and respected and have the opportunity to connect with colleagues with similar interests. They are places to network, demonstrate allyship, share ideas and learn; and foster professional and personal growth. We established a 55% participation goal and in 2024 achieved 22%, a 22% growth rate relative to 2023.

We now have network members at 90% of our global sites, with 51% of members residing outside of the U.S. and 41% have joined as allies. We measure the act of allyship within our networks as we know that support from people who may not share the same characteristics is an important part of building an inclusive culture. Our previous engagement survey indicates members of employee networks are 20% more engaged and 10% more likely to report satisfaction with our future than employees who are not members of a network.

Building trust with collaboration

Harmen Dijkstra, Director of Operations & Engineering CLCS, knows that trust is built on collaboration. He says that for his relatively small team:

"Collaboration is very important in sharing the workload and making progress. Everyone has taken responsibility and delivered results."

However, it's more than just working together: it's about active listening and fostering an environment where everyone feels safe to express their ideas.

"They all have the courage to speak their mind and, if needed, disagree in order to come to the best result for LYB," Dijkstra notes.

"The fact that this can be done in the team is an indication of trust, which can be considered the first essential step of belonging."

Creating psychological safety and leading by example

For Giuseppe Colucci, Lead Counsel, Intellectual Property EAI, the key to fairness is psychological safety, which is part of the Promote Inclusion competency at LYB.

"I also genuinely care about my team's needs, both inside and outside of work," Colucci shares, highlighting how important it is to maintain an open-door policy. He also believes leaders need to set the tone for how their team navigates mistakes. *"We foster a blameless culture of learning and improving from failure,"* he explains.

Social impact

Community engagement and Advancing Good

Read more on page 94

Investment in communities

$13.2M

Human rights

Read more on page 97

Community engagement and Advancing Good

Context

Our social impact and corporate citizenship programs contribute to positive impacts both locally and globally.

At LYB, our social impact program emphasizes regular, meaningful, two-way engagement with communities, management of impacts and delivery of need-based benefits, aligning with industry best practices. Together with our global corporate citizenship program, Advancing Good, our work strives to build stakeholder trust and to ensure respect for human rights. Being a responsible, good neighbor is critical to maintaining our reputation.

Our approach

Community engagement

In line with our Stakeholder Engagement Policy, our approach is based on continuous engagement that is tailored to community needs, concerns and expectations. We hold stakeholder meetings, host Community Advisory Panels (CAPs), attend community events, and conduct surveys, all of which provide us with insights into communities around our operations and help us build and maintain strong relationships. We welcome community feedback through the EthicsPoint website and site-specific feedback mechanisms.

In 2024, we conducted a pilot program to deepen our understanding of local communities around five of our Texas-based manufacturing sites. Working closely with a third party, we assessed community characteristics and potential impacts, and identified opportunities to enhance the way we share information and foster dialogue. For example, our Channelview site has now started translating our Community Awareness Emergency Response (CAER) notifications and community newsletters into Spanish based on insights from the pilot.

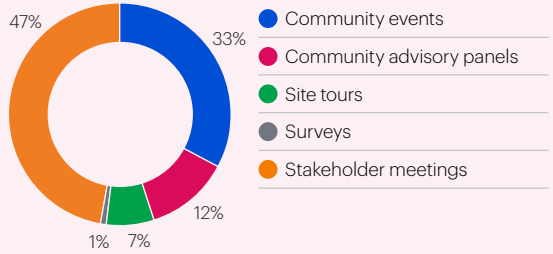
Building stakeholder trust and respecting human rights through meaningful community engagement and our Advancing Good program.

Performance

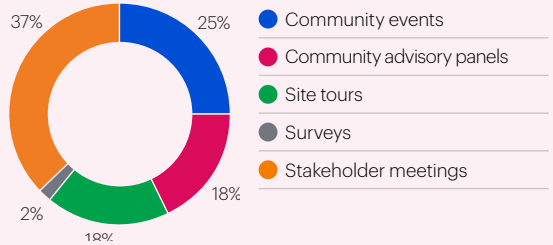
Community engagement activities by region

In 2024, we continued to diversify our community engagement methods and activities, tailoring them to the needs and expectations of our community stakeholders. Site tours remain a key part of our engagement activities, as community members often appreciate the opportunity to better understand our operations. While we prioritize regular, meaningful, two-way engagements at our large, operated manufacturing sites, we also conduct ad hoc engagements at our APS sites and at our joint ventures in collaboration with our partners.

Community engagement in the U.S.



Community engagement in Europe



Advancing Good

We have a well-established corporate citizenship program, Advancing Good, which drives investment into communities through donations and employee volunteering. The program demonstrates our commitment to being a responsible, good neighbor in the communities where we operate and has three focus areas:

1. Our communities: promoting healthy and safe societies

Food security | Safe communities | Community health

2. Our planet: developing sustainable solutions

Plastic waste reduction & recycling | Clean-up/ Beautification | Electronic recycling

3. Tomorrow's workforce: educating and preparing future leaders

K-12 | Community colleges | Universities

In 2024, we invested $13,172,109 in communities, including a contribution of 25,900 volunteer hours through the Advancing Good program[1].

1. This total investment includes financial contributions, the value of volunteer hours, and in-kind donations in 2024.

Impact by the numbers

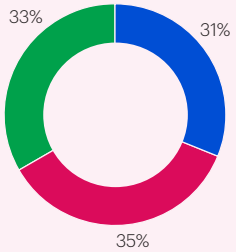
	2021	2022	2023	2024
Number of donations	1,279	1,808	1,222	**1,220**
Total in-kind donations	$296,580	$272,955	$424,470	**$230,109**
Employee matching gifts	$541,441	$907,615	$614,447	**$633,356**
Number of volunteer hours	10,600	23,286	21,268	**25,900**
Value of volunteer hours	$302,524	$740,495	$676,322	**$867,391**
Employee networks contributions		$106,746	$623,088	**$381,996**
Total financial contributions	$10,556,945	$10,213,826	$13,284,391	**$12,076,053**
Total giving	$11,156,049	$11,227,276	$14,385,183	**$13,172,109**

Value of volunteer hours is estimated per the prevailing U.S. national volunteer value of $33.49 per hour in 2024, as the majority of the volunteer hours were incurred in the U.S. Source: https://independentsector.org/

Advancing Good invests in communities through contributions and volunteer work, emphasizing healthy societies, sustainable solutions, and future leaders.

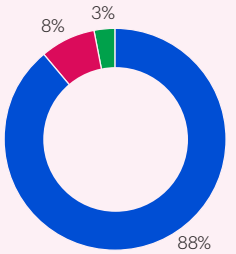
2024 spend by focus area

Our Communities



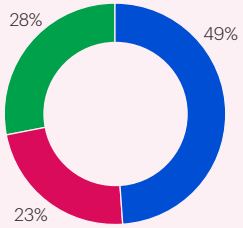
Food security	$485,000
Safe communities	$543,783
Community health	$516,899
Total	$1,545,682

Our Planet



Plastic waste reduction & recycling	$5,000,000
Clean up/ beautification	$466,971
Electronic recycling	$190,000
Total	$5,656,971

Tomorrow's Workforce



K-12	$1,174,728
Community college	$559,592
University colleges	$659,150
Total	$2,393,470

Cleaning up plastic waste

Our planet: contributing to sustainable initiatives
The Alliance to End Plastic Waste (AEPW) is a global initiative committed to ending plastic waste entering the environment and creating circular systems. In October 2024, we partnered with AEPW on a major cleanup in Tumpang, Indonesia—removing 5,000 tonnes of waste, including 3,165 tonnes of plastic, across 44 villages. Nearly 300,000 residents will benefit from cleaner waterways, reduced flooding, and improved quality of life, and the initiative also created jobs for 228 local workers, who received fair wages, training, and equipment.

Strengthening local communities

Addressing food insecurity across the communities in which we work
This year, we celebrated 25 years of Global Care Day by combining it with World Food Day, which aims to address hunger and food insecurity. Employees from 84 locations organized over 100 activities to raise awareness of food insecurity and promote action within their communities: supporting local food pantries and kitchens, packaging and preparing meals to provide immediate relief to those in need and promoting sustainable practices to reduce waste. Throughout the day, more than 3,660 employees, contractors, friends, and family members packaged approximately 370,000 meals, serving more than 80,000 people.

Supporting local people in times of crisis
LYB is always looking for ways to help communities in the event of a crisis or natural disaster. After fatal floods hit Spain in October, impacting the Castellón community near our Tarragona site, we donated €100,000 to Càritas Diocesana de Tarragona and matched €6,000 in employee donations. In Houston, following severe storms in May and Hurricane Beryl in July, Channelview employees partnered with local leaders to distribute food, ice, and water to more than 3,000 households. We also donated water and ice to the Channelview Independent School District for distribution to community members, aiding approximately 12,000 residents left without power, reinforcing our commitment to supporting our communities.

Inspiring future leaders

Tomorrow's workforce: educating and preparing future leaders
LYB is working to expand STEM access and inspire future leaders in the chemical industry. LYB believes that a strong foundation in math and science is essential for innovation, and our investments are already helping cultivate the next generation of skilled workers at all levels of education. We donated $32,000 to Palacios Junior Senior High School in Texas for welding, construction, and culinary equipment, alongside in-kind donations and employee mentorship. In China, we mentored university students through the Petroleum and Chemical Industry Federation Hackathon. In the Netherlands, we supported Delft University of Technology's FAST (Funding Ambitious Students TU Delft) scholarship program, benefiting 6,500 students, and in Germany, we supported MINT (Mathematics, IT, Natural Sciences, and Technology) initiatives, providing environmental data kits and interactive learning spaces for local schools and youth centers.

Human rights

Context

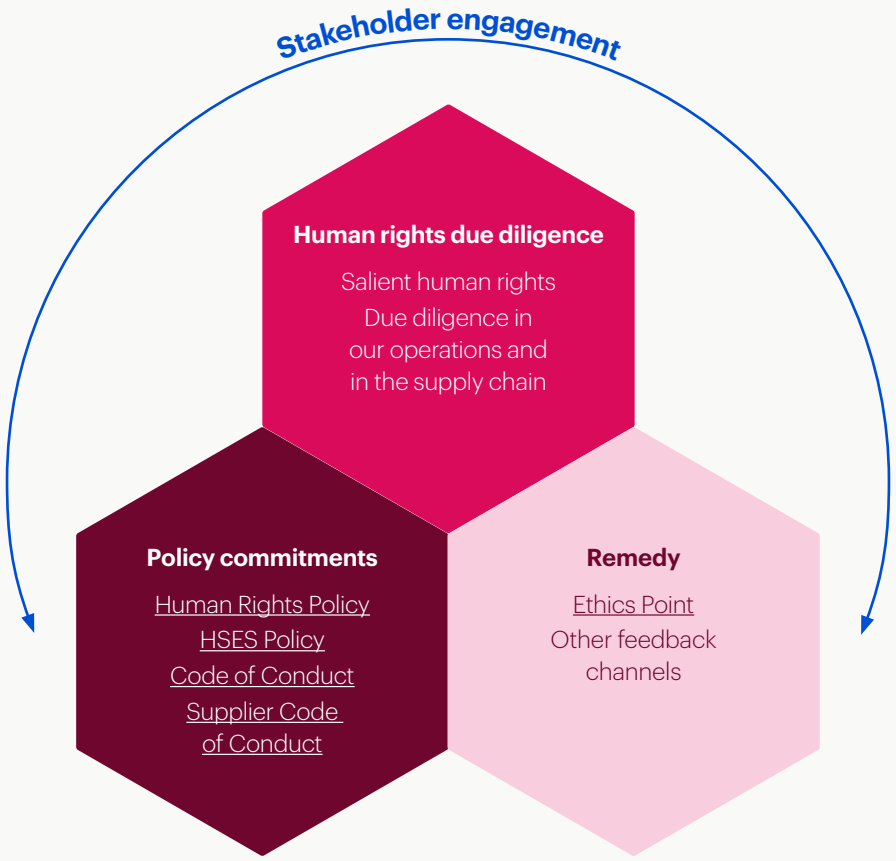
We are committed to respecting human rights across our global operations.

Guided by our Human Rights Policy, respect for human rights is fundamental to the way we conduct business and manage our operations.

Our approach

We strive to identify, assess, and address human rights impacts. We continue to develop a coordinated framework to manage human rights across our global operations and supply chain based on policy commitments, human rights due diligence and access to remedy. The approach that we are developing is illustrated below.

Our approach



Policy commitments

Our Human Rights Policy is guided by common principles from the *United Nations (UN) Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights,* and the *International Labour Organization Declaration on Fundamental Principles and Rights at Work*. It establishes our minimum standards for fundamental aspects of human and labor rights including:

- Workforce health and safety
- Prevention of discrimination, harassment, and retaliation
- Workplace security
- Working conditions and fair wages; freedom of association
- Freely chosen employment
- Child labor protections

Our commitment is also reflected in our Code of Conduct, and our HSE&S Policy. We expect our suppliers to share this commitment. Our Supplier Code of Conduct defines our expectations for suppliers and our standard contracts and purchase order terms and conditions require suppliers to align with the Ten Principles of the United Nations Global Compact. For more information (see Sustainable procurement section). We have a Conflict Minerals Policy outlining our approach to complying with applicable conflict minerals laws and regulations which we report on each year in our annual Conflict Minerals Report, which is filed with the U.S. Securities and Exchange Commission.

Ensuring responsible operations

Establishing a cross-functional human rights committee in Germany

In 2024, LYB subsidiaries in Germany became subject to the German Act on Corporate Due Diligence Obligations in Supply Chains. In line with the requirements of this Act, a cross-functional human rights committee for Basell Polyolefine GmbH has been established to monitor the risk management system for human rights and certain environmental-related risks.

We work to prevent child labor, forced labor and human trafficking in our supply chains and throughout our business operations (see Sustainable procurement section). We report on the measures we implement in our annual human trafficking and anti-slavery statements published in accordance with the UK's Modern Slavery Act of 2015, the California Transparency in Supply Chains Act of 2010, and the Canadian Fighting Against Forced Labor and Child Labor in Supply Chains Act of 2023.

Human rights due diligence

We initiated a process to identify and prioritize salient human rights in our operations and supply chains, which involves mapping our business footprint and assessing potential impacts based on severity and likelihood to help us prioritize management efforts. Our ongoing assessment approach is informed by international best practices. We will continue to identify potential risks and impacts and develop our due diligence approach to help ensure that human rights are upheld across our global operations and we will continue to encourage our business partners to do the same in their operations. To help us understand and address human rights concerns, we undertake meaningful, two-way engagement with our stakeholders (see Employee engagement, and Community engagement sections) and consider and incorporate feedback into our related systems and processes. We also actively engage with groups such as the United Nations Global Compact to drive continuous learning around business and human rights.

Access to remedy

A key aspect of human rights management is enabling access to a remedy by ensuring that feedback mechanisms are available to both internal and external stakeholders. Our feedback mechanisms include our EthicsPoint website and hotline, which are accessible to employees, contractors, customers, suppliers or any other LYB stakeholders. We also maintain site-specific community feedback mechanisms at certain sites.

For additional information see EthicsPoint in the Ethics and integrity section on page 108

Sustainable procurement

Key suppliers assessed against sustainability criteria

71%

Total suppliers screened

17,000

Sustainable procurement

Our goal:

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

By the end of 2024, 71% of key suppliers had been assessed against sustainability criteria, achieving our stated target. A key supplier is defined as a group supplier with greater than $1MM annual spend in 2023.

Context

Our supply chain plays a critical role in our efforts to generate value from circular and low-carbon solutions that benefit our products, customers, people and the environment.

Sustainable procurement is essential for building resilient, responsible supply chains that drive long-term value. Conducting thorough supplier sustainability due diligence helps identify and address environmental, social, and governance (ESG) risks, and ensure compliance with evolving regulations. Integrating sustainability into procurement also fosters innovation and strengthens business relationships. Proactive risk management reduces disruptions and safeguards business continuity in an increasingly complex global market.

Read more in our Taking climate action section on page 29

Our approach

We use sustainability assessments and audits to gain insights into suppliers' sustainability management systems. We then identify areas for improvement and prioritize efforts where they are most needed.

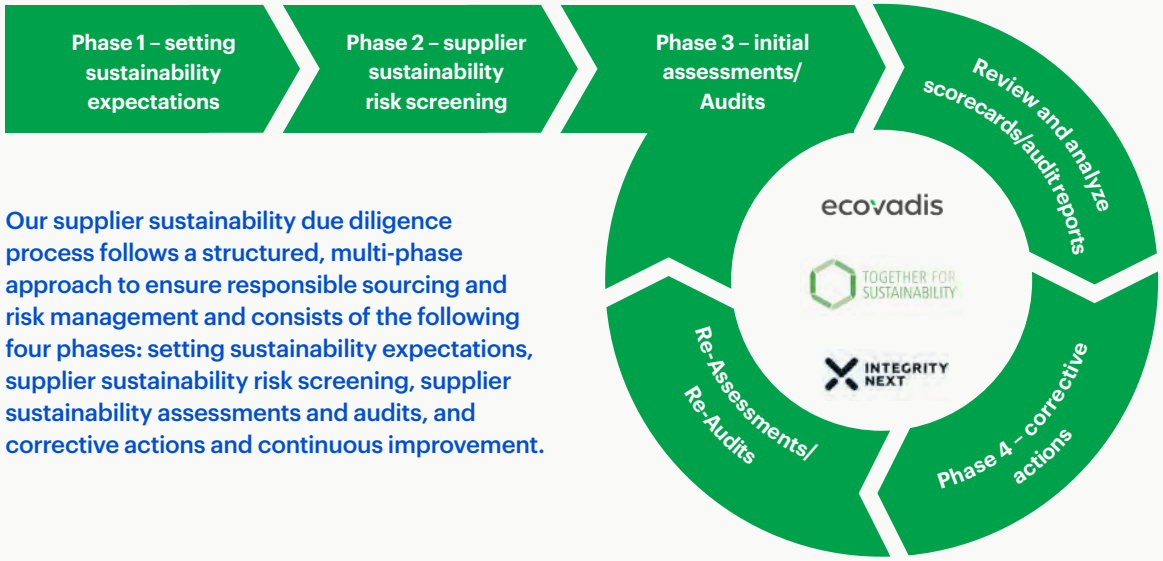
Regular reassessments not only help track progress but also offer an opportunity to engage with our suppliers to improve performance over time. Improving suppliers' sustainability performance will lead to long-term value creation, risk reduction and contribute to achieving sustainability goals of both, LYB and our suppliers.

