

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2024

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 001-34726

LyondellBasell Industries N.V.

(Exact name of registrant as specified in its charter)

Netherlands

(State or other jurisdiction of
incorporation or organization)

98-0646235

(I.R.S. Employer
Identification No.)

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(Registrant's telephone numbers, including area codes)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class

Ordinary Shares, €0.04 Par Value

Trading Symbol

LYB

Name of Each Exchange On Which Registered

New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No

The aggregate market value of common stock held by non-affiliates of the registrant on June 30, 2024, the last business day of the registrant's most recently completed second fiscal quarter, based on the closing price on that date of \$95.66, was \$24.8 billion. For purposes of this disclosure, in addition to the registrant's executive officers and members of its Board of Directors, the registrant has included Access Industries, LLC and its affiliates as "affiliates."

The registrant had 323,446,166 ordinary shares outstanding at February 25, 2025 (excluding 16,976,332 treasury shares).

Documents incorporated by reference:

Portions of the 2025 Proxy Statement, in connection with the Company's 2025 Annual Meeting of Shareholders (in Part III), as indicated herein.

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CAUTIONARY STATEMENT FOR THE PURPOSES OF THE “SAFE HARBOR” PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This report includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933 (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934 (the “Exchange Act”). You can identify our forward-looking statements by the words “anticipate,” “estimate,” “believe,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “should,” “will,” “expect,” “objective,” “projection,” “forecast,” “goal,” “guidance,” “outlook,” “effort,” “target” and similar expressions.

We based forward-looking statements on our current expectations, estimates and projections of our business and the industries in which we operate. We caution you that these statements are not guarantees of future performance. They involve assumptions about future events that, while made in good faith, may prove to be incorrect and involve risks and uncertainties we cannot predict. Our actual outcomes and results may differ materially from what we have expressed or forecast in the forward-looking statements. Any differences could result from a variety of factors, including the following:

- the cost of raw materials represents a substantial portion of our operating expenses and energy costs generally follow price trends of crude oil, natural gas liquids and/or natural gas; price volatility can significantly affect our results of operations and we may be unable to pass raw material and energy cost increases on to our customers due to the significant competition that we face, the commodity nature of our products and the time required to implement pricing changes;
- our operations in the United States (“U.S.”) benefit from low-cost natural gas and natural gas liquids; decreased availability of these materials (for example, from their export or regulations impacting hydraulic fracturing in the U.S.) could reduce the current benefits we receive;
- if crude oil prices are low relative to U.S. natural gas prices, we could see less benefit from low-cost natural gas and natural gas liquids and it could have a negative effect on our results of operations;
- industry production capacities and operating rates may lead to extended periods of oversupply and low profitability;
- we may face unplanned operating interruptions (including leaks, explosions, fires, weather-related incidents, mechanical failures, unscheduled downtime, supplier disruptions, labor shortages, strikes, work stoppages or other labor difficulties, transportation interruptions, spills and releases and other environmental incidents) at any of our facilities, which would negatively impact our operating results;
- changes in general economic, business, political and regulatory conditions in the countries or regions in which we operate could increase our costs through tariffs or otherwise, limit trade, restrict our operations and reduce our operating results;
- our ability to execute our organic growth plans may be negatively affected by our ability to complete projects on time and on budget;
- our ability to acquire or dispose of product lines, businesses, or assets could disrupt our business and harm our financial condition and results of operations;
- uncertainties associated with worldwide economies could create reductions in demand and pricing, as well as increased counterparty risks, which could reduce liquidity or cause financial losses resulting from counterparty default;
- the negative outcome of any legal, tax and environmental proceedings or changes in laws or regulations regarding legal, tax and environmental matters may increase our costs, reduce demand for our products, or otherwise limit our ability to achieve savings under current regulations;
- any loss or non-renewal of favorable tax treatment under tax agreements or tax treaties, or changes in tax laws, regulations or treaties, may substantially increase our tax liabilities;
- we may be required to reduce production or idle certain facilities because of the cyclical and volatile nature of the supply-demand balance in the chemical and refining industries, which would negatively affect our operating results;
- we rely on continuing technological innovation, and an inability to protect our technology, or others’ technological developments, could negatively impact our competitive position;