Our supplier sustainability due diligence program is led by our Global Sustainable procurement Director, with oversight provided by our Chief Procurement Officer, who reports to our Executive Vice President and General Counsel. Our purchasing practices are continuously reviewed to ensure alignment with evolving best practices and requirements.

In 2024, we conducted an in-depth clean-up of our supplier data, which resulted in a change to the baseline number for our target to assess 70% of our key suppliers by 2025. Due to an improvement in data accuracy, we were able to consolidate different entities or locations associated with the same group supplier into a single record. In 2024, we began using the group level list of key suppliers to measure progress against our assessment goal.

We conduct sustainability assessments and audits to identify improvement areas, engage suppliers, and enhance long-term value, risk reduction, and sustainability goals.

The LYB supplier sustainability due diligence process



Our supplier sustainability due diligence process follows a structured, multi-phase approach to ensure responsible sourcing and risk management and consists of the following four phases: setting sustainability expectations, supplier sustainability risk screening, supplier sustainability assessments and audits, and corrective actions and continuous improvement.

Phase 1 – setting sustainability expectations

We establish clear sustainability expectations from the outset. Suppliers are required to acknowledge our Supplier Code of Conduct upon registration in our supplier portal, which sets forth our expectations for ethical, environmental, and social performance standards. In 2024, we simplified our sustainability clause in our General Terms and Conditions to require compliance with internationally recognized ESG standards. In addition, vendors must share their ESG ratings from recognized assessors like EcoVadis or undergo an ESG assessment if they lack a current rating upon request. If there are material violations or concerns, a corrective action plan (CAP) will be agreed upon. Failure to implement the CAP may result in contract suspension or termination.

Phase 2 – supplier sustainability risk screening

Our LYB suppliers are screened in the EcoVadis IQ Plus platform to understand their sustainability risk. Our supplier sustainability risk screening considers business relevance, as well as country-specific, sector-specific, and commodity-specific risks to ensure a comprehensive assessment. Vendors identified as high or very high risk in the screening are requested to complete a sustainability assessment to gain transparency on the maturity of their sustainability management systems. The table to the right provides a summary of our supplier screening.

Tier 1 supplier risk screening

Total suppliers (entity level)	19,000
Risk screened (entity level)	17,718
% of risk screened total suppliers	93%
Total number of suppliers (group level)	15,578
Total number of key suppliers (group level)	1,181
% of total spend on key suppliers (group level)	97%
% of key suppliers assessed (group level)	71%

Supplier risk screening outcomes

LYB has screened over 17,000 suppliers based in 65 countries spanning over 200 industries. Most suppliers are based in the U.S., Germany, France, the Netherlands, and Italy. Our 2024 risk screening identified eight suppliers as very high risk and over 700 as high risk. Around 90% of high and very high risk suppliers are raw material suppliers and originate from high risk industries and/or high risk countries. Our continued focus is to engage with high and very high risk suppliers.

Phase 3 – supplier sustainability assessments and audits

We aim to complete supplier sustainability assessments or audits for our suppliers that are considered high or very high risk in the risk screening process, as well as our key suppliers. Our main assessment solution is EcoVadis, a globally recognized sustainability ratings platform that evaluates companies' ESG performance. It provides businesses with standardized sustainability scorecards, benchmarking their performance against industry peers and identifying areas for improvement. EcoVadis assessments analyze a company's policies, actions, and performance across the following themes: Environment, Labor & Human Rights, Ethics, and Sustainable procurement. Based on submitted documentation, EcoVadis assigns a score and provides actionable insights to help companies enhance their sustainability practices and meet stakeholder expectations. In 2024, we introduced IntegrityNext, a cloud-based assessment tool that we deploy alongside EcoVadis assessments to assess suppliers' sustainability management systems. Suppliers unable to complete a detailed EcoVadis assessment are offered the option to complete the free and simple IntegrityNext assessment. Lastly, we also utilize Together for Sustainability (TfS) audits to gain transparency into sustainability practices at a supplier site. Conducted by TfS-approved audit firms, these on-site audits evaluate key areas such as management practices, environmental impact, health and safety, labor and human rights, and ethical corporate governance.

EcoVadis' scores reflect the quality of a company's sustainability management systems, ranging from 0 to 100: Insufficient (0-24), Partial (25-44), Good (45-64), Advanced (65-84), and Outstanding (85- 100). A "Good" score indicates a structured, proactive approach with solid policies, tangible actions, and regular performance reporting. Currently, 51% of our rated suppliers fall into the "Good" category, with an average score of 60, compared to the overall EcoVadis average of 47.

Our supplier audit program successfully completed its first year in 2024. Based on our risk screening, we conducted 17 TfS audits targeting high-risk suppliers. Across all audits conducted to date, major findings primarily related to health and safety (e.g., fire safety) and labor and human rights (e.g., working hours). All findings, regardless of severity, are addressed through corrective action plans with defined deadlines.

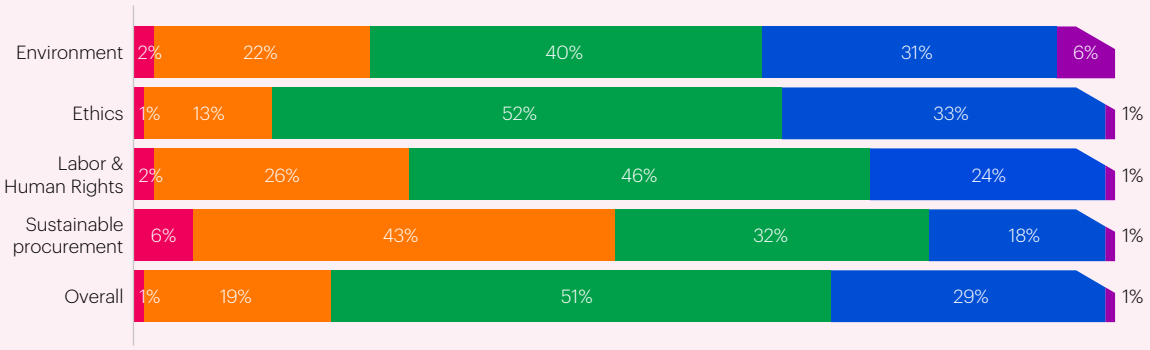
While most suppliers agreed to TfS audits, one security services provider in China, with low EcoVadis scores in labor, human rights, and environmental areas, declined repeated requests for an on-site audit. Due to their lack of engagement, LYB decided not to renew the contract and sourced an alternative provider.

The table to the right outlines our supplier assessment outcomes.

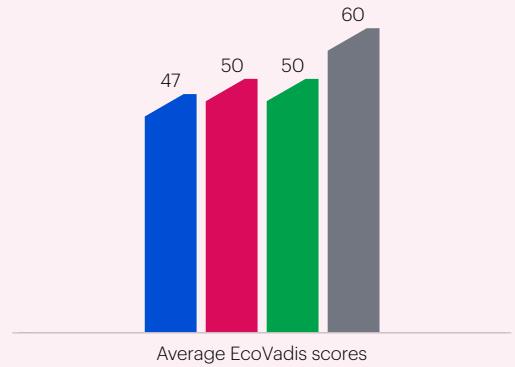
Supplier assessment outcome

Total number of key suppliers assessed via desk assessments/ on-site assessments	840
Number of suppliers assessed with substantial actual/potential negative impacts	134
% of suppliers with substantial actual/ potential negative impacts with agreed corrective action plans	24%
Number of suppliers with substantial actual/potential negative impacts that were terminated	1

Supplier EcoVadis performance by theme



LYB supplier EcoVadis scores benchmark



Phase 4 – corrective actions and continuous improvement

In this phase, suppliers address identified sustainability issues through targeted corrective action plans. Ongoing monitoring, capacity building, and supplier engagement drive continuous improvement.

LYB supports suppliers through supplier days, free training, tools, and other resources. In 2024, we made significant progress in promoting sustainability through education, delivering around 30 training sessions to help suppliers advance their sustainability practices. Currently, 387 supplier learners are registered in the TfS Academy, participating in over 1,000 courses focused on environmental topics and EcoVadis assessments.

Several LYB procurement departments also hosted on-site supplier sustainability days globally. In Latin America, the event supported logistics providers in achieving an EcoVadis score of 65 or higher. In Europe, a Logistics Collaboration Day in Rotterdam brought together over 130 suppliers to discuss the future of logistics.

We also published supplier sustainability toolkits that outline our expectations and provide free resources for completing assessments and audits.

What's next

Having achieved our supplier sustainability assessment goal we have updated our goal to expand supplier coverage. By 2027, we aim to assess 80% of our key suppliers against sustainability criteria. This will help LYB strengthen its position as a sustainability leader, mitigate potential risks, align with stakeholder expectations, and create long-term value for the company.

By 2027, we aim to assess 80% of our key suppliers against sustainability criteria.

"Sustainable procurement is embedded in our overall procurement strategy, where every purchase is a step closer to creating a healthier planet, supporting our communities, and creating better solutions for our customers."

Jennifer Jewson
Chief Procurement Officer

Governance

Good **corporate governance** *to* **create long-term** *stakeholder value.*

Corporate governance

Good corporate governance doesn't just benefit the people who work for us, it's good for business, and it builds the trust and confidence in our organization we need to create long-term stakeholder value.

This is why we always do business in an ethical and responsible way. It is an attitude reflected in our robust corporate governance policies, practices, and procedures, as well as how we regularly review and update those policies to meet new regulatory developments and evolving U.S. and Dutch governance best practices. Our governance documents and policies, including those listed below, are available on our website at www.lyb.com.

- Corporate Governance Guidelines
- Rules for the Board of Directors
- Articles of Association
- Committee Charters
- Code of Conduct
- Board Profile
- Financial Code of Ethics
- Tax Strategy Disclosure[1]
- Conflict Minerals Policy
- Human Rights Policy
- Human Trafficking and Anti-Slavery Statement
- Supplier Code of Conduct
- Health, Safety, Environment, Security Policy
- Stakeholder Engagement Policy
- Anti-Corruption Policy
- Prohibiting Insider Trading Policy

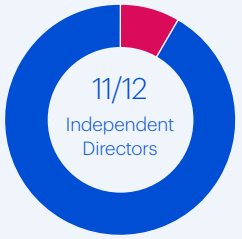
Our Board of Directors

Effective board oversight is critical to sound corporate governance and responsible, sustainable growth. Our Board of Directors is comprised of 11 independent directors, plus our CEO, and is responsible for providing governance and oversight over the strategy, operations, and management of the company.

The Board, acting in the interests of LYB and taking into account the relevant interests of our stakeholders, supervises and advises our CEO and other executives as they manage the day-to-day affairs of the company and set the direction of the company's business. The Board and its committees regularly communicate with senior leadership, including our CEO and the executives leading business functions, relaying the information necessary for a full understanding of the company's affairs, including information regarding the company's strategy, risk management, cybersecurity, and environmental, social and governance (ESG) matters.

Our goal is to have a Board that provides effective oversight of the company through the appropriate balance of experience, expertise, skills, competencies, specialized knowledge, and other qualifications and attributes. As outlined in our Corporate Governance Guidelines, our Board seeks representation across a range of attributes. This is evidenced by our current composition and the backgrounds and qualifications of our directors. In line with goals we set as required under Dutch law, at least 33% of the seats on our Board are held by females and at least 33% are held by males.

Independence

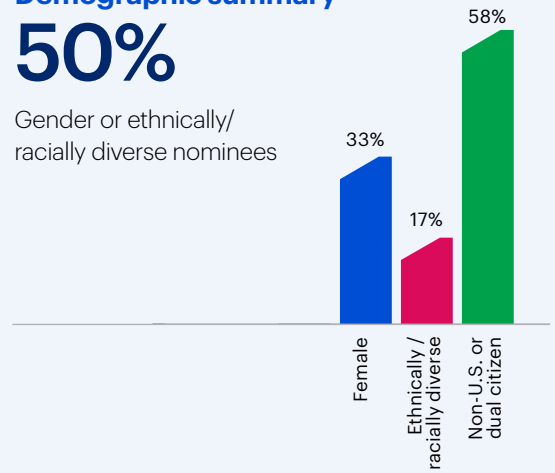


Independent directors	91.6%
Directors	8.4%

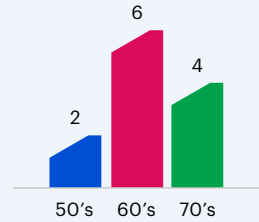
Demographic summary

50%

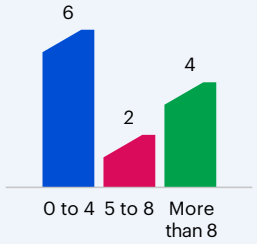
Gender or ethnically/ racially diverse nominees



Age
65.8 years average



Tenure
6.6 years average



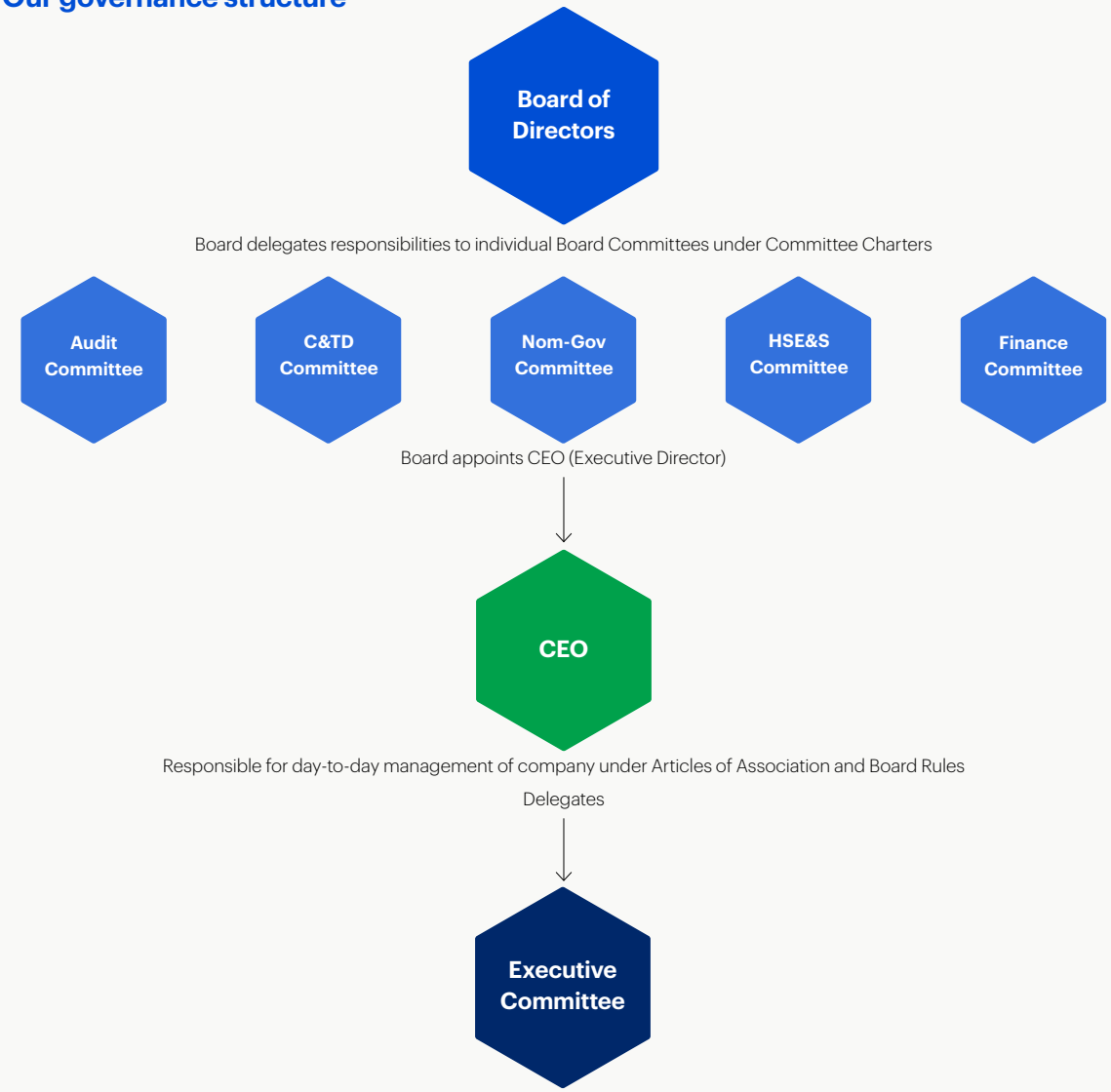
1. Please refer to page 118 for our LYB global tax strategy. For tax strategy documents published in accordance with local country legal requirements, please see www.lyb.com.

Board oversight of sustainability

As part of its overall responsibility for governance and oversight of the company, the Board has empowered its five standing committees with oversight of the sustainability, ESG, and general matters described below.

- **Health, Safety, Environmental, and Sustainability (HSE&S) Committee:**
  - Oversees our health, safety, environmental, sustainability, and climate policies, risks, initiatives, ambitions, performance results, and reporting
  - Receives reports on key HSE&S and climate topics and initiatives at each regularly scheduled committee meeting
  - Regularly reviews updates to the company's ESG dashboard, which summarizes key metrics and activities
- **Compensation and Talent Development (C&TD) Committee:**
  - Oversees our talent management practices, including compensation, succession planning, and talent development
  - Monitors the company's compensation policies and practices to ensure they incentivize employees effectively. For 2024, payout under our short-term incentive program continued to have a 30% ESG component (20% Safety and 10% Sustainability), reflecting the company's ongoing commitment to safety, accountability, and timely delivery of our climate and circularity goals
- **Nominating and Governance (Nom-Gov) Committee:**
  - Oversees the company's corporate governance practices and policies
  - In 2024, approved amendments to the Corporate Governance Guidelines and certain committee charters and adopted a Stakeholder Engagement Policy
- **Audit Committee:**
  - Oversees all matters relating to our financial statements and reporting, our Internal Audit function and independent auditors, and our Compliance function
  - Oversees the effectiveness, quality and integrity of the internal control framework and centralized processes related to our environmental, social, and governance reporting, in conjunction with other committees of the Board
- **Finance Committee:**
  - Oversees the company's capital structure and allocation and strategic transactions

Our governance structure



"Sustainability is a defining force for the future of our business and industry."

Andrea Brown,
Chief Sustainability Officer, LYB

Management oversight of sustainability

At a management level, our CEO oversees our ESG profile through regular reporting and discussion of key topics and initiatives among members of his Executive Committee. ESG matters impact, and are impacted by, all our operations, with each function playing a role in identifying relevant opportunities, managing associated risks, and contributing to our overall sustainability program. The Executive Committee includes our CEO, CFO and the heads of our four strategic business units, as well as:

- Our Executive Vice President, Sustainability and Corporate Affairs, with responsibility for sustainability strategy and reporting.
- Our Executive Vice President, CLCS, who is building and leading a scalable CLCS business.
- Our Executive Vice President, Operational Excellence and HSE, who oversees our health, safety, environmental, and operational risks, including climate-related risk exposures.
- Our Executive Vice President, People and Culture, who is responsible for talent management, and organizational development.
- Our Executive Vice President and General Counsel, who oversees our Enterprise Risk Management organization, our procurement program, including sustainable procurement and our compliance and legal functions, and
- Our Executive Vice President and Chief Innovation Officer, who oversees information technology, cybersecurity, and data privacy.

Our Executive Committee regularly reviews strategies, policies, and risks related to sustainability and ESG, including climate topics. Supported by our Chief Sustainability Officer, this group collaborates with leaders across the organization, including the Carbon Value Creation and Capture Steering Committee, to bring together the necessary expertise and skills.

The Carbon Value Creation and Capture Steering Committee, reporting to our Executive Vice President of Operational Excellence and HSE, executes plans to achieve our scope 1 and scope 2 GHG emission reduction goals. The Global Sustainability Team oversees progress on our scope 3 targets, working closely with internal stakeholders, business segments, procurement, and supply chain.

Integrating sustainability across operations to manage risks and seize opportunities.

Ethics and integrity

LYB upholds high ethical standards and complies with all applicable laws and regulations.

Our Compliance Department is governed by a written charter and led by our Chief Compliance Officer (CCO), who has a direct reporting relationship to the LYB Audit Committee, the CEO, and the General Counsel. The CCO discusses the compliance program with the Audit Committee at four of the five annual meetings, including details on training, metrics, and risk assessments. We conduct global anti-corruption, antitrust/competition law, and trade sanctions compliance risk assessments at least once every three years with the most recent assessments concluded in 2024. Additionally, our Audit Committee oversees periodic reviews of the Compliance function and its effectiveness, conducted by external professionals as well as the company's Internal Audit function. The most recent assessment of our Compliance function was conducted in 2022.

Code of Conduct

Our Code of Conduct (the "Code") embodies our dedication to conducting business ethically and responsibly. Last revised in February 2025, it sets out our expectations on various topics, including respecting fellow employees, anti-harassment, anti-discrimination, forced labor and child labor, anti-corruption, conflicts of interest, antitrust and competition law, insider trading, trade compliance and sanctions, misconduct, and political donations. All employees, officers, directors, and individuals doing business on behalf of LYB are expected to know and abide by the Code at all times.

Our Code of Conduct can be found on our website at www.lyb.com in 17 languages.

In addition to the Code of Conduct, we have also adopted a Financial Code of Ethics for our CEO, CFO, and Chief Accounting Officer, and a Supplier Code of Conduct for vendors with whom we do business, each available on our website.

Training on the Code of Conduct and compliance policies

All employees are required to complete training on the Code of Conduct annually and must acknowledge they have read, understand, and agree to comply with the Code.

In 2024, all employees received Code of Conduct training, with 99% completion rate. About 6,100 contractors received training, with a 75% completion rate. The company has established additional compliance policies, forms, and procedures related to anti-corruption, antitrust and competition law, and trade compliance and sanctions.

These policies and procedures are routinely reviewed and updated as necessary and made available to all employees in multiple languages. Separate from our annual Code of Conduct training, in 2024, approximately 25% of employees received and completed web-based, virtual, or in-person training on targeted ethics and compliance issues, including anti-corruption, conflicts of interest, trade compliance, and antitrust.

In addition, in the fourth quarter of 2024, approximately 2,000 employees (based on location and position) had to certify compliance with the Code by completing the 2024 Annual Code of Conduct Certification. The certification includes questions about compliance with our:

- Conflicts of Interest Policy
- Trade compliance efforts
- Anti-corruption and anti-money laundering efforts
- Antitrust/Competition Law Policy

Approximately 99% of employees surveyed believed LYB had a strong culture of compliance and that our leadership demonstrated a strong commitment to the company's culture of compliance. Approximately 99% of employees surveyed felt comfortable reporting their concerns.

Our Code of Conduct, outlines ethical business practices and expectations for all LYB representatives.

Mechanisms for concerns

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, People and Culture representative, or any member of the Legal or Compliance departments.

We also offer an independent whistleblower telephone helpline and website, which is available 24 hours a day and in multiple languages to all employees and stakeholders, including suppliers. It is operated by EthicsPoint, a company providing third-party reporting for many global companies. As provided in both our Code of Conduct and our European Union Whistleblower Policy, we prohibit retaliation against people raising concerns and investigate any allegation that such retaliation has occurred. We also take seriously and fully investigate all potential Code violations. When an allegation of an employee Code violation is substantiated, the relevant management team reviews the investigation findings and determines disciplinary action consistent with the severity of the violation. Disciplinary action can include verbal or written warning, suspension with or without pay, demotion, or, for the most serious offenses or repeated misconduct, employment termination.

In 2024, we received a total of 196 reports through EthicsPoint, a 14% increase over the prior year. Of the EthicsPoint reports received, 70% were anonymous. Each report that alleges behavior that, if true, would constitute a violation of company policies or the law is fully investigated and documented. The written report includes description of the investigation and its conclusions as well as remedial action if any is warranted, including but not limited to training, policy revisions, and appropriate disciplinary action. Of the allegations received in 2024 and closed as of February 10, 2025, 16% were substantiated, 18% were partially substantiated, 42% were unsubstantiated, 9% are in process, 3% had no violation of company policy/law identified, 5% were not investigated due to insufficient information, 5% addressed a question and 2% were referred.

An overview of all reports is presented to the company's Audit Committee at its 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.

Conflicts of interest

We have a Related Party Transaction Approval Policy requiring 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 2024, all transactions requiring approval under the policy were reviewed and approved by the Audit Committee.

For more information on Related Party Transactions, refer to our 2025 Proxy Statement, page 84.

We have 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. In addition, we have adopted a Family and Personal Relationships in the Workplace Policy, which promotes a productive and collaborative environment, free from conflicts of interest as well as favoritism and unfair advantage. LYB also has an established policy prohibiting insider trading by officers, directors and employees, establishing permissible trading windows, and providing pre-clearance requirements for certain transactions and trading arrangements by insiders. We have also adopted cash management procedures that prohibit insider trading by LYB.

Our policies ensure transparency and fairness, addressing conflicts of interest, insider trading, and promoting a collaborative workplace.

Anti-corruption

With a focus on behaving ethically and operating with integrity, 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.

Resources used to assess risks related to corruption

We utilize the Resource Guide to the Foreign Corrupt Practices Act published by the U.S. Department of Justice and the Securities and Exchange Commission, the 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 along with the Transparency International Corruption Perceptions Index and other guidance from jurisdictions where we operate to assess risks related to corruption. We periodically conduct internal and external audits of the books and records of our subsidiaries and affiliates to ensure compliance with anti-corruption, anti-bribery, and commercial bribery laws.

LYB has an established Compliance due diligence policy for strategic transactions and certain third-party relationships, including international representatives, distributors, resellers/traders, and technology licensing projects. Corresponding due diligence or risk mitigation procedures are based on the type of service provided and risk footprint. As part of our trade control processes, we also check whether persons, companies, or organizations appear on sanctions lists and whether there is business from or in embargoed countries.

Communication and training on anti-corruption

In addition to the annual ethics and compliance training all employees are required to complete, which addresses anti-corruption policies and procedures, the company also provides tailored anti-corruption training to approximately 5,300 employees each year, including all executive management, and selected additional employees depending on their relevant job functions. The training is available in 17 languages, and annual completion rates have historically been 100%, with 2024 being no exception.

Additionally, the Compliance Department delivers quarterly, web-based awareness videos to selected employees on a variety of topics, including conflicts of interest, anti-corruption, and gifts and entertainment. For 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 LYB policies and procedures.

Anti-competitive behavior

We avoid any agreements with other companies that limit competition in the marketplace. The company's Antitrust/Competition Law Policy sets forth specific rules on antitrust/competition law compliance. This policy applies to all persons and entities acting for or on behalf of LYB, including but not limited to our employees. A set of guidelines outlines specific situations or types of conduct, such as relations with competitors, participation in trade associations, and joint venture participation.

For more information, refer to our Antitrust/ Competition Law Policy.

The LYB Compliance Department conducts annual antitrust/competition law compliance training for approximately 2,300 employees, with a 100% completion rate. Employees completing the training are selected based on their role within the company and potential antitrust risks related to their relevant job functions. The training is available in 16 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 includes modules dedicated to antitrust/ competition law compliance. Additionally, specialized live trainings are provided regularly to address new developments and specific antitrust risks.

Our 24/7 multilingual whistleblower helpline, operated by EthicsPoint, ensures safe reporting and thorough investigation of all concerns, with strict anti-retaliation policies.

Concerns reported through the EthicsPoint system

In 2024, LYB had no legal actions pending or completed regarding anticompetitive behavior, violations of antitrust, or monopoly legislation in which the company was identified as a participant.

Issue type

	2023	2024
Accounting Issues including embezzlement	1	2
Accurate books and records	1	2
Antitrust/competition law	1	0
Compensation or benefits	17	18
Computer, email internet use	2	1
Conflicts of interest	11	17
Data privacy	1	4
Discrimination	12	8
Fraud or theft	2	4
Gifts, entertainment or travel	2	2
Harassment	19	22
Health and safety	11	13
Inquiry	3	18
Kickbacks	5	1
Other employment-related concerns	8	11
Other violations of international laws and regulations	1	0
Retaliation	5	5
Substance abuse	2	3
Unfair treatment or favoritism	46	39
Violations of environmental laws	1	0
Violence or threat	4	2
Working hours/time/schedule	5	5
Wrongful discipline or termination	12	19

Regions

	2023	2024
U.S.	103	115
Latin America	28	25
Asia Pacific	18	19
Europe	7	24
Africa, Middle East and India	16	13

Disciplinary actions

	2023	2024
Counseled	30	28
Disciplined	13	8
Policy/process review	31	19
Termination	18	15
Training	4	10
Question addressed	0	11

The table shows concerns reported through EthicsPoint, an independent whistleblower telephone helpline, and website, which is available 24 hours a day and in multiple languages to all employees and stakeholders. We have not had any material breaches reported on corruption or bribery, customer privacy data money laundering, or insider trading.

Stakeholder engagement

We recognize the vital role our stakeholders play in growing our business and building commercial value. Fostering positive and collaborative relationships is important, which is why we engage daily with stakeholders globally and locally on various topics and issues.

Systematic, meaningful two-way engagement helps us address stakeholder needs, manage interests and concerns, identify trends and opportunities, gather external input, promote innovation, increase transparency, reduce risk, allocate resources efficiently, and overall better serve our stakeholders. We do so through different methods, including events, conversations, community engagements and surveys and social media interactions.

During engagements, we actively seek stakeholder feedback and listen to stakeholder concerns, and suggestions. Our Stakeholder Engagement Policy, available on our website, outlines our values and guides our approach to stakeholder engagement.

We regularly review and assess our stakeholder engagement practices to ensure their effectiveness over time.

Stakeholder group	Type of engagement
Customers	We use customer surveys for feedback, and our sales representatives and technical experts work closely with customers to address concerns and provide product information. Customers can also visit our manufacturing sites to review operations and compliance with international standards.
Employees	We gather employee input through the MyVoice biennial survey, employee networks, and representatives from business units. Communication includes intranet news updates, a weekly global newsletter, quarterly site newsletters, social media updates, and a mobile app. The Employee & Labor Relations group in the People and Culture Department also listens to employee feedback. Employees can report concerns anonymously via EthicsPoint, our third-party ethics helpline.
Government and regulators	We continuously 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 regularly collaborate with industry and value chain partners. We belong to more than 100 industry associations worldwide, most of which are in the U.S. and Europe. Senior executives and more than 340 employees participate in industry association boards, committees, and working groups.
Investors and shareholders	Our Investor Relations team engages with shareholders through one-on-one meetings, calls, industry conferences, investor roadshows, and analyst meetings. Throughout the year, we discuss strategy and ESG topics with investors and address their questions and concerns. Members of the Executive Committee and our Chief Sustainability Officer join these meetings when requested. Management regularly updates the Board on shareholder conversations and feedback. We remain proactive in our engagement and outreach efforts.
Communities and local stakeholders	We regularly meet with community members to share information about our activities,and listen to their needs and concerns. Community leaders, elected officials, and the public are invited periodically to tour our sites. Additionally, some of our U.S. manufacturing sites actively participate in Community Advisory Panels or Community Action Committees. These groups represent a cross-section of the community, including local residents living in neighborhoods near our sites, industry peers, local academia and healthcare, business and civic leaders.
Non-governmental organizations	We often engage with non-governmental organizations (NGOs). These engagements take place through 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 continuously engage with our contractors and suppliers to achieve our GoalZERO ambitions, with a particular focus on people, product, and process safety. Our Global Sustainable procurement program seeks to accelerate environmental and social improvements in our supply chain and industry by, among others, engaging with suppliers.

Industry associations

We belong to more than 100 industry associations worldwide, most of which are in the U.S. and Europe. These associations provide a venue for chemical, plastics, and refining companies to lend their voices to issues impacting our industry. 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. We also participate in a variety of issue-specific advocacy coalitions and alliances that seek to advance policy proposals focused on key priorities for the chemical, plastics, and refining industries and our company.

We regularly review our memberships in coalitions, alliances, and trade associations to assess their business value and alignment with our policies and priorities. The Vice President of Government Relations has oversight of our memberships in trade associations. The following is a list of our most significant membership associations:

- American Chemistry Council (ACC)
- American Fuel & Petrochemical Manufacturers (AFPM)
- The European Chemistry Industry Council (Cefic)
- China Petroleum and Chemical Industry Association (CPCIA)
- European Petrochemical Association (EPCA)
- International Council of Chemical Associations (ICCA)
- National Association of Manufacturers (NAM)
- Plastics Europe (PE)
- Plastics Industry Association (U.S.) (PLASTICS)

Engagement with value chain stakeholders

Multi-stakeholder collaborations are critical to help solve global sustainability challenges. As a result, we participate in several strategic alliances that help us deliver impactful solutions. Through these alliances, we engage a broad spectrum of stakeholders from NGOs and government bodies to industry peers. By uniting diverse expertise and capabilities, we strive to achieve meaningful progress on issues of mutual interest.