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- we have significant international operations, and fluctuations in exchange rates, valuations of currencies and our possible inability to access cash from operations in certain jurisdictions on a tax-efficient basis, if at all, could negatively affect our liquidity and our results of operations;
- we are subject to the risks of doing business at a global level, including wars, terrorist activities, political and economic instability and disruptions and changes in governmental policies, which could cause increased expenses, decreased demand or prices for our products and/or disruptions in operations, all of which could reduce our operating results;
- if we are unable to achieve our emission reduction, circularity, or other sustainability targets, it could result in reputational harm, changing investor sentiment regarding investment in our stock or a negative impact on our access to and cost of capital;
- our ability to execute and achieve the expected results of our value enhancement program;
- if we are unable to comply with the terms of our credit facilities, indebtedness and other financing arrangements, those obligations could be accelerated, which we may not be able to repay; and
- we may be unable to incur additional indebtedness or obtain financing on terms that we deem acceptable, including for refinancing of our current obligations; higher interest rates and costs of financing would increase our expenses.

Any of these factors, or a combination of these factors, could materially affect our future results of operations and the ultimate accuracy of the forward-looking statements. Our management cautions against putting undue reliance on forward-looking statements or projecting any future results based on such statements or present or prior earnings levels.

All subsequent written and oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section and any other cautionary statements that may accompany such forward-looking statements. Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements. 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 this report.

PART I

Items 1 and 2. Business and Properties.

OVERVIEW

LyondellBasell Industries N.V. is a global, independent chemical company and was incorporated, as a *Naamloze Vennootschap*, under Dutch law on October 15, 2009. Unless otherwise indicated, the “Company,” “we,” “our,” “us” and “LyondellBasell” are used in this report to refer to the businesses of LyondellBasell Industries N.V. and its consolidated subsidiaries.

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

Our financial performance is influenced by the supply and demand for our products, the cost and availability of feedstocks and commodity products, global and regional production capacity, our operational efficiency and our ability to control costs. We have a strong operational focus and, as a large volume producer of commodities, continuously strive to differentiate ourselves through safe, reliable and low-cost operations in all of our businesses. We purchase large quantities of natural gas, electricity and steam which we use as energy to fuel our facilities and purchase large quantities of natural gas liquids and crude oil derivatives which we use as feedstocks. The relatively low cost of natural gas-derived raw materials in the U.S. versus the global cost of crude oil-derived raw materials has had a positive influence on the profitability of our North American operations.

In March 2023, we introduced our new strategy to deliver sustainable solutions and profitable long-term growth.

Our strategy aims to drive focus, differential growth and value creation through three strategic pillars:

Growing and upgrading the core—We expect to reshape our business portfolio to support growth, increase resiliency and drive higher returns. We will leverage our legacy strengths in technology, cost management, operational excellence and our global reach to focus on businesses with leading positions in growing markets with advantaged feedstocks and attractive returns.

Building a profitable Circular & Low Carbon Solutions (“CLCS”) business—We expect our CLCS business will grow to become a leader in meeting the rapidly growing demand for sustainable solutions at scale. We are building a comprehensive platform for sourcing recycled and renewable feedstocks while leveraging our innovative technologies and our existing asset base to serve our customers’ needs for sustainable materials. Our CLCS business is a part of our O&P-Americas and O&P-Europe, Asia, International segments.

Stepping up performance and culture—We aim to unlock significant opportunities by reshaping our culture toward a more comprehensive focus on continuous value creation, including the transformation of our Advanced Polymer Solutions business.

Our strategy is supported by an experienced leadership team, an optimized organizational structure and an ownership mindset; our strong cash generation and an investment-grade balance sheet; our advantaged cost position and global scale; our robust Value Enhancement Program (“VEP”); and our disciplined approach to capital allocation.

SEGMENTS

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

- *Olefins and Polyolefins-Americas* (“O&P-Americas”). Our O&P-Americas segment produces and markets olefins and co-products, polyethylene and polypropylene.
- *Olefins and Polyolefins-Europe, Asia, International* (“O&P-EAI”). Our O&P-EAI segment produces and markets olefins and co-products, polyethylene and polypropylene.
- *Intermediates and Derivatives* (“I&D”). Our I&D segment produces and markets propylene oxide and its derivatives; oxyfuels and related products; and intermediate chemicals, such as styrene monomer, and acetyls.
- *Advanced Polymer Solutions* (“APS”). Our APS segment produces and markets compounding and solutions, such as polypropylene compounds, engineered plastics, masterbatches, engineered composites, colors and powders.
- *Refining*. 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.
- *Technology*. Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts.