- **World Business Council for Sustainable Development (WBCSD)**
  LYB has been a member of the WBCSD since 2023, a global network of leading businesses committed to collective action on climate change, restoring nature, and contributing to positive societal transformation. We have engaged in workstreams on critical topics, such as climate, circularity, and corporate accountability. In 2025, we plan to expand our participation to encompass topics such as carbon transparency and low-carbon demand. This will enable us to harness WBCSD's global expertise and collaborative framework to drive measurable progress and systemic challenges.
- **The WBCSD Center for Decarbonization Demand Acceleration (CDDA)**
  In 2024, we became a founding member of WBCSD's Center for Decarbonization Demand Acceleration (CDDA), which launched during New York Climate Week. This strategic, two-year initiative is dedicated to turning market demand indicators into tangible actions that accelerate the commercial adoption of zero and low-carbon materials across diverse industries. Through the CDDA, we collaborate with industry peers, value chain partners, and allied organizations—such as the Center for Green Market Activation (GMA) and the Sustainable Procurement Pledge (SPP)—to advance and align relevant standards and certification schemes, including robust chain-of-custody models. By addressing both incentives and market barriers and by empowering our procurement teams, the CDDA fosters deep collaboration and shared accountability.
- **Alliance to End Plastic Waste (AEPW)**
  As a founding member of the Alliance to End Plastic Waste (AEPW) since its inception in 2019, we are committed to driving real, scalable solutions to tackle plastic waste and build a circular economy for plastics. Over the past six years, AEPW has mobilized $368 million in funding commitments by other parties and impact investors, investing in projects that prevent plastic waste leakage, enhance recycling infrastructure, and advance innovative solutions for plastic circularity. Through these initiatives, the Alliance has diverted nearly 120,000 tonnes of plastic waste from the environment and captured value from nearly 130,000 tonnes of waste, largely through recycling. Additionally, AEPW's behavioral change and public education programs have reached over 270,000 people, fostering awareness and action to reduce plastic waste in vulnerable regions. In the past year, the Alliance undertook a strategic review to maximize its impact, shifting its focus toward large, integrated programs designed to scale impact, unlock capital investments, and strengthen cross-value chain collaboration. Reinforcing our leadership in this space, in 2025, Tracey Campbell, our EVP of Sustainability & Corporate Affairs, will serve as Chair of AEPW's Board, helping guide the Alliance's strategic direction and accelerate progress to a world free of plastic waste.
- **Ocean Plastic Leadership Network (OPLN)**
  Founded in 2019, the Ocean Plastics Leadership Network (OPLN) unites over 400 stakeholders across NGOs, industries, and brands to foster collaboration and accelerate decisive action toward ending global plastic pollution. Recognizing our expertise and commitment to sustainable solutions, we were invited in 2023 to join an influential group of resin suppliers, recyclers, converters, brand owners, and NGOs convened by OPLN. This diverse stakeholder group was tasked with developing Responsible Production Guidelines for Advanced/Chemical/Molecular (ACM) Recycling, a critical framework aimed at ensuring the sustainability, accountability, and transparency of these recycling systems. The completed Guidelines were endorsed by the U.S. Plastics Pact and are now serving as a foundation for the development of a formal ACM Recycling Responsible Production Standard. This standard will establish essential performance metrics on environmental protection, operational transparency, circularity, community health and safety, and compatibility with mechanical recycling. Building on this momentum, OPLN has partnered with SCS Standards to lead an expanded coalition of stakeholders, including LYB, in the next phase of developing this standard. Through our engagement, we continue to drive industry best practices and champion responsible recycling solutions that contribute to a more sustainable, circular plastics economy.

- **Science-Based Targets initiative (SBTi)**
  The Science-Based Targets Initiative (SBTi) is developing chemical sector-specific guidance for defining science-based climate targets, which it plans to publish in 2025. Along with several industry peers, LYB is a member of the SBTi Expert Advisory Group (EAG), which supports the development of this guidance by providing input and feedback. We have shared with the SBTi, both individually and as part of the EAG, our concerns with the applicability of guidance across the chemical industry and will continue to collaborate with them on finding a way forward.

  See page 35 for a summary of our engagement.

- **Together for Sustainability (TfS)**
  Together for Sustainability (TfS) is an industry-leading initiative driven by chemical procurement specialists. Each TfS member is dedicated to building sustainable chemical supply chains, meeting regulatory requirements, and responding to the needs and expectations of society.
  As an active member of TfS, we are committed to advancing sustainability across the chemical industry and its supply chain. Since joining in 2022, we have actively participated in key initiatives aimed at fostering collaboration across the chemical sector value chain, particularly in tackling scope 3 GHG emissions. Leveraging TfS's Product Carbon Footprint (PCF) guidance, we enhance the accuracy of our emissions calculations and drive meaningful reductions in our GHG footprint. Additionally, we are supporting the development of an industry-wide platform that facilitates the seamless exchange of PCF data between chemical companies and their suppliers, an essential step toward greater transparency and accountability.
  By engaging with TfS, we are strengthening supplier relationships and working collaboratively to lower the GHG footprint of our feedstocks and raw materials.

  For more information on our engagement with TfS, refer to Sustainable procurement on page 99 of this report.

- **Engaging in Together for Sustainability (TfS) Industry Initiative**
  Under the leadership of TfS President and our Chief Procurement Officer, Jen Jewson, the alliance has developed a 2030 strategy "Accelerate for Impact". This new strategy positions TfS to drive meaningful sustainability improvements across the chemical industry through deep collaboration among member companies. As part of our commitment to this initiative, LYB proudly hosted the 2024 TfS General Assembly at our Wesseling, Germany, site in June. During this gathering, TfS members approved the Accelerate for Impact strategy, reinforcing the alliance's dedication to industry-wide sustainability progress. Beyond hosting key events, our engagement in TfS extends across the organization, with numerous LYB employees actively participating. We have representatives in nearly all TfS workstreams, including Assessments, Audits, and scope 3, demonstrating our leadership and commitment to embedding sustainability into the chemical supply chain.

- **A TfS scope 3 program industry champion for the plastics sector**
  As a TfS scope 3 program industry champion for the plastics sector, LYB is taking a leadership role in accelerating sustainable practices across the industry. We actively serve as a spokesperson for the TfS scope 3 emission reduction program, engaging with key stakeholders and attending industry conferences to raise awareness of the program's free resources – including guidelines, tools and trainings. The goal of this program is to establish the TfS scope 3 framework as the gold standard for emission reduction across the value chain. By advocating for the widespread adoption of a framework enabling standardized carbon emission data, we can help driving real progress in GHG emission reductions across the plastics sector and beyond.

- **Co-founding the "Women in Logistics" industry initiative**
  The "Women in Logistics" (WIL) industry initiative seeks to address the growing truck driver shortage in European chemical logistics by promoting the attraction and retention of talent in the sector. With half of European truck operators unable to expand due to a lack of drivers, WIL brings together industry actors to drive company commitments and action plans that improve working conditions and create a more inclusive logistics ecosystem. The initiative focuses on three key target groups: drivers, operators, and leadership, ensuring a comprehensive approach to broadening the talent pool and improving accessibility to logistics careers. As a co-founder of WIL and a member of its board, LYB plays a key role in shaping the consortium's efforts.
  WIL will develop a platform to raise awareness, provide leadership endorsements, share best practices, and advocate for policies that attract more talent into the profession. By securing the workforce needed to sustain and grow the industry, WIL helps ensure a resilient and future-ready logistics sector.

- **The Global Impact Coalition (GIC)**
  The Global Impact Coalition (GIC) brings together industry leaders to drive bold, collaborative action in addressing some of the most pressing sustainability challenges facing the chemical sector. With a strong focus on reducing GHG emissions and accelerating circularity, GIC serves as a catalyst for transformative change, fostering innovation and scalable solutions across the value chain. Through GIC, we work alongside key partners and member companies to develop and implement high-impact initiatives such as on plastics recycling for automotive and the development of alternative production routes to olefins. These projects are critical in advancing feedstock circularity, expanding sustainable recycling technologies and driving meaningful reductions in carbon emissions. Beyond execution, we actively contribute to strategic discussions, knowledge-sharing workshops, and cross-industry collaborations that push the boundaries of what is possible in sustainability. By leveraging the collective expertise of the GIC network, we continue to accelerate the adoption of breakthrough technologies, scale impactful innovations, and build a more resilient, circular chemical sector.

Materiality

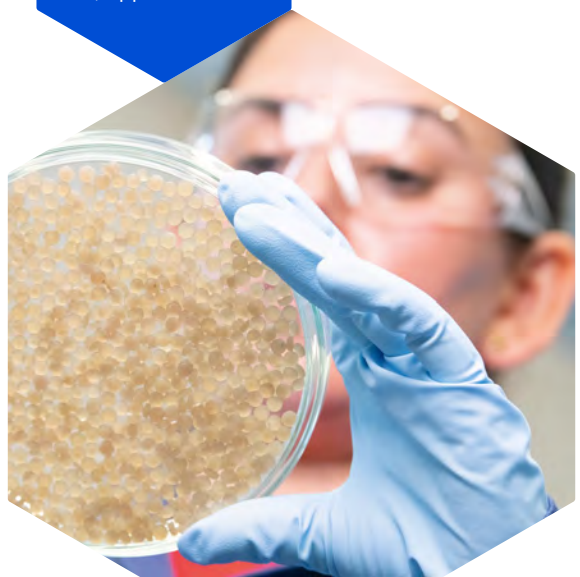
We use comprehensive materiality assessments to help define the ESG topics that matter most to our business and stakeholders.

Our approach to conducting materiality assessments and determining material topics for sustainability reporting is based on available reporting frameworks and best practices and includes extensive stakeholder feedback. In preparation for our compliance with the EU Corporate Sustainability Reporting Directive (CSRD), we have adapted our assessment based on the double materiality approach. This process has been co-developed by our Sustainability, Finance Legal, and Enterprise Risk Management functions and includes extensive engagement with subject matter experts.

We evaluate risks and opportunities that could impact our financial performance (financial materiality), and how we could impact people and the environment (impact materiality) in the short, medium, and long term. Through our 2024 double materiality assessment process we determined our EU CSRD aligned material topics to be climate change, circularity, pollution, own workforce, consumers and end-users and business conduct. In 2025, we will continue our work to prepare to comply with the EU CSRD.

Our double materiality assessment process has been conducted in phases and these activities are described as follows:

Enhancing reporting practices to ensure clear and accurate disclosure of impacts, risks, opportunities.



Our double materiality assessment process[1]

1. Understand the context

This phase aims to understand the broader context in which LYB operates to identify potential topics for the assessment. This involves examining our value chain and related stakeholders, topics already identified as important to LYB through strategy and previous materiality assessments, insights from peer analysis, media review and regulatory and industry studies.

2. Identify and evaluate impacts, risks and opportunities

This phase involves the identification of impacts, risks, and opportunities across the operating context identified in the previous phase.

3. Determine material topics

This phase involves evaluating impacts, risks and opportunities from both impact and financial materiality perspectives to determine the list of material topics.

4. Determine applicable disclosure requirements and reporting

This phase involves determining the applicable EU CSRD disclosure standards based on our list of material topics, and relevant information.

1 The results of our materiality assessment and determination of our material topics are reviewed by the Sustainability, Finance, Legal and ERM teams, validated by the Executive Committee, and ratified by the LYB Board HSE&S Committee.

Public policy

We believe 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 industry associations, and the LYB Political Action Committee (LYB PAC).

Transparency and accountability are embedded into our public policy, political spending, and lobbying activities. The company maintains policies and procedures consistent with our Code of Conduct that support continued compliance with applicable laws and regulations. Our engagement, including public policy advocacy directly and through trade associations, is subject to oversight by LYB senior management and our CEO. In addition, the LYB PAC Board is responsible for the management of all PAC activities, including the approval of all PAC distributions.

Political contributions

LYB does not make direct political contributions to political parties or candidates using company resources (including monetary and in-kind services), even where permitted by law. In the U.S., political contributions are made solely through the LYB PAC, which is funded voluntarily and managed by employees. All financial contributions strictly adhere to federal and state laws regarding contribution limits on amount and source, criteria, and reporting requirements. All political contributions are made without regard to the personal political affiliations or views of any individual LYB employee at any level across the organization.

Public policy and advocacy

Our advocacy activities are directed toward advancing LYB business interests, to fostering the protection and advancement of strong petrochemical and refining industries, and not the personal political preferences of our executives or employees. Contributions are based upon advancing our business goals in a broad range of public policies.

For information on our public policy and advocacy activities, refer to our website at www.lyb.com.

We disclose details of our U.S. political contributions in our annual U.S. Political Activity Report, which may also be found on our website. LYB is assessed annually by the Center for Political Accountability (CPA) and received a First Tier score on CPA's Zicklin Index, which measures transparency and accountability in corporate political spending.

LYB PAC political contributions

($ thousands)	2021	2022	2023	2024
Value of contributions	85.5	128.5	104.0	**283.8**

Dues paid to industry associations are not included. No in-kind political contributions were made. The company discloses its U.S. federal, state, and local lobbying activity and expenditures as required by law.

Ending plastic waste

Effective public policies are essential to address the plastic waste challenge and advance a circular economy. We support legislation and policy to:

- Advance waste management systems, infrastructure, and recycling standards
- Increase the reuse and recycling of plastic
- Support the introduction of new recycling technologies, such as chemical recycling, 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
- Recognize the use of third-party certified mass balance accounting to track and attribute recycled plastic materials obtained via chemical recycling

Senior leadership oversee our active political participation driving transparency, accountability, and compliance.

Taking climate action

We are committed to disclosing our approach to climate advocacy including detailing our climate policy positions, setting out our approach to participating in trade associations, and publishing a review and evaluation of trade association alignment with our climate policy positions.
The following are our climate policy positions:

- **1. Emission reduction and net zero emissions:** We support global objectives to limit global temperature rise to well below 2º C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5º C. We support emission reduction targets in line with these goals that help the world reach net zero by 2050.
- **2. Hydrogen:** We endorse policies encouraging the further development of affordable and reliable low-carbon hydrogen. Hydrogen technologies are a transformative lever for LYB and the chemical industry in combating GHG emissions.
- **3. Carbon capture, utilization, and storage (CCS/CCU):** We support policies promoting the development of a carbon capture and storage infrastructure at the scale required to enable the storage of currently unavoidable GHG emissions. CCS/CCU allows industry to take large steps to significantly reduce carbon emissions by using mature technologies. In the long term, we believe in the potential of CO_2 utilization as an alternative to permanent storage. CO_2 utilization not only has the potential to reduce scope 1 and 2 emissions through CO_2 capture but also to reduce scope 3 emissions by converting the captured CO_2 to higher-value chemicals that could replace current fossil-based feedstocks. While CCS/CCU technologies will help accelerate progress towards net zero, these technologies need to be integrated in a way that allows for optionality as different technologies continue to develop and net zero pathways evolve.
- **4. Emerging technologies:** We support policies accelerating the development of emerging technologies which enable the reduction of emissions from carbon intensive, large-scale manufacturing operations, including processes and adjacent infrastructure to enable cost-effective use of CO_2 at scale for the production of higher value chemicals. As LYB actively explores emerging technologies, we welcome government action to facilitate collaboration opportunities for industry and academia to further develop feasible technologies.
- **5. Low-carbon renewable energy and electrification:** We support policies promoting significant increases in low-carbon and renewable electricity production as well as grid capacity upgrades needed to support the high electricity demands related to the electrification of industrial processes. LYB also endorses policies that encourage further development of affordable, reliable baseload generation from other non-emitting sources. Furthermore, we support a regulatory environment and incentive structure that provides certainty for public and private-sector investment, for example, by incentivizing the use of power purchase agreements (PPAs), which are key to securing procured electricity from renewable sources.
- **6. Carbon pricing:** We support carbon pricing schemes that effectively and equitably facilitate a transition to a net zero economy. We believe a global carbon price provides the most efficient, fair, and uniform way to reduce GHG emissions at scale. In the absence of a global price on carbon, in the near term, we support regionally implemented cap-and-trade programs and effective carbon leakage protection measures to ensure our production remains competitive. We use an internal carbon price as a key enabler for us to progress towards our 2030 and 2050 scope 1 and scope 2 targets, allowing us to assign a monetary value to our GHG emissions and integrate this value into our business planning. We anticipate an increased value for carbon, driven by expected increases in global carbon regulations and growing consumer willingness to pay a premium for low-carbon products.

Our first Climate Advocacy Report was published in May 2023 and describes our approach to climate advocacy, including climate policy positions, approach to participating in trade associations, and review and evaluation of trade association alignment with our climate policy positions. An updated report will be published in 2025.

UN Global Plastics Treaty

As instructed by a 2022 United Nations Environment Assembly resolution, the United Nations Environment Program (UNEP) formed an Intergovernmental Negotiating Committee (INC) to develop and deliver an international legally binding instrument to address global plastic pollution.
The INC was tasked with finalizing this treaty in five negotiation sessions held over two years. By the conclusion of the fifth session in December 2024, the INC had not reached final agreement on a treaty and therefore decided to reconvene the fifth session in mid-2025.

Throughout this negotiation process LYB, alongside companies from across the plastics value chain, has proactively engaged with INC delegates and other stakeholders from around the world, sharing our viewpoints and solutions to address plastic pollution. We support government ambitions to eliminate additional plastic pollution by 2040.
To achieve this, we need to accelerate a circular economy in which plastic products and packaging are sustainably reused or recycled instead of being discarded, enabled by a global agreement that unlocks industry innovation and global investment in plastics circularity.

The LYB position on the UN Global Plastics Agreement details what we believe the agreement should accomplish and may be found on our website at www.lyb.com.

Tax

We recognize the economic importance of taxes to our communities and are committed to fulfilling our corporate tax obligations where we operate.

In doing so, we pay significant taxes, including income taxes, sales taxes, value-added taxes, excise taxes, payroll taxes, property taxes, and other taxes and duties, to local, state, and national governments around the globe. In parallel with our obligations to our communities, we have an obligation to our shareholders and other stakeholders to effectively manage our tax affairs to achieve the company's capital structure and investment objectives and deliver sustainable and profitable long-term growth. To fulfill our obligations, we have developed three tenets, as follows, which are the foundation for our tax strategy and governance framework.

- We are committed to complying with all applicable laws, rules, regulations, and reporting and disclosure requirements related to our business presence and transactions.
- We have a fiduciary obligation and commitment to our shareholders to structure our affairs in a tax-efficient manner to maximize shareholder value within the bounds of the law.
- We are committed to acting with transparency, integrity, and respect toward our stakeholders about tax matters.

More information on income taxes can be found in our 2024 Form 10-K, pages 108-114.

Tax strategy and governance framework

Our tax strategy and governance are ultimately the responsibility of both the CFO and the Senior Vice President of Tax, supported by their direct and indirect reports, and other senior personnel. Significant changes to the tax strategy, including significant tax matters and recommendations, are reviewed by the Board, or a committee thereof, as appropriate as well as any notable tax matters that could materially impact our financial statements.

We structure our tax affairs to control costs and obtain tax efficiency in accordance with the law. When structuring our commercial transactions, we provide tax advice aligned with the commercial substance of the transaction while maintaining tax efficiency. Effective tax governance is critical to meeting our obligations and underpins the tenets described above. Effective tax governance includes maintaining a control framework of appropriate processes, procedures, and documentation, with respect to tax compliance and reporting, tax planning and advice, tax audits, and dispute resolution, and ensuring that senior personnel with the appropriate skill and experience are involved in key tax decisions. We supplement our expertise by seeking advice from reputable external advisors 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.

Because tax laws are subject to interpretation, differences of opinion are inevitable. Our tax governance processes include the evaluation of differing interpretations, including subsequent changes in interpretations, and where appropriate, disclosures are made in the applicable reporting tool (i.e. tax return, financial statements, and other reporting requirements). Our transfer pricing policy for cross-border intra-group transactions requires such transactions to be conducted and priced on an arm's-length basis with appropriate and timely supporting documentation. Further, we established a policy requiring intercompany financial transactions and corporate restructurings, including those that are tax planning-related, to obtain prior approval from the CFO, General Counsel, or their designees.

Our Code of Conduct embodies our dedication to conducting business ethically and responsibly, and to comply with applicable laws and regulations. More information on our Code of Conduct can be found on page 108.

Cybersecurity

Sophisticated global cybersecurity threats and targeted computer crimes continuously pose a risk to the confidentiality, availability, and integrity of our data, operations, and infrastructure. We have implemented comprehensive practices to minimize these risks.

Our cybersecurity program is certified to the International Organization for Standardization (ISO) 27001 standard for information security management, which covers key areas of management, technical and physical controls, legal, compliance, and business continuity management. Our management utilizes a systematic approach to evaluating and determining risk tolerance and prioritizes the safeguarding of our digital assets.

The Chief Information Security Officer (CISO) is the Vice President of Cybersecurity, leading our cybersecurity program and reporting to the Executive Vice President and Chief Innovation Officer, who serves on the Executive Committee and reports to the CEO. The CISO has a Master of Science degree in Cybersecurity Operations, is certified as an information security professional with the International Information System Security Certification Consortium (ISC2) and International Association of Privacy Professionals (IAPP), and has over 30 years of leadership experience in technology, systems architecture, and cybersecurity.

Cybersecurity events are continuously monitored by global security operations centers staffed in the U.S, European Union, and Asia Pacific with events and incidents being managed based on the MITRE ATT&CK framework, a system for classifying and describing cyberattacks and intrusions. Management provides guidance and is informed of cybersecurity events through a committee with cross-functional representation of executive leadership. The committee meets at least quarterly for activities such as determining policy, reviewing active risks, assessing the impact of emerging threats or regulatory changes, and monitoring active incidents. This committee also receives escalated alerts within 24 hours of a confirmed cybersecurity event and will determine the severity of the incident, engage with crisis management as necessary, and disseminate information internally as appropriate and warranted. The company's generative AI (Gen AI) strategy is to "Generate Responsibly," actively providing education and awareness, encouraging the safe exploration of generative AI tools and resources, consistent with company data protection policies and standards.

Our cybersecurity program includes, but is not limited to:

- Annual cybersecurity education for all company computer users on relevant policies and standards, and best practices at work and at home.
- Communication processes, including how to identify, respond, and report threats or potential vulnerabilities.
- 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 MITRE ATT&CK framework for dealing with ransomware and other cybersecurity incidents.
- Regular technical risk assessments of our networks, applications, and manufacturing facilities, using a combination of trusted suppliers and a dedicated, objective team.
- Penetration, discovery, and vulnerability assessments are 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. Certain key financial apps are tested at least semi-annually.
- Coverage for non-damage business interruption or liability for data breaches as a part of the company's combined insurance programs.

In addition, in 2024, we conducted ransomware simulation exercises and engaged outside consultants to perform external perimeter penetration testing.

External perimeter rating – Best in class

Bitsight Score	790+

Customer privacy

The company maintains a privacy program that is based on a Data Privacy Policy and corresponding standards and practices that facilitate adherence to personal data protection laws globally.

As part of its global privacy program, the company's Lead Counsel, Privacy and Cyber, and the Data Privacy Committee (the Committee), guides, monitors, and stays accountable for data privacy compliance efforts globally. The Lead Counsel, Privacy and Cyber reports directly to the CCO. The Committee is established to assist with centralized and cross-functional governance of data privacy standards and provides a framework that supports the administration of the Data Privacy program.

Our privacy program

We maintain a privacy management tool that helps us comply with global privacy laws and regulations and provides LYB with a centralized platform to track data and automate privacy processes and assessments. We also utilize this tool to maintain our Record of Processing Activities (ROPA) or data inventory, which provides a view of personal data that is being processed by the company.

In 2024, the Data Privacy team conducted annual personal data privacy training for approximately 6,300 employees, with a 99% completion rate. Employees completing the training are selected based on their role within the company and potential personal data privacy risks related to their job function. The training is available in nine languages and covers key concepts such as identifying and reporting personal data privacy incidents, relevant data protection and privacy laws and regulations including GDPR, data subject rights, and the foundation of personal data privacy at LYB.

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 adhere to data protection laws and regulations in the jurisdictions where we operate.

For more information regarding how the company processes personal data, please see www.lyb.com.

Centralized privacy management with automated processes, facilitating compliance with global laws and evolving regulations.

Additional disclosures

Relevant and **reliable data** *to* **meet the information needs** *of our stakeholders*

Data and assurance

We aim to meet the informational needs of our stakeholders by providing clear, relevant and reliable sustainability performance data. Aligning to regulatory and voluntary reporting frameworks requires a robust ESG data gathering and controls process. In addition, external assurance helps us improve our reporting processes, data management, and accountability thereby enhancing our overall sustainability performance. We are committed to transparency and providing the appropriate assurance on our disclosed data aligned to the frameworks that we apply to our disclosures.

pwc

To the Management of LyondellBasell Industries N.V.

We have reviewed the accompanying management assertion of LyondellBasell Industries N.V. (LyondellBasell) that the greenhouse gas (GHG) emissions and energy consumption and mix metrics, employee demographics metrics, and health and safety metrics (collectively, "the metrics") for the year ended or as of December 31, 2024 in management's assertion are presented in accordance with the assessment criteria set forth in management's assertion. LyondellBasell's management is responsible for its assertion and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the metrics. Our responsibility is to express a conclusion on management's assertion based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) in AT-C section 105, Concepts Common to All Attestation Engagements, and AT-C section 210, Review Engagements. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. The procedures performed in a review vary in nature and timing from, and are substantially less in extent than, an examination, the objective of which is to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

The firm applies the Statements on Quality Control Standards established by the AICPA.

The procedures we performed were based on our professional judgment. In performing our review, we performed inquiries, performed tests of mathematical accuracy of computations on a sample basis, read relevant policies to understand terms related to relevant information about the metrics, reviewed supporting documentation in regard to the completeness and accuracy of the data in the metrics on a sample basis, and performed analytical procedures.

GHG emissions quantification is subject to significant inherent measurement uncertainty because of such things as GHG emissions factors that are used in mathematical models to calculate GHG emissions, and the inability of these models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy use data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

The preparation of the energy consumption and mix, pay gap, and health and safety metrics requires management to establish the criteria, make determinations as to the relevancy of information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

As discussed in management's assertion, in calculating certain health and safety metrics, LyondellBasell has estimated hours worked for certain locations for which no primary data is available.

Based on our review, we are not aware of any material modifications that should be made to LyondellBasell's management assertion in order for it to be fairly stated.

PricewaterhouseCoopers LLP

Houston, Texas
April 14, 2025

Management assertion

Overview

The management of LyondellBasell Industries N.V. (LyondellBasell) is responsible for the completeness, accuracy, and validity of the greenhouse gas emissions and energy consumption and mix metrics, employee demographics metrics, and health and safety metrics (collectively, "the metrics") presented in the tables below for the year ended or as of December 31, 2024 (reporting period). Management asserts that the metrics are presented in accordance with the assessment criteria set forth below. Management is responsible for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the metrics.

In preparation for our compliance with the EU Corporate Sustainability Reporting Directive (CSRD), we have started to incorporate changes we anticipate will be applicable to the CSRD disclosures. As a result, there have been terminology changes (e.g., work-related injuries are now referred to as work-related accidents) from the metrics assured in 2023.

In addition, there have been assessment criteria changes in how the metric is presented from the metrics assured in 2023 that were not retrospectively applied (e.g., students are now excluded from the employee population for the employee demographics metrics).

Greenhouse Gas (GHG) emissions and energy consumption and mix

Organizational boundary

LyondellBasell accounts and reports the GHG emissions and energy consumption and mix metrics under the operational control approach, as defined in the Protocol (defined below), which includes operations or joint ventures over which we, or one of our subsidiaries, have operational control. Data related to acquisitions and divestitures during the reporting period are included for the period in which LyondellBasell had operational control. Acquisitions made within the reporting period may use actual or estimated data depending upon the timing and ability to obtain actual data. Adjustments are made, if necessary, in the reporting period following the acquisition based upon actual data.

LyondellBasell's reported scope 1 and 2 GHG emissions and energy consumption and mix metrics include our manufacturing sites (also referred to as plants), pipelines, offices, and research/technical centers; and exclude small regional offices defined as those with energy consumption lower than a 3,500 gigajoules threshold for the reporting period (collectively referred to as "sites").

LyondellBasell's reported scope 3 GHG emissions include emissions from goods purchased or acquired globally (category 1: purchased goods and services) as well as the sale of our products globally (category 11: use of sold products and category 12: end-of-life treatment of sold products).

Table: GHG emissions and energy consumption and mix metrics

Metric and unit of measurement	Definition	Metric value reported for the year ended December 31, 2024 (in millions, unless a percentage)
Scope 1 GHG emissions		
Gross scope 1 GHG emissions (metric tons of carbon dioxide equivalents – tCO_2e)	Includes direct GHG emissions from (1) the generation of electricity and steam resulting from the combustion of fossil and non-fossil fuels in stationary sources, (2) process-related GHG emissions from venting and flaring activities and other process-related GHG emissions, and (3) fugitive emissions (including methane).[1,2,3,4]	15.0
Scope 2 GHG emissions		
Gross location-based scope 2 GHG emissions (tCO_2e)	Includes indirect GHG emissions from the generation of purchased or acquired electricity and steam (location-based).[1,2,3,5]	7.2
Gross market-based scope 2 GHG emissions (tCO_2e)	Includes indirect GHG emissions from the generation of purchased or acquired electricity and steam (market-based).[1,2,3,5]	7.1
Scope 3 GHG emissions		
Category 1: Purchased goods and services (tCO_2e)	Includes indirect GHG emissions from the extraction, production and transportation of goods purchased or acquired.[1,2,3,8]	33.1
Category 11: Use of sold products (tCO_2e)	Includes indirect GHG emissions from the direct use of sold products. [1,2,3,9]	53.3
Category 12: End-of-life treatment of sold products (tCO_2e)	Includes indirect GHG emissions from the waste disposal and end-of-life treatment of sold products. [1,2,3,10]	16.1
Energy consumption and mix		
Fuel consumption from coal and coal products (megawatt-hour – MWh)	Fuel consumption from coal and coal products contributing to scope 1 GHG emissions (defined above).[6]	2.1

Management assertion *continued*

Metric and unit of measurement	Definition	Metric value reported for the year ended December 31, 2024 (in millions, unless a percentage)
Energy consumption and mix continued		
Fuel consumption from crude oil and petroleum products (MWh)	Fuel consumption from crude oil and petroleum products contributing to scope 1 GHG emissions (defined above).[6]	31.4
Fuel consumption from natural gas (MWh)	Fuel consumption from natural gas contributing to scope 1 GHG emissions (defined above).[6]	27.7
Fuel consumption from other fossil sources (MWh)	Fuel consumption from other fossil sources contributing to scope 1 GHG emissions (defined above), not including coal and coal products, crude oil and petroleum products, and natural gas.[6]	0.0
Consumption of purchased or acquired electricity, heat, steam, and cooling from fossil sources (MWh)	Consumption of purchased or acquired electricity and steam from fossil sources contributing to scope 2 GHG emissions (defined above).[6]	26.9
Total fossil energy consumption (MWh)	Sum of fuel consumption from coal and coal products, crude oil and petroleum products, natural gas, and other fossil sources, and consumption of purchased or acquired electricity and steam from fossil sources (defined above) contributing to scope 1 and 2 GHG emissions (defined above).	88.1
Share of fossil sources in total energy consumption (%)	Total fossil energy consumption (defined above) as a percentage of total energy consumption (defined below).	83%
Consumption from nuclear sources (MWh)	Consumption from nuclear sources contributing to scope 2 GHG emissions (defined above).[6]	1.0
Share of consumption from nuclear sources in total energy consumption (%)	Consumption from nuclear sources (defined above) as a percentage of total energy consumption (defined below).	1%
Fuel consumption from other non-renewable sources (MWh)	Fuel consumption from non-renewable hydrogen used in stationary equipment and machinery at LyondellBasell sites.[6]	15.0
Share of fuel consumption from other non-renewable sources in total energy consumption (%)	Fuel consumption from non-renewable hydrogen (defined above) as a percentage of total energy consumption (defined below).	14%
Consumption of energy from renewable sources (MWh)	Consumption of renewable energy, primarily from purchased or acquired electricity and steam from renewable sources, such as wind or solar, contributing to scope 2 GHG emissions (defined above).[6]	1.6
Share of consumption of energy from renewable sources in total energy consumption (%)	Consumption of renewable energy, primarily from purchased or acquired electricity and steam from renewable sources (defined above) as a percentage of total energy consumption (defined below).	2%
Total energy consumption (MWh)	Sum of total fossil energy consumption, consumption from nuclear sources, fuel consumption from other non-renewable sources, and consumption of renewable energy primarily from purchased or acquired electricity and steam from renewable sources (defined above).	105.7
Energy intensity		
Total energy consumption from activities in high climate impact sectors per revenue from activities in high climate impact sectors (MWh/USD)	Total energy consumption (defined above) as a percentage of sales and other operating revenues in millions (MWh/USD).7	0.003