Financial information about our business segments and geographical areas can be found in Note 20 to the Consolidated Financial Statements. Information about the locations where we produce our primary products can be found under “Description of Properties.” No single customer accounted for 10% or more of our total revenues in 2024, 2023 or 2022.

Olefins and Polyolefins Segments Generally

We are one of the leading worldwide producers of olefins and polyethylene (“PE”) and we are the world’s second largest producer of polypropylene (“PP”). We manage our olefin and polyolefin business in two reportable segments, O&P-Americas and O&P-EAI.

Olefins and Co-products—Ethylene is the most significant petrochemical in terms of worldwide production volume and is the key building block for PE and many other chemicals and plastics. Ethylene is produced by steam cracking hydrocarbons such as ethane, propane, butane and naphtha. This production results in co-products such as aromatics and other olefins, including propylene and butadiene. Ethylene and its co-products are fundamental to many parts of the economy, including the production of consumer products, packaging, housing and automotive components and other durable and nondurable goods. Olefins and co-products sales accounted for approximately 10%, 9% and 9% of our consolidated revenues in 2024, 2023 and 2022, respectively.

Polyolefins—Polyolefins such as PE and PP are polymers derived from olefins including ethylene and propylene. Polyolefins are the most widely used thermoplastics in the world and are found in applications and products that enhance the everyday quality of life. Our products are used in consumer, automotive and industrial applications ranging from food and beverage packaging to housewares and construction materials.

Polyethylene—We produce high density polyethylene (“HDPE”), low density polyethylene (“LDPE”) and linear low-density polyethylene (“LLDPE”). PE sales accounted for approximately 19%, 18% and 19% of our consolidated revenues in 2024, 2023 and 2022, respectively.

Polypropylene—We produce PP homopolymers and copolymers. PP sales accounted for approximately 16%, 14% and 15% of our consolidated revenues in 2024, 2023 and 2022, respectively.

Olefins and Polyolefins-Americas Segment

Overview—Our O&P-Americas segment produces and markets olefins and co-products, polyethylene and polypropylene.

Sales & Marketing / Customers—Most of the ethylene we produce is consumed internally as a raw material in the production of PE and other derivatives, with the balance sold to third party customers, primarily under multi-year contracts.

Our propylene production is used as a raw material in the production of PP and propylene oxide and derivatives of those products, and we regularly purchase propylene from third parties because our internal needs exceed our internal production. In addition to purchases of propylene, we purchase ethylene for resale, when necessary, to satisfy customer demand above our own production levels. Volumes of any of these products purchased for resale can vary significantly from period to period and are typically most significant during extended outages of our own production, such as during planned maintenance. However, purchased volumes have not historically had a significant impact on profits, except to the extent that they replace our lower-cost production. We also consume PP in our PP compounding business, which is included in our APS segment.

Most of the ethylene and propylene production from our Channelview, Corpus Christi and La Porte, Texas facilities is shipped via a pipeline system, which has connections to numerous U.S. Gulf Coast consumers. This pipeline system extends from Corpus Christi to Mont Belvieu, Texas. In addition, exchange agreements with other ethylene and co-products producers allow access to customers who are not directly connected to this pipeline system. Some ethylene is shipped by railcar from our Clinton, Iowa facility to our Morris, Illinois facility and some is shipped directly to customers. Propylene from Clinton and Morris is generally shipped by marine vessel, barge, railcar or truck.

Our PP and PE production is typically sold through our sales organization to an extensive base of established customers and distributors servicing both the domestic and export markets either under annual contracts or on a spot basis. We have sales offices in various locations in North America and our polyolefins are primarily transported in North America by railcar or truck. Export sales are primarily to customers in Latin America.

Joint Venture Relationships—We have a 50% interest in Louisiana Integrated PolyEthylene JV LLC (“Louisiana Joint Venture”) which provides us with capacity of approximately 770 thousand tons of ethylene and 445 thousand tons of low density and linear-low density PE production per year. We operate the joint venture assets and market the polyethylene off-take for all partners through our global sales team. We also participate in a joint venture in Mexico, which provides us with capacity of approximately 290 thousand tons of PP production per year. We do not hold a majority interest in or have operational control of this joint venture. The capacities are based on our percentage ownership of the joint venture’s total capacity.

Raw Materials—Raw material cost is the largest component of the total cost to produce ethylene and its co-products. The primary raw materials used in our Americas olefin facilities are natural gas liquids (“NGLs”) and heavy liquids. Heavy liquids include crude oil-based naphtha and other refined products, as well as condensate, a very light crude oil resulting from natural gas production. NGLs include ethane, propane and butane. The use of heavy liquid raw materials results in the production of significant volumes of co-products such as propylene, butadiene and benzene, as well as gasoline blending components, while the use of NGLs results in the production of fewer co-products.

Our ability to pass on raw material price increases to our customers is dependent on market-driven demand for olefins and polyolefins. Sales prices for products sold in the spot market are determined by market forces. Our contract prices are influenced by product supply and demand conditions, spot prices, indices published in industry publications and, in some instances, cost recovery formulas.

Technological advances for extracting shale-based oil and gas have led to an increased supply of NGLs, providing a cost advantage over heavy liquids, particularly in the U.S. A plant’s flexibility to consume a wide range of raw materials generally provides an advantage over plants that are restricted in their processing capabilities. Our Americas facilities can process significant quantities of either heavy liquids or NGLs. We estimate that in the U.S. we can produce up to approximately 90% of our total ethylene output using NGLs. Changes in the raw material feedstock mix utilized in the production process will result in variances in production capacities among products. We believe our raw material flexibility in the U.S. is a key advantage in our production of ethylene and its co-products.

Industry Dynamics / Competition—With respect to olefins and polyolefins, competition is based on price and, to a lesser extent, on product quality, product delivery, reliability of supply, product performance and customer service. Profitability is affected not only by supply and demand for olefins and polyolefins, 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, including the regional dynamics that underlie global growth trends.

We compete in North America 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 joint ventures, we believe as of December 31, 2024, we were:

- the third largest producer of ethylene in North America, with ethylene capacity of 6.2 million tons per year;
- the third largest producer of PE in North America with capacity of 4.1 million tons per year; and
- the largest producer of PP in North America, with capacity of 1.9 million tons per year, including approximately 290 thousand tons of *Catalloy* capacity.

Olefins and Polyolefins-Europe, Asia, International Segment

Overview—Our O&P-EAI segment produces and markets olefins and co-products, polyethylene and polypropylene.

Sales & Marketing / Customers—Our ethylene production is primarily consumed internally as a raw material in the production of polyolefins, and we purchase additional ethylene as needed to meet our production needs. Our propylene production is used as a raw material in the production of PP and propylene oxide and derivatives of those products, and we regularly purchase propylene from third parties because our internal needs exceed our internal production.

With respect to PP and PE, our production is typically sold through our sales organization to an extensive base of established customers under annual contracts or on a spot basis and is also sold through distributors. Our polyolefins are primarily transported in Europe by railcar or truck.

Our regional sales offices are in various locations, including The Netherlands, Hong Kong, China, India and the United Arab Emirates. We also operate through a worldwide network of local sales and representative offices in Europe and Asia. Our joint ventures described below typically manage their domestic sales and marketing efforts independently, and we typically operate as their agent for all or a portion of their exports.

Joint Venture Relationships—We participate in several manufacturing joint ventures in Saudi Arabia, China, Poland, South Korea, and Thailand. We do not hold majority interests in any of these joint ventures, nor do we have operational control. These joint ventures provide us with annual production capacity of approximately 1.8 million tons of PP, approximately 1.3 million tons of olefins and approximately 760 thousand tons of PE. These capacities are based on our percentage ownership interest in the joint ventures' total capacities.

We generally license our polyolefin process technologies and supply catalysts to our joint ventures through our Technology segment. Some of our joint ventures are able to source cost advantaged raw materials from their local shareholders.