Management assertion *continued*

GHG emissions and energy consumption and mix metric disclosures

1. LyondellBasell considers the principles and guidance of The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard, and Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting and Reporting Standard (collectively referred to as the "Protocol") developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) to collect, calculate and report GHG emissions. The Protocol is the basis for LyondellBasell's GHG definitions, calculation methodologies and calculation results included in this section of the management assertion, unless explicitly stated otherwise.
2. GHG emissions quantification is subject to significant inherent measurement uncertainty because of such things as GHG emissions factors that are used in mathematical models to calculate GHG emissions, and the inability of these models, due to incomplete scientific knowledge and other factors, to accurately measure under all circumstances the relationship between various inputs and the resultant GHG emissions. Environmental and energy consumption data used in GHG emissions calculations are subject to inherent limitations, given the nature and the methods used for measuring such data. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.
3. Scope 1, 2, and 3 GHG emissions are inclusive of carbon dioxide (CO_2), methane (CH4), nitrous oxide (N2O), and industrial gases such as hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs). The other three gases considered – perfluorocarbons (PFCs), nitrogen trifluoride (NF3), and sulfur hexafluoride (SF6) – are not emitted at LyondellBasell's sites or as a result of LyondellBasell's scope 3 activities. Emissions data by individual gas is not disclosed as a majority relates to CO_2. The CO_2 equivalent (CO_2e) emissions utilize Global Warming Potentials (GWPs) defined by the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6 – 100 year). CO_2e emissions are calculated by multiplying activity data (e.g., energy, fuel usage, refrigerant gas loss, feedstocks purchased volumes, products sold volumes) by the relevant emission factor and/or GWP. An extrapolation was used in calculating scope 3, category 1 GHG emissions where emission factors were not available for certain feedstocks. All emission factors are updated annually where applicable.
4. Scope 1 GHG emissions:
   - Emissions resulting from the combustion of fossil and non-fossil fuels used in stationary equipment and machinery at LyondellBasell sites. These fuels include coal and coal products (coal, coke, lignite), crude oil and petroleum products [refinery gas, light fuel oil/diesel, heavy fuel oil/diesel, butene, pitch, and the site-generated fuels of fuel gas/tail gas (a blend of process gases used as fuel onsite), fuel A xTBE (manufacturing of tertiary butyl ethers), fuel A POTBA (propylene oxide/tertiary butyl alcohol), and fuel B], natural gas, and other non-renewable fuel sources (hydrogen).
     - Fuel usage data was collected from monthly utility invoices, readings from on-site third-party managed meters, or readings from on-site LyondellBasell managed meters.
     - Emission factors:
       - Natural gas, refinery gas, light fuel oil/diesel, heavy fuel oil/diesel, hydrogen, coal, coke, lignite, butene, and pitch: American Petroleum Institute. (published 2021, November). 4.3 CO_2 Combustion Emission Factors (Fuel Basis) for Common Industry Fuel Types [Table], 4.6 CH4 and N2O Combustion Emission Factors (Fuel Basis) for Common Industry Fuel Types [Table], 4-8 CH4 and N2O Combustion Emission Factors from EPA Mandatory GHG Reporting Rule [Table], Compendium of Greenhouse Gas Emissions Methodologies for the Natural Gas and Oil Industry.
       - Site-generated fuels:
         - Fuel gas/tail gas – Calculated value derived from a weighted average energy content and emission factor for the fuel gas.
         - Fuel A xTBE – Calculated value from site heating value and emissions for fuel A (gaseous waste) stream specific to xTBE technology.
         - Fuel A POTBA – Calculated value from site heating value and emissions for fuel A (gaseous waste) stream specific to the POTBA technology.
         - Fuel B – Calculated value from site heating value and emissions for fuel B (liquid waste) stream.
   - Emissions resulting from venting and flaring activities as well as other process-related GHG emissions which include, but are not limited to, emissions from wastewater treatment (WWT) activities and peroxide decomposition byproducts.
     - Venting and flaring as well as other process-related activity is reported annually on a site-by-site basis via direct measurement. The resulting emissions are converted to CO_2e on a site-by-site basis using GWPs from the IPCC's Sixth Assessment Report.
   - Emissions resulting from fugitive emissions at LyondellBasell's sites:
     - Fugitive emissions related to volatile organic compounds (VOCs), including methane, are measured per environmental requirements in CFR Title 40 Chapter I Subchapter C and converted to CO_2e using GWPs from the IPCC's Sixth Assessment Report.
     - HCFCs and HFCs are related to replenishment of refrigerants. Refrigerant gases (including refrigerants other than HCFCs and HFCs) are calculated on a loss replenishment basis using site-specific refrigerant management records. The GWP of the individual refrigerant from the IPCC's Sixth Assessment Report is used to convert the losses into CO_2e.
   - Direct emissions associated with the sale of energy generated from our own operations to another company are not deducted/netted from scope 1 GHG emissions, in accordance with the recommendations of the Protocol.
   - Excluded scope 1 GHG emissions: LyondellBasell excluded the following sources of GHG emissions:
     - Combustion related to emissions from LyondellBasell owned or leased motor vehicles.
     - Combustion related to emissions from non-stationary leased and rented equipment such as temporary air compressors and pumps, welding machines, and mobile light plants used onsite.
5. Scope 2 GHG emissions:
   - Emissions resulting from the purchase or acquisition of energy in the form of electricity or steam used at LyondellBasell sites. The purchased electricity and steam were generated from fossil, nuclear or renewable sources. Consumption data was collected from monthly utility invoices for electricity and steam usage.
   - Emission factors for steam (location-based and market-based):
     - Most recent factor provided by the third-party steam supplier.
   - Emission factors for electricity (location-based):
     - United States (U.S.) sites: U.S. Energy Information Administration. (published 2024, October 29). 6. Carbon intensity of the energy supply by state [Table], Energy-Related CO_2 Emission Data Tables.
     - European sites: European Environment Agency. (published 2024, October 31). Greenhouse gas emission intensity of electricity generation in Europe.
     - Other sites not within the U.S. and Europe: International Energy Agency. (published 2024, September). Emissions Factors 2024.
   - Emission factors for electricity (market-based):
     - LyondellBasell used Energy Attribute Certificates (EACs) procured through power purchase agreements during 2024 to contractually procure renewable energy in relation to our manufacturing sites in North America. Any remaining electricity not associated with a contracted for and retired EAC was converted to emissions using the emission factor hierarchy described below. EACs were retired by December 31, 2024 for 2024 use.
     - After application of EACs, the emission factors were applied based on the Protocol hierarchy and availability of data, including the factors below listed from highest to lowest precision:
       1. Utility-specific market-based emission factors provided by the utility suppliers.
          a. Where provided, LyondellBasell applied the electricity emission factor provided by the third-party electricity supplier for 2024. If the 2024 edition of the emission factor was not provided, the most recent electricity emission factor provided by the third-party electricity supplier was applied.
       2. Other grid-average emission factors – same as location-based.
          a. In locations where an electricity emission factor was not provided by a third-party, a grid-average factor (defined above in emission factors for electricity (location-based)) was applied.
   - Excluded scope 2 GHG emissions: LyondellBasell excluded the following sources of GHG emissions:
     - District heating and cooling.
     - Cooling water and chilled water purchased from third-party suppliers.
6. Energy consumption and mix:
   - The preparation of the energy consumption and mix metrics requires management to establish the criteria, make determinations as to the relevancy of information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.
   - Activity data for energy consumption is the same as described in Notes 4 and 5.

Management assertion *continued*

7. Energy intensity:
   - Total energy consumption (defined above in the "Total energy consumption" metric) and sales and other operating revenues is used in the energy intensity calculation as more than 98% of LyondellBasell revenue is from activities in high climate impact sectors as defined by Commission Delegated Regulation (EU) 2023/2772.
   - Revenue represents the consolidated sales and other operating revenues from our Statutory Dutch Annual Report for the year ended December 31, 2024. For operated joint ventures that are proportionally consolidated in our financial statements, we include our proportional share of joint venture revenues.
8. Scope 3 GHG emissions – Category 1: Purchased goods and services:
   - Emissions resulting from the extraction, production and transportation of feedstocks and other raw materials, purchased or acquired, for use in our manufacturing processes and non-production activities (including, but not limited to, crude oil, naphtha, natural gas, ethane, butane, isobutane, propylene, or ethylene).
   - Emissions were calculated using the average-data method from The Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions.
   - Feedstock and raw material volumes purchased or acquired were collected from purchase orders recorded in the LyondellBasell Enterprise Resource Planning (ERP) system.
   - Emission factors applied to feedstocks and raw materials were based on the region where the feedstock or raw material was purchased or acquired and the relevant mode of production of the feedstock or raw material. If a region specific emission factor was not available, the closest equivalent was used (e.g., global emission factor instead of an emission factor specifically for a country). Emission factors were either:
     - Provided by the third-party supplier, or
     - Obtained from secondary Life Cycle Assessment (LCA) databases, including GaBi, version 2023, or where an emission factor was not available for a feedstock or raw material in GaBi, emission factors from Ecoinvent, version 3.9, were applied.
   - Where emission factors for a raw material were not provided by a third-party supplier or not available in GaBi or Ecoinvent, emissions were estimated by extrapolating total calculated category 1 GHG emissions. The ratio was calculated by taking the volume of raw materials without an emission factor over the total volume of feedstocks and raw materials. Emission factors were not available for raw materials which represent approximately 5% of our total volume of feedstocks and raw materials purchased or acquired. Total calculated category 1 GHG emissions were divided by the ratio mentioned above to obtain the related category 1 GHG emissions. The extrapolation was only used for raw materials, as all feedstocks had emission factors provided by a third party or were available in GaBi or Ecoinvent.
   - We use bio-based feedstocks for production of some of our products, notably our CirculenRenew and bio-ETBE products. To calculate GHG emissions associated with production of these feedstocks, we use cradle-to-gate emission factors that incorporate biological removal of CO_2, in line with recommendations for calculation of partial carbon footprint of products outlined in ISO 14067:2018 Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and the Together for Sustainability Product Carbon Footprint Guideline for the Chemical Industry. Inclusion of biological removal of CO_2 in the calculation of cradle-to-gate emission factors decreased reported category 1 GHG emissions by approximately 5%.
   - Excluded scope 3 GHG emissions – category 1: Purchased goods and services: LyondellBasell excluded the following sources of GHG emissions:
     - Services
     - Packaging of products
     - Tolling activities
     - Brazil sites
     - Intercompany transactions
     - Feedstock and raw material volumes that are not used in the production process in our manufacturing assets but that are purchased for trading purposes
9. Scope 3 GHG emissions – Category 11: Use of sold products:
   - Emissions resulting from the direct use of sold products, inclusive of refined products manufactured in our refinery located in Houston, Texas, USA, oxyfuels produced in our Intermediates & Derivatives manufacturing sites, and heavier C4+ olefins manufactured from steam cracking operations in our sites in North America and Europe. Emissions from the indirect use of sold products are not relevant to LyondellBasell's activities.
   - Emissions were calculated using the direct use-phase emissions fuels and feedstocks method from The Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions.
   - Product volumes sold were collected from sales orders recorded in the LyondellBasell ERP system.
   - Several products from our olefin plants are both used as intermediates to chemical products and as precursors or additives to fuels. Statistics provided by the U.S. Energy Information Administration (2023, August 22) Oil and petroleum products explained: Use of oil were referenced to determine an average use of petroleum products by major end-use sectors, with 72.5% of petroleum used for fuel and other combustion-related activities (category 11), and 27.5% used for further chemical and industrial processing (category 12). For "pygas" and "pyrolysis gasoline", 30% is allocated to category 11 and 70% allocated to category 12. For aromatics-rich byproducts from steam cracking operations, the volume split between scope 3 category 11 and category 12 was based on the composition of the BTX (benzene, toluene, xylene) fraction, with 30% of aromatics-rich byproducts from steam cracking operations used as for fuel and other combustion-related activities (category 11), and 70% used for further chemical and industrial processing (category 12).
   - Fuel emission factors were sourced from the United Kingdom Department for Energy Security and Net Zero. (published 2024, July 8). Conversion factors 2024: full set (for advanced users) [excel file]. UK Government GHG Conversion Factors for Company Reporting. Where an emission factor was not available for a sold product in the previously mentioned source, emission factors were sourced from Koupal, J., Cashman, S., Young, B., & Henderson, A. D. (2024). Carbon Footprint of Oxygenated Gasolines: Case Studies in Latin America, Asia, and Europe. Fuels, 5(2), 123-136.
   - Excluded scope 3 GHG emissions – category 11: Use of sold products: LyondellBasell excluded the following sources of GHG emissions:
     - Intercompany transactions
     - Feedstock and raw material volumes that are not used in the production process in our manufacturing assets but that are purchased and sold for trading purposes
10. Scope 3 GHG emissions – Category 12: End-of-life treatment of sold products:
   - Emissions resulting from the waste disposal and end-of-life treatment of sold products.
   - Emissions were calculated using the waste-type specific method from The Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions.
   - Product volumes sold were collected from sales orders recorded in the LyondellBasell ERP system.
   - Emission factors for different waste disposal and end-of-life treatments were applied to sold products based on the region where the product was sold to. Emission factors for scope 3 category 12 were sourced from secondary Life Cycle Assessment (LCA) databases, including GaBi, version 2024. Where an emission factor was not available for a sold product in Gabi, emission factors from Ecoinvent, version 3.10, or from the United Kingdom Department for Energy Security and Net Zero. (published 2024, July 8). Conversion factors 2024: full set (for advanced users) [excel file]. *UK Government GHG Conversion Factors for Company Reporting*, were applied.
   - The ratio between different waste disposal and end-of-life treatments per region was referenced from the following sources:
     - Europe: Plastics Europe. (published 2024, March). The Circular Economy for Plastics: A European Analysis (p. 75).
     - North America: U.S. Environmental Protection Agency. (published 2024, November 21). 1960-2018 Data on Plastics in MSW by Weight (in thousands of U.S. tons) [Figure], Plastics: Material-Specific Data.
     - Central and Latin America: Inter-American Development Bank. (published 2020, July). Plastic Waste Management and Leakage in Latin America and the Caribbean (p. 17).
     - Middle East & Africa: Samborska, V. (published 2024, March 20). Share of plastic waste that is recycled, 2000 to 2019 [Figure], Plastic recycling rates are increasing, but slowly, in many regions.
     - Asia Pacific:
     - Recycling: Samborska, V. (published 2024, March 20). Share of plastic waste that is recycled, 2000 to 2019 [Figure], Plastic recycling rates are increasing, but slowly, in many regions.
   - Landfill, incineration, and open dump waste treatments: United Nations Centre for Regional Development. (published 2020, December 7). Plastic Waste Management. State of Plastics Waste in Asia and the Pacific- Issues, Challenges and Circular Economic Opportunities.
   - Excluded scope 3 GHG emissions – category 12: End-of-life treatment of sold products: LyondellBasell excluded the following sources of GHG emissions:
     - Packaging volumes for products sold to third parties
     - Intercompany transactions
     - Feedstock and raw material volumes that are not used in the production process in our manufacturing assets but that are purchased and sold for trading purposes.

Management assertion *continued*

Employee demographic

Organizational boundary

LyondellBasell accounts and reports the employee demographics metrics for operations over which we, or one of our subsidiaries, have operational control. Data related to acquisitions and divestitures during the reporting period are included for the period in which LyondellBasell had operational control.

The preparation of the pay gap metrics requires management to establish the criteria, make determinations as to the relevancy of the information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

Table: Employee demographic metrics

Metric	Definition	Metric value reported as of December 31, 2024[8]	
Employees by geographical areas	Number of employees (head count) by geographical area.[1,2]	U.S. & Canada	8,369
		Europe	9,057
		Latin America (including Mexico)	1,015
		Asia Pacific	1,842
		Middle East & Africa	44
Employees by gender	Number of employees (head count) by gender.[1,3]	Male	16,099
		Female	4,220
		Other	0
		Not reported	8
		Total employees	20,327
Countries with at least 50 employees representing at least 10% of the total number of employees	Number of employees (head count) by country for countries in which LyondellBasell has 50 or more employees representing at least 10% of its total number of employees.[1,2]	U.S.	8,362
		Germany	3,356
Employees by contract type	Number of permanent employees (head count) by gender. Includes employees with no defined duration of employment.[1,3]	Male	15,455
		Female	3,995
		Other	0
		Not reported	8
	Number of temporary employees (head count) by gender. Includes employees with a defined duration of employment.[1,3]	Male	644
		Female	225
		Other	0
		Not reported	0

Management assertion *continued*

Metric	Definition	Metric value reported as of December 31, 2024[8]	
Distribution of employees by age group	Number of employees (head count) by age group.[1,4]	<30	2,573
		30-50	11,126
		>50	6,628
	Percentage of employees by age group.	<30	13%
		30-50	55%
		>50	33%
Gender distribution at top management level	Number of employees (head count) at senior leaders level by gender.[1,3,6]	Male	354
		Female	115
		Other	0
		Not reported	0
	Percentage of employees at senior leaders level by gender.	Male	75%
		Female	25%
		Other	0%
		Not reported	0%
Gender base pay gap: Female to male median	Median unadjusted base pay for female employees as a percentage of the median unadjusted base pay for male employees.[1,3,5]		$0.99
	Median unadjusted base pay for female senior leaders as a percentage of the median unadjusted base pay for male senior leaders.[1,3,5,6]		$0.95
	Median unadjusted base pay for female professionals as a percentage of the median unadjusted base pay for male professionals.[1,3,5,7]		$0.84

Management assertion *continued*

Metric	Definition	Metric value reported for the year ended December 31, 2024
Employee turnover	Number of employees (head count) who have left LyondellBasell during the reporting period. Defined as employees who have left voluntarily or due to dismissal, retirement, or death in service during the reporting period.[1,2,9]	1,611
	Rate of employee turnover, which is calculated as the number of employees (head count) who have left LyondellBasell during the reporting period (defined above) / the average of the daily number of employees during the reporting period.	8%

Employee demographics metric disclosures

1. Employee population includes workers with a permanent or temporary employment relationship with LyondellBasell (defined above in the "Employees by contract type" metric). The CEO and temporary employees are excluded from the "Gender base pay gap" metric. Students are excluded from all employee demographics metrics. Employment categories are based on information recorded in the LyondellBasell Human Resources (HR) system.
2. Country, geographical area, and an employee's reason for leaving LyondellBasell are based on information recorded in the LyondellBasell HR system. Country is based on the country of the office the employee is doing work in service of and country is mapped by management to a geographical area.
3. Gender is self-identified by the employee in the LyondellBasell HR system as either male, female, other, or undeclared or unknown (reported as "not reported"). Employees who self-identified as other or undeclared or unknown were excluded from the "Gender base pay gap" metric.
4. Age is reported according to the age as of December 31, 2024 and was calculated based on the date of birth self-reported by the employee, as recorded in the LyondellBasell HR system.
5. Base pay represents the full-time equivalent salary of an employee. Full-time equivalent salary is the annualized base salary based on the employee's work schedule, excluding variable components such as overtime (i.e., hours worked in addition to standard working hours) and incentive pay (e.g., bonuses). Base pay was based on information recorded in the LyondellBasell HR system.
6. Senior leaders refers to employees that represent the top six pay grades of our employees and executives, which includes director level employees and higher (e.g., Vice President, Director), based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.
7. Professionals refers to employees in the next eight pay grades, which includes employees below director level (e.g., Manager, Engineer, Analyst) but excludes technical and hourly employees, based on a LyondellBasell grading system and as recorded in the LyondellBasell HR system.
8. Percentages may not sum to 100% due to rounding.
9. Employee turnover excludes employees of divested subsidiaries and site shutdowns unless the employee left voluntarily prior to the divestment or site shutdown.

Management assertion *continued*

Health and safety

Organizational boundary

LyondellBasell accounts and reports the health and safety metrics for operations over which we, or one of our subsidiaries, have operational control. Data related to acquisitions and divestitures during the reporting period are included for the period in which LyondellBasell had operational control.

The preparation of the health and safety metrics requires management to establish the criteria, make determinations as to the relevancy of information to be included, and make assumptions that affect reported information. The selection by management of different but acceptable measurement techniques could have resulted in materially different amounts or metrics being reported.

Table: Health and safety metrics – Occupational Safety

Metric	Definition	Metric value reported for the year ended December 31, 2024 – Employees[1]	Metric value reported for the year ended December 31, 2024 – Non-employees[2]
Health and safety management system coverage	Percentage of head count in own workforce covered by LyondellBasell's health and safety management system, as per our "Operational Excellence Management System Expectations" framework.	100%	100%
Recordable work-related accidents	As per Occupational Safety and Health Administration (OSHA) general recording criteria, number of recordable work-related injuries that result in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness (defined below in the "Cases of ill health as a result of recordable work-related accidents" metric) diagnosed by a physician or other licensed healthcare professional.[3,7]	23	20
Recordable work-related accidents	Rate of recordable work-related accidents (defined above) normalized by total number of hours worked (defined below). Rate is calculated as (recordable work-related accidents x 200,000 hours worked) / total number of hours worked.[4]	0.120	0.136
	Rate of recordable work-related accidents (defined above) normalized by total number of hours worked (defined below). Rate is calculated as (recordable work-related accidents / total number of hours worked) x 1,000,000 hours worked.[5]	0.600	0.682
Hours worked	Number of hours worked in millions.[6]	38.3	29.3
Fatalities as a result of recordable work-related accidents	Number of deaths resulting from a recordable work-related accident (defined above).	0	0
Cases of ill health as a result of recordable work-related accidents	Number of cases outlined by the Occupational Safety and Health Convention of International Labour Organization (ILO) List of Occupational Diseases resulting from a recordable work-related accident (defined above).	0	Not reported
Days lost to recordable work-related accidents	Number of days lost to work from a recordable work-related accident (defined above) resulting in "days away from work".[7,8]	580	Not reported

Health and safety metric disclosures – Occupational Safety

1. Employee population includes workers with a permanent or temporary employment relationship with LyondellBasell (defined above in the "Employees by contract type" metric in the "Employee demographics metrics" table). Employment categories are based on information recorded in the LyondellBasell HR system.
2. Non-employee population (resident and non-resident contractors) includes individuals or third-party providers that agree to furnish materials or perform services at a specified price and control the details of how the work will be performed and completed. Excludes delivery workers, workers performing minor maintenance on the third party's own equipment (e.g., coffee machine maintenance), and rail car operators. Employment categories are based on information recorded in the LyondellBasell HR system.
3. Recordable work-related accidents are cases recorded in the LyondellBasell health and safety management system during the reporting period and assigned a consequence, as per our Incident Reporting and Classification Standard.
4. As per OSHA guidance, rates were calculated on the basis of two hundred thousand hours worked to identify the number of recordable work-related accidents per one hundred full-time workers working two thousand hours per year.
5. Rates were calculated on the basis of one million hours worked to identify the number of recordable work-related accidents per five hundred full-time workers working two thousand hours per year.
6. The total number of hours worked represents the actual and/or estimated hours worked by employees or non-employees. Data to calculate the total number of hours worked was collected from internal LyondellBasell systems, third-party access control systems, manual gate logs, third-party invoices, and/or estimation. An average of 160-175 (depending on location and site type) monthly working hours per head count was estimated when actual hours were not available from internal LyondellBasell systems, third-party access control systems, manual gate logs, or third-party invoices. When actual hours were not available, hours were also estimated to account for overtime, employees traveling between sites, and employees working from home.
7. As per OSHA guidance, a recordable work-related accident resulting in "days away from work" is a recordable work-related accident (defined above in the "Recordable work-related accidents" metric) resulting in a physician or other licensed health care professional indicating the employee should not work.
8. The number of days lost is counted such that the first full day and last day of absence is included. Days on which the affected individual is not scheduled for work (e.g., weekends, public holidays) count as lost days. The number of lost days is capped at 180 days per consequence. No days lost are counted for fatalities as a result of recordable work-related accidents.

Management assertion *continued*

Table: Health and safety metrics – Process Safety

Metric	Definition	Metric value reported for the year ended December 31, 2024
Process Safety Incidents Count (PSIC)	Count of incidents that meet the definition of a Tier 1 process safety event as described in the American Petroleum Institute's (API) *Process Safety Performance Indicators for the Refining and Petrochemical Industries* Recommended Practice (RP) 754 3rd Edition (American National Safety Institute (ANSI)/API RP 754). Tier 1 process safety events are classified as Level 3+ events by LyondellBasell. Level 3+ events include loss of primary containment (LOPC) resulting in either (1) an employee or non-employee recordable work-related accident resulting in "days away from work" and/or fatality; (2) a hospital admission and/or fatality of other workers; (3) an officially declared community evacuation or community shelter-in-place, including precautionary community evacuation or community shelter-in-place; (4) a fire or explosion damage with a direct cost greater than or equal to $100,000; (5) an engineered pressure relief device discharge to atmosphere whether directly or via a downstream destructive device greater than or equal to a Level 3 threshold, within any 60 minute time period, with negative effects; (6) an upset emission from a permitted or regulated source greater than or equal to a Level 3 threshold, within any 60 minute time period, with negative effects; or (7) an unignited release of material greater than or equal to a Level 3 threshold, within any 60 minute time period.[1,2,3,4,5]	7
Process Safety Incident Rate (PSIR)	PSIC (defined above) normalized by total number of hours worked (defined above in the "Hours worked" metric in the "Health and safety metrics – Occupational Safety" table). Rate is calculated as (PSIC x 200,000 hours worked) / total number of hours worked.[6,7]	0.021
Process Safety Incident Severity Rate (PSISR)	Severity-weighted rate of PSIC (defined above) normalized by total number of hours worked (defined above in the "Hours worked)" metric in the "Health and safety metrics – Occupational Safety" table). Rate is calculated as (total severity score for all PSIC x 200,000 hours worked) / total number of hours worked.[6,7,8]	0.044

Health and safety metric disclosures – Process Safety

1. Employee population includes workers with a permanent or temporary employment relationship with LyondellBasell (defined above in the "Employees by contract type" metric in the "Employee demographics metrics" table). Employment categories are based on information recorded in the LyondellBasell HR system.
2. Non-employee population (resident and non-resident contractors) includes individuals or third-party providers that agree to furnish materials or perform services at a specified price and control the details of how the work will be performed and completed. Excludes delivery workers, workers performing minor maintenance on the third party's own equipment (e.g., coffee machine maintenance), and rail car operators. Employment categories are based on information recorded in the LyondellBasell HR system.
3. Other workers include any individual other than an employee[1] or non-employee[2].
4. As per OSHA guidance, a recordable work-related accident resulting in "days away from work" is a recordable work-related accident (defined above in the "Recordable work-related accidents" metric in the "Health and safety metrics – Occupational Safety" table) resulting in a physician or other licensed health care professional indicating the employee should not work.
5. Negative effects as described in ANSI/API RP 754, include one of more of the following: rainout; discharge to a potentially unsafe location; an on-site shelter-in-place or on-site evacuation, excluding precautionary on-site shelter-in-place or on-site evacuation; and/or public protective measures (e.g., road closure) including precautionary public protective measures.
6. As per OSHA guidance, rates were calculated on the basis of two hundred thousand hours worked to identify the number of recordable work-related accidents per one hundred full-time workers working two thousand hours per year.
7. The total number of hours worked represents the actual and/or estimated hours worked by employees or non-employees. Data to calculate the total number of hours worked was collected from internal LyondellBasell systems, third-party access control systems, manual gate logs, third-party invoices, and/or estimation. An average of 160-175 (depending on location and site type) monthly working hours per head count was estimated when actual hours were not available from internal LyondellBasell systems, third-party access control systems, manual gate logs, or third-party invoices. When actual hours were not available, hours were also estimated to account for overtime, employees traveling between sites, and employees working from home.
8. A severity weighting, as described in ANSI/API RP 754, was applied to each process safety event based on safety/human health, direct cost, material release, community impact, and off-site environmental impact.

Reconciliation for non-GAAP 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 (GAAP), but believe that certain non-GAAP financial measures, such as EBITDA, and EBITDA, net income and diluted earnings per share (EPS) exclusive of identified items 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 and 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, net income and diluted EPS exclusive of identified items. Identified items include adjustments for "lower of cost or market" (LCM), gain on sale of business, asset write-downs in excess of $10 million in aggregate for the period and refinery exit costs. Asset write-downs include impairments of goodwill, impairments of long-lived assets, a write-down of a related party loan receivable and a fourth quarter 2024 deferred tax valuation allowance for one of our Chinese joint ventures recognized in Income (loss) from equity investments. 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. A gain or loss on sale of a business is calculated as the consideration received from the sale less its carrying value. 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. Goodwill is tested for impairment annually in the fourth quarter or whenever events or changes in circumstances indicate that the fair value of a reporting unit with goodwill is below its carrying amount. If it is determined that the carrying value of the reporting unit including goodwill exceeds its fair value, an impairment charge is recognized. We assess our equity investments for impairment whenever events or changes in circumstances indicate that the carrying amount of the investment may not be recoverable. If the decline in value is considered to be other-than-temporary, the investment is written down to its estimated fair value. Valuation allowances are provided against deferred tax assets when it is more likely than not that some portion or all of the deferred tax asset will not be realized. In April 2022 we announced our decision to cease operation of our Houston Refinery. In connection with exiting the refinery business, we began to incur costs primarily consisting of accelerated lease amortization costs, personnel-related costs, accretion of asset retirement obligations, depreciation of asset retirement costs and other charges.

Circular & Low Carbon Solutions (CLCS) incremental EBITDA is estimated EBITDA which is incremental to LyondellBasell's fossil-based O&P Americas and O&P EAI annual EBITDA. CLCS incremental EBITDA cannot be reconciled to net income due to the inherent difficulty in quantifying certain amounts that are necessary for such reconciliation at the business unit level including adjustments that could be made for interest expense (net), provision for (benefit from) income taxes and depreciation and amortization, the amounts of which, based on historical experience, could be significant.

Recurring annual EBITDA for the Value Enhancement Program is the year-end EBITDA run-rate estimated based on 2017–2019 mid-cycle margins and modest inflation relative to a 2021 baseline. We believe recurring annual EBITDA is useful to investors because it represents a key measure used by management to assess progress toward our strategy of value creation.

These non-GAAP financial 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 for non-GAAP measures *continued*

Reconciliations of net income to net income excluding identified items and to EBITDA including and excluding identified items

Millions of dollars	Year ended December 31, 2024
Net income	$1,367
Identified items	
less: Gain on sale of business, pre-tax[a]	(284)
add: Asset write-downs, pre-tax[b]	1,065
add: Refinery exit costs, pre-tax[c]	179
add: Benefit from income taxes related to identified items	(226)
Net income excluding identified items	$2,101
Net income	$1,367
Income from discontinued operations, net of tax	(4)
Income from continuing operations	$1,363
Provision for income taxes	240
Depreciation and amortization[d]	1,522
Interest expense, net	331
EBITDA	3,456
Identified items	
less: Gain on sale of business[a]	(284)
add: Asset write-downs[b]	1,065
add: Refinery exit costs[e]	99
EBITDA excluding identified items	$4,336

Reconciliation for non-GAAP measures *continued*

Reconciliation of diluted EPS to diluted EPS excluding identified items

	Year ended December 31, 2024
Diluted earnings per share	$4.15
Identified items	
less: Gain on sale of business	(0.66)
add: Asset write-downs[b]	2.49
add: Refinery exit costs	0.42
Diluted earnings per share excluding identified items	$6.40

Reconciliation of net income to recurring annual EBITDA for the Value Enhancement Program

Millions of dollars	Unlocked value 2024 [g]	Original target 2025 [h]	Current target 2025
Net income[f]	$610	$575	$760
Provision for income taxes	155	140	190
Depreciation and amortization	35	35	50
Interest expense, net	–	–	–
Recurring annual EBITDA[f]	$800	$750	$1,000

a. In 2024, we sold our U.S. Gulf Coast-based Ethylene Oxide and Derivatives (EO&D) business, resulting in the recognition of a gain, including fourth quarter post close adjustments, in our Intermediates & Derivatives (I&D) segment.
b. Includes asset write-downs in excess of $10 million in aggregate for the period. The year ended December 31, 2024 reflects non-cash asset write-downs of $1,065 million, which includes a non-cash impairment charge of $837 million related to European assets under strategic review in our Olefins & Polyolefins – Europe, Asia & International (O&P-EAI) segment, non-cash impairment charges and the recognition of a deferred tax valuation allowance of $52 million and $121 million, respectively, related to our Chinese equity investment in our O&P-EAI segment, and a non-cash impairment charge of $55 million related to our specialty powders business in our Advanced Polymer Solutions (APS) segment, recognized in the fourth quarter of 2024.
c. Refinery exit costs include accelerated lease amortization costs, personnel-related costs, accretion of asset retirement obligations, depreciation of asset retirement costs and other charges of $38 million, $35 million, $8 million, $80 million and $18 million, respectively.
d. Depreciation and amortization includes depreciation of asset retirement costs of $80 million in connection with exiting the Refining business.
e. Refinery exit costs include accelerated lease amortization costs, personnel-related costs, accretion of asset retirement obligations and other charges of $38 million, $35 million, $8 million and $18 million, respectively.
f. Year-end run-rate based on 2017–2019 mid-cycle margins and modest inflation relative to a 2021 baseline.
g. VEP delivered a year-end run-rate of approximately $800 million in recurring annual EBITDA for 2024.
h. In 2022, we launched the VEP initially targeting $750 million in recurring annual EBITDA by the end of 2025.

Global Reporting Initiative (GRI) Index

LYB has reported the information cited in this GRI content index for the period January 1, 2024 to December 31, 2024 with reference to the GRI Standards.

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2-1	Organizational details	10-K – Items 1 and 2. Business and Properties.	4-19
2-2	Entities included in the organization's sustainability reporting	Sustainability Report – Report boundaries	2
2-3	Reporting period, frequency and contact point	Sustainability Report – About this report	2
2-4	Restatements of information	Sustainability Report – Aggregated overview of scope 3 emissions. Sustainability Report – Our goals As part of our normal business planning process, we retired three of our four aspirational goals for senior leadership representation reported in our 2023 Sustainability Report, and adjusted the fourth, which remains in accordance with applicable Dutch law.	42 67
2-5	External assurance	Sustainability Report – Data and assurance	122-131
2-6	Activities, value chain and other business relationships	Sustainability Report – About LyondellBasell – what we do	8-9
2-7	Employees	Sustainability Report – Our employees	81-82
2-8	Workers who are not employees	Sustainability Report – Employees by contract type	82
2-9	Governance structure and composition	Proxy Statement – Board oversight of risk Proxy Statement – Election of Directors Sustainability Report – Board oversight of sustainability	26-27 8-16 106
2-10	Nomination and selection of the highest governance body	Sustainability Report – Corporate governance Proxy Statement – Election of Directors	105-107 8-16
2-11	Chair of the highest governance body	Sustainability Report – Corporate governance Proxy Statement – Board leadership structure	105-107 18
2-12	Role of the highest governance body in overseeing the management of impacts	Sustainability Report – Board oversight of sustainability; Management oversight of sustainability Proxy – Board oversight of risk	106-107 26-27
2-13	Delegation of responsibility for managing impacts	Sustainability Report – Board oversight of sustainability; Management oversight of sustainability Proxy – Board oversight of risk	106-107 26-27
2-14	Role of the highest governance body in sustainability reporting	Sustainability Report – About this report Sustainability Report – Board oversight of sustainability	2 106
2-15	Conflicts of interest	Sustainability Report – Conflicts of interest Proxy Statement – Related Party Transactions	109 84-85

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		Proxy – Director nominees' independence, tenure, and experience	8-16
2-17	Collective knowledge of the highest governance body	Sustainability Report – Corporate governance	105-107
		Proxy – Board experience and expertise	9
2-18	Evaluation of the performance of the highest governance body	Proxy Statement – Board Evaluations	18-19
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		Proxy Statement – Key compensation practices and what guides our program	45-49
2-20	Process to determine remuneration	Proxy Statement – Director compensation	35
		Proxy Statement – Key compensation practices and what guides our program	45-49
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2-21	Annual total compensation ratio	Proxy Statement – CEO pay ratio	76
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2-23	Policy commitments	Sustainability Report – Ethics and integrity	108-111
2-24	Embedding policy commitments	Sustainability Report – Ethics and integrity	108-111
2-25	Processes to remediate negative impacts	Sustainability Report – Social impact	93-96
		Sustainability Report – Stakeholder engagement	112-114
		Charter of the Audit Committee of the Board	www.lyb.com
2-26	Mechanisms for seeking advice and raising concerns	Sustainability Report – Mechanism for concerns	109
2-27	Compliance with laws and regulations	Sustainability Report – Ethics and integrity	108-111
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201-1	Direct economic value generated and distributed	Sustainability Report – At a glance financial performance Press release – LyondellBasell Reports 2024 Earnings, issued January 31, 2025	6 www.lyb.com
201-2	Financial implications and other risks and opportunities due to climate change	Sustainability Report – Climate change risk management CDP Corporate Questionnaire – C3. Disclosure of risks and opportunities	46-47 53-66
201-3	Defined benefit plan obligations and other retirement plans	Sustainability Report – Defined benefit plan obligations and other retirement plans 10-K – Pension and other post-retirement benefits	86 94-104
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GRI supplementary information

Water and effluents

303-1 Interactions with water as a shared resource

As a UN CEO Water Mandate signatory, we aim for continuous improvement in water stewardship, track water withdrawals, discharges, and reuse trends and recycle water when prudent to minimize dependence on regional water sources that may be burdened. Cycles of concentration in cooling water systems[1] are also monitored at major sites, optimizing the number of times water is reused.