Raw Materials—Raw material cost is the largest component of the total cost for the production of olefins and co-products. The primary raw material used in our European olefin facilities is naphtha; however, we also have the capability to displace up to half of our European assets' naphtha needs with other feedstocks, such as liquified petroleum gases. We have flexibility to vary the raw material mix and process conditions in our plants in order to maximize profitability as market prices for both feedstocks and products change.

The principal raw materials used in the production of polyolefins are propylene and ethylene. In Europe, we have the capacity to produce approximately 60% of the propylene requirements for our European PP production and all of the ethylene requirements for our European PE production. Propylene and ethylene requirements that are not produced internally are generally acquired pursuant to long-term contracts with third party suppliers or via spot purchases.

Our ability to pass through the increased cost of raw materials to customers is dependent on global market demand for olefins and polyolefins. In general, the pricing for purchases and sales of most products is determined by global market forces, including the impacts of foreign exchange rates relative to the pricing of the underlying raw materials, most of which are priced in U.S. dollars. There can be a lag between raw material price changes and contract product price changes that will cause volatility in our product margins.

Industry Dynamics / Competition—With respect to olefins and polyolefins, competition is based on price, product quality, product delivery, reliability of supply, product performance and customer service. We compete with regional and multinational chemical companies and divisions of large oil companies. The petrochemical market has been affected by the price volatility of naphtha, the primary feedstock for olefins in the region.

Based on published capacity data and including our proportionate share of our joint ventures, we believe as of December 31, 2024, we were:

- the third largest producer of ethylene in Europe with an ethylene capacity of 1.9 million tons per year;
- the largest producer of PE in Europe with 2.1 million tons per year of capacity; and
- the largest producer of PP in Europe with 2.5 million tons per year of capacity, including approximately 280 thousand tons of *Catalloy* capacity.

Other—In 2024, we announced a strategic review of some of our European assets with the goal of strengthening our future profitability. The review focuses on our non-core European assets including five facilities in our O&P-EAI segment located in France, Germany, the United Kingdom, Spain, and Italy. Additionally, it encompasses the European propylene oxide (“PO”) joint venture in the Netherlands, which is included in our I&D segment. Europe remains a core market for us; the five sites under strategic review contribute approximately 30% of the production capacity for the O&P-EAI segment. The review is ongoing, and we remain committed to safe and efficient operations as well as delivering on our customer commitments.

Intermediates and Derivatives Segment

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

PO and Derivatives—We produce PO through two distinct technologies, one of which yields tertiary butyl alcohol (“TBA”) as the co-product and the other of which yields SM as the co-product. The two technologies are mutually exclusive with dedicated assets for manufacturing either PO/TBA or PO/SM. PO is an intermediate commodity chemical and is a precursor of polyols, propylene glycol, propylene glycol ethers and butanediol. PO and derivatives are used in a variety of durable and consumable items with key applications such as polyurethanes used for insulation, automotive/furniture cushioning, coatings, surfactants, synthetic resins and several other household usages. In 2023, we started up a PO/TBA plant in Houston, Texas, which has the capacity to produce 470 thousand tons of PO and 1.0 million tons of TBA per year.

Oxyfuels and Related Products—We produce two distinct ether-based oxyfuels, methyl tertiary butyl ether (“MTBE”) and ethyl tertiary butyl ether (“ETBE”). These oxyfuels are produced by converting the TBA co-product of PO into isobutylene and reacting with methanol or ethanol to produce either MTBE or ETBE. Both are used as high-octane gasoline components that help gasoline burn cleaner and reduce automobile emissions. Other TBA derivatives, which we refer to as “C4 chemicals,” are largely used to make synthetic rubber and other gasoline additives.

Intermediate Chemicals—We produce other commodity chemicals that utilize ethylene as a key component feedstock, including SM, and acetyls. SM is utilized in various applications such as plastics, expandable polystyrene for packaging, foam cups and containers, insulation products and durables and engineering resins. Our acetyls products comprise methanol, glacial acetic acid (“GAA”) and vinyl acetate monomer (“VAM”). Natural gas (methane) is the feedstock for methanol, some of which is converted to GAA. A portion of the GAA is reacted with ethylene to create VAM, an intermediate chemical used in fabric or wood treatments, pigments, coatings, films and adhesives.