1. Ratio of the concentration of dissolved solids in the cooling tower water to the concentration of dissolved solids in the incoming water.

Water risk and key biodiversity areas

The map shows extremely high and high water risk sites identified in a baseline water risk assessment of our manufacturing sites conducted in 2023, using the World Resources Institute Aqueduct™ Tool version 3.0. The tool rates geographic locations on a scale from low to extremely high overall water risk based on watershed data related to water quantity stress, quality and regional factors. Also shown are priority sites based on the outcome of an initial biodiversity assessment completed in 2022, identifying sites near protected areas or key biodiversity areas.

GRI supplementary information *continued*

We have implemented goals and targets related to water quality and availability. Our target of zero water-related environmental incidents is embedded within GoalZERO. We also ask sites to confirm annually that water is safe for the intended use, such as for drinking and sanitation needs at our sites.

The map on prior page shows our sites located in extremely high- and high-water risk areas, as identified in a water risk assessment of our manufacturing sites conducted in 2024, using the World Resources Institute Aqueduct™ Tool version 4.0.

303-2 Management of water discharge-related impacts

Please see our Environmental Management section of this report for a summary of our environmental management system.

Our wastewaters are treated by one or more biological, physical, or chemical treatment methods (tertiary, secondary, or primary) before being discharged. Alternatively, wastewater discharges are sent directly to a treatment works facility for processing. Potential pollutants are identified and evaluated either at the site level, if we discharge directly to the environment, or at the treatment works facility.

We use a variety of standards and frameworks to inform our approach to environmental management, including for water stewardship, which are relevant to the other GRI environmental sections listed in this index.

GoalZERO	GoalZERO includes our commitment to operating with zero environmental incidents. Our GoalZERO environmental approach helps ensure compliance with applicable environmental laws and regulations and requires reporting and investigating incidents to prevent recurrence. Our GoalZERO also includes a target of zero loss of polymeric solids from our operations. Refer to GoalZERO on pages 69.
Operational Excellence	Operational Excellence includes our environmental management system, which sets out clear requirements for how we work, and applies to our employees and contractors. Refer to Operational Excellence on page 76.
ISO 14001	Most of our sites in Europe, Asia and Latin America are ISO 14001:2015 certified. Most other sites that are not ISO 14001:2015 certified adhere to Responsible Care® requirements. For a comprehensive list of certifications, refer to Quality Systems on our website at www.lyb.com.
Responsible Care®	We are committed to Responsible Care®, which is the global chemical industry's voluntary initiative to drive continuous improvement, including for environmental performance. Refer to Responsible Care® on page 76.
United Nations (UN) Global Compact	As a member of UN Global Compact we aim to incorporate the Ten Principles into our strategies, policies and procedures. The Ten Principles include taking a precautionary approach to environmental challenges, and undertaking initiatives to promote greater environmental responsibility and encouraging the development and diffusion of environmentally friendly technologies (Principles 7, 8 and 9).
United Nations CEO Water Mandate	In 2023, we committed to the UN CEO Water Mandate, which drives continual progress for our water stewardship practices across our operations and supply chains. It also advocates for watershed management, collective action, community engagement, policy and strategy, and transparency.

303-3, 4, and 5 Water withdrawal, discharge and consumption
Water balance

Codes: ENW-004 -->ENW-07, ENW 011, ENW-012, ENN-005, ENN-008

Water withdrawals (Million m³)	**2021**	**2022**	**2023**	**2024**
Fresh discharge surface water	130	123	131	**121**
Groundwater	24	23	23	**24**
Other water	1	1	1	**1**
Seawater/brackish water	3	< 1	< 1	**< 1**
Third-party water	112	124	124	**101**
Total	**271**	**273**	**279**	**248**

Water discharge (Million m³)	**2021**	**2022**	**2023**	**2024**
Fresh surface water	39	38	38	**36**
Groundwater	< 1	< 1	< 1	**< 1**
Offsite treatment	58	64	65	**46**
Other discharge	54	49	51	**47**
Seawater/brackish water	13	9	8	**9**
Total	**164**	**160**	**162**	**138**

Water consumption (Million m³)	**2021**	**2022**	**2023**	**2024**
of which are evaporative losses	81	86	91	**88**
Total	**107**	**113**	**117**	**110**

Note: Numbers may not sum due to rounding.

Biodiversity

304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

The water and key biodiversity areas chart on page 141 shows sites near protected areas or key biodiversity areas. We are committed to enhancing our understanding of how we could potentially adversely impact these areas and support mitigation efforts if impacts are identified.

304-2 Significant impacts of activities, products and services on biodiversity

Please see our Environmental Management section of this report for a summary of our environmental management system. Our environmental management approach is also informed by the standards and frameworks listed in GRI Index section 303-2.

Potential drivers of biodiversity and ecosystem services impact include climate change and industrial emissions. Other potential impact drivers in general could include change of land use, direct exploitation, and invasive species. However, our direct operations take place primarily in established chemical and manufacturing facilities and do not include "hunting, harvesting, or logging" animals or plants to produce our products or extensive transportation services. Also, our facilities must understand and comply with environmental regulations applicable to land use changes such as the EU Habitats Directive and the Birds Directive, and the US Wetlands and Endangered Species regulations.

Sourcing of bio-based and forest risk commodities

We plan to collect information from our suppliers on the products that we are sourcing in the European Union that are listed in Annex I of the EU Regulation 2023/1115 on Deforestation Free Products, including ingredient percentages. We anticipate that through this process we will obtain information from our suppliers on the volume and origins of the commodities from which certain of these products are sourced. We also plan to assess whether we can apply any new information gathering processes globally. Although we estimate consumption of these products relative to our overall product consumption to be low, comprehensive data is necessary to make a reliable statement about the percentage of procurement spent on these commodities.

Emissions

305-6 Emissions of ozone-depleting substances (ODS)

Ozone-depleting substances (ODS)	We measure and report ODS as kg of CFC-11 equivalent and use emission factors as stipulated in the Montreal Protocol. We do not produce, manufacture or sell ODS. Sources for LYB typically are maintenance refills and replacements of substances authorized for use in heating, ventilating and air conditioning (HVAC) units.

Our total enterprise level ODS emissions from maintenance refills and replacements totalled 58kg in 2024, which is 66% lower than 2023. This is primarily due to emissions decreases at our Channelview facility, our La Porte site, and our Lake Charles polyolefins site.

305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions

Please see our Environmental Management section of this report for a summary of our holistic environmental management system. Our environmental management approach is also informed by the standards and frameworks listed in GRI Index section 303-2.

Air treatment includes particulates filtering, thermal or catalytic destruction of organics, air and liquid phase separation, and other techniques.

The following table describes the air emissions we track at the enterprise level.

Nitrogen oxides (NOx)	NOx are by-products of combustion generated while using 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 the use of fuel containing 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 handling, storage, and 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 used to produce heat, steam or electricity. The majority of our CO emissions come from the use of natural gas at our chemical and refining operations.
Particulate matter (PM)	PM refers to small airborne particulates emitted during operations, primarily from cooling towers and the use of fuel.

Waste

306-1 Waste generation and significant waste-related impacts

Our Health, Safety, Environment, and Security (HSE&S) policy includes a commitment to a comprehensive approach to chemical management and sustainability. This applies to all aspects of our products' life cycles, including design, manufacturing, distribution, use, recycling, and disposal activities, as well as when we reduce waste generation from our operations.

Our responsibilities for waste management include assuring proper containerizing, labeling, tracking, and documentation. We work with transportation companies that meet strict contracting requirements for safe, effective, and documented delivery of waste to the approved destination. We have a process in place to evaluate and approve waste management facilities. Our Operational Excellence program specifies that sites are required to send hazardous waste to these pre-approved facilities.

Our operations also produce non-hazardous solid waste including general plant trash and construction and demolition debris.

We ask that sites report the primary waste streams sent to disposal, which improves global analysis and insight into our waste management plans. The majority (>90%) of our hazardous waste is classified as chemical waste, which consists of typical streams within the industry such as industrial effluent sludges, waste from liquid treatment, spent solvents, and acid, alkaline, or salt wastes. Of our non-hazardous waste sent to disposal in 2024, over 70% consisted of waste types such as chemical waste, common sludges, construction waste, and other non-metallic, mixed and undifferentiated materials.

306-4 Waste diverted from disposal

Diverted waste, by category (thousand metric tons)	2021	2022	2023	2024
All waste	63	55	81	178
Recycling	63	54	52	63
Re-use	–	< 1	14	107
Other	< 1	1	15	8

Note: Numbers may not sum due to rounding.

GRI supplementary information *continued*

306-5 Waste directed to disposal

Waste directed (Thousand metric tons)	2021	2022	2023	2024
Total waste	**1,821**	**1,288**	**1,143**	**1,073**
Total hazardous waste	**1,266**	**1,074**	**1,009**	**981**
Incineration with energy recovery	201	148	36	42
Incineration without energy recovery	3	7	36	8
Landfilling	4	3	2	7
Other	1,058	916	935	924
Hazardous offsite	*384*	*311*	*164*	*172*
Incineration with energy recovery	201	137	24	27
Incineration without energy recovery	3	7	36	8
Landfilling	4	3	2	7
Other	176	164	101	131
Hazardous onsite	*882*	*764*	*845*	*809*
Incineration with energy recovery	–	12	12	16
Incineration without energy recovery	–	–	–	–
Landfilling	–	–	–	–
Other	882	752	834	793
Total non-hazardous waste	**555**	**214**	**133**	**92**
Incineration with energy recovery	12	9	6	3
Incineration without energy recovery	< 1	< 1	3	5
Landfilling	88	88	86	65
Other	455	117	39	19
Non-hazardous offsite	*96*	*77*	*86*	*66*
Incineration with energy recovery	12	9	6	3
Incineration without energy recovery	< 1	< 1	3	5
Landfilling	50	49	57	40
Other	34	19	21	18
Non-hazardous onsite	*459*	*137*	*47*	*26*
Incineration with energy recovery	–	–	–	–
Incineration without energy recovery	–	–	–	–
Landfilling	39	39	29	25
Other	421	98	18	1

Note: Numbers may not sum due to rounding.

Sustainability Accounting Standards Board (SASB) Index

This table demonstrates how our disclosures are informed by the Sustainability Accounting Standards Board (SASB).

SASB Topic	SASB Code	Metric Description	Reference location	Page No.
Greenhouse gas emissions	RT-CH-110a.2	Discussion of long-term and short-term strategy or plan to manage scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Sustainability Report – Reducing our operational emissions	32-40
Air quality	RT-CH-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Sustainability Report – Air emissions 'Sustainability Report – Emissions	52 144
Energy management	RT-CH-130a.1	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable (4) Total self-generated energy	(1), (2), (3) Sustainability Report – Energy (4) Total self-generated energy – 274 million GJ Lower heating values are used in calculations above.	39
Water management	RT-CH-140a.1	(1) Total water withdrawn (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Sustainability Report – Water withdrawals, water consumption Sustainability Report – Water use and effluents	54 141-143
	RT-CH-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Sustainability Report – Environmental level 2+ incidents	52
	RT-CH-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	Sustainability Report – Emissions to air, water and land Sustainability Report – Water use and availability Sustainability Report – Water and effluents	51-53 54 141-143
Hazardous waste management	RT-CH-150a.1	Amount of hazardous waste generated, percentage recycled	Sustainability Report – Waste Sustainability Report – Waste	55 145-146
Community relations	RT-CH-210a.1	Discussion of engagement processes to manage risks and opportunities associated with community interests	Sustainability Report – Social impact	93-96
Workforce health & safety	RT-CH-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Sustainability Report – Worker safety performance	74
	RT-CH-320a.2	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Sustainability Report – Health and safety	69-75

SASB Index
continued

SASB Topic	SASB Code	Metric Description	Reference location	Page No.
Safety & environmental stewardship of chemicals	RT-CH-410b.1	1) Percentage of products that contain Globally Harmonised System of Classification and Labelling 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 0.1% (2) 100% Sustainability Report – Product safety and stewardship	76-79
	RT-CH-410b.2	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	Sustainability Report – Product safety and stewardship	76-79
Genetically modified organisms	RT-CH-410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	LYB produces no products containing genetically modified organisms	
Management of the legal & regulatory environment	RT-CH-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Sustainability Report – Public policy Our Principles for Public Policy can be found on our website at www.lyb.com	116-117
Operational safety, emergency preparedness & response	RT-CH-540a.1	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Sustainability Report – Process safety performance	75
Activity metric	RT-CH-000.A	Production by reportable segment	Sustainability Report – About LyondellBasell – what we do	8-9

UN Global Compact

The United Nations (UN) Global Compact aims to mobilize a global movement of sustainable companies and stakeholders. The UN Global Compact encourages companies to conduct business responsibly by aligning strategies and operations with the Ten Principles on human rights, labor, environment, and anti-corruption. LYB joined in 2020. The UN Global Compact 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. The alignment of our sustainability approach with the UN SDGs is detailed in the following list.

SDG	Description	SDG	Description
	We support food banks in the communities where we operate through monetary donations, food collection drives, and employee volunteerism.		We are committed to fairness in our pay practices and focus on four pillars: market competitiveness, pay governance, pay transparency, and equal pay opportunities.
	We work every day to protect the health and safety of our employees, contractors, and the communities where we operate.		We believe transitioning to a circular economy will enable a more sustainable future. We are investing in mechanical and chemical recycling to make plastics a recoverable resource.
	We are committed to educating and training our current and future workforce. Our business is driven by the next generation of Science, Technology, Engineering, and Mathematics (STEM) professionals.		We are working to reduce our GHG emissions and deliver solutions that advance our customers' climate ambitions and support the transition to a low-carbon economy.
	We aim to achieve at least 33% female senior leaders and at least 33% male senior leaders in global senior leadership roles by 2032.		We are committed to helping end plastic waste in the environment and advancing a circular economy.
	We strive to optimize energy consumption in our operations by reducing resource use and GHG emissions. We are working to increase our use of renewable energy.		We are collaborating with our value chain partners on projects to reach the scale and impact needed to address global challenges.
	We aim to create a company where fairness,and a sense of belonging are experienced by all, propelling individual and collective success.		

Glossary

Acronym	Meaning
AEPW	Alliance to End Plastic Waste
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Utilization
CCUS	Carbon Capture, Utilization and Storage
CDP	Carbon Disclosure Project
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide equivalent
CSO	Chief Sustainability Officer
CSRD	Corporate Sustainability Reporting Directive
EC	European Commission
ESG	Environmental, Social and Governance
ETS	Emissions Trading System
EU ETS	European Union Emissions Trading System
GHG	Greenhouse gas
GRI	Global Reporting Initiative
GWQD	Global Water Quality Dashboard
HAPs	Hazardous Air Pollutants
HFCs	Hydrofluorocarbons
HSE	Health, Safety and Environmental
HSE&S	Health, Safety, Environmental and Security
ICCA	International Council of Chemical Associations
ICP	Internal Carbon Pricing
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ISCC	International Sustainability and Carbon Certification
ISSB	International Sustainability Standards Board
KBA	Key Biodiversity Area
LCA	Life Cycle Assessment

Acronym	Meaning
MoReTec	Molecular Recycling Technology
NGO	Non Governmental Organization
NOx	Nitrogen Oxides
OCS	Operation Clean Sweep
ODS	Ozone-Depleting Substances
OPLN	Ocean Plastics Leadership Network
PCR	Post Consumer Resin
PFAS	Polyfluoroalkyl Substances
PFCs	Perfluorocarbons
PIW	Post Industrial Waste
PM	Particulate Matter
PPA	Power Purchase Agreement
PSIC	Process Safety Incidents Count
PSISR	Process Safety Incident Severity Rate
PSTIR	Process Safety Total Incident Rate
QCP	Quality Circular Polymers
SASB	Sustainability Accounting Standards Board
SBT	Science Based Target
SBTi	Science Based Target initiative
S&CA	Sustainability & Corporate Affairs
SOx	Sulfur Oxides
TCFD	Taskforce on Climate-related Financial Disclosures
TfS	Together for Sustainability
TRIR	Total Recordable Incident Rate
UN	United Nations
UNEP	United Nations Environment Program
UN SDGs	United Nations Sustainable Development Goals
VOCs	Volatile Organic Compounds
WBCSD	World Business Council for Sustainable Development
WEF	World Economic Forum

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