Sales & Marketing / Customers—We sell our PO and derivatives through multi-year sales and processing agreements as well as spot sales. Some of our sales agreements have cost plus pricing terms. PO and derivatives are transported by barge, marine vessel, pipeline, railcar and tank truck.

We sell our oxyfuels and related products under market and cost-based sales agreements and in the spot market. Oxyfuels are transported by barge, marine vessel and tank truck and are used as octane blending components worldwide outside of the U.S. due to their blending characteristics and emission benefits. C4 chemicals, such as high-purity isobutylene, are sold to producers of synthetic rubber and other chemical products primarily in the U.S. and Europe, and are transported by railcar, tank truck, pipeline and marine shipments. The sales of oxyfuels and related products accounted for approximately 13%, 14% and 11% of our consolidated revenues in 2024, 2023 and 2022, respectively.

Intermediate chemicals are shipped by barge, marine vessel, pipeline, railcar and tank truck. SM is sold globally into regions such as North America, Europe, Asia and South America export markets through spot sales and commercial contracts. Within acetyls, methanol is consumed internally to make GAA, used as a feedstock for oxyfuels and related products and also sold directly into the merchant commercial market. GAA is converted with ethylene to produce VAM which is sold worldwide under multi-year commercial contracts and on a spot basis.

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Sales of our PO and derivatives, oxyfuels and related products, and intermediate chemicals are made by our marketing and sales personnel, and also through distributors in the Americas, Europe, the Middle East, Africa and the Asia-Pacific region.

Joint Venture Relationships—We have two PO joint ventures with Covestro AG, one in the U.S. and one in Europe. We operate all production facilities for the PO joint ventures. Our proportional production capacity provided through these joint ventures is approximately 160 thousand tons of PO and approximately 340 thousand tons of SM. We do not share marketing or product sales for these PO joint ventures. As disclosed above, our European PO JV is included in our European strategic review.

We also have two joint venture manufacturing relationships in China with China Petroleum & Chemical Corporation (“Sinopec”). The first joint venture provides us with production capacity of approximately 50 thousand tons of PO per year. The second joint venture provides us with annual production capacity of approximately 140 thousand tons of PO and 300 thousand tons of SM. We market our share of the joint ventures’ production in the Chinese market. These capacities are based on our operational share of the joint ventures’ total capacities.

Raw Materials—The cost of raw materials is the largest component of total production cost for PO, its co-products and its derivatives. Propylene, isobutane or mixed butane, ethylene and benzene are the primary raw materials used in the production of PO and its co-products. The market prices of these raw materials historically have been related to the price of crude oil, NGLs and natural gas, as well as supply and demand for the raw materials.

In the U.S., we obtain a large portion of our propylene, benzene and ethylene raw materials needed for the production of PO and its co-products from our O&P-Americas segment and to a lesser extent from third parties. Raw materials for the non-U.S. production of PO and its co-products are obtained from our O&P-EAI segment and from third parties. We consume a significant portion of our internally produced PO in the production of PO derivatives.

The raw material requirements not sourced internally are purchased at market-based prices from numerous suppliers in the U.S. and Europe with which we have established contractual relationships, as well as in the spot market.

For the production of oxyfuels, we purchase our ethanol feedstock requirements from third parties, and obtain our methanol from both internal production and external sources. Carbon monoxide and methanol are the primary raw materials required for the production of GAA. We source carbon monoxide from internal production, which can be complemented by purchases from external sources as needed. The methanol required for our downstream production of acetyls is internally sourced from our methanol plants in La Porte, Texas, and Channelview, Texas. Natural gas is the primary raw material required for the production of methanol.

In addition to ethylene, acetic acid is a primary raw material for the production of VAM. We obtain all our requirements for acetic acid and ethylene from our internal production. Historically, we have used a large percentage of our acetic acid production to produce VAM.

Industry Dynamics / Competition—With respect to product competition, the market is influenced and based on a variety of factors, including product quality, price, reliability of supply, technical support, customer service and potential substitute materials. 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.

Other—In May 2024, we sold our U.S. Gulf Coast-based ethylene oxide & derivatives (“EO&D”) business along with the production facility located in Bayport, TX. See Note 20 to the Consolidated Financial Statements for additional information.

Advanced Polymer Solutions Segment

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

Our polypropylene compounds are produced from blends of polyolefins and additives and are largely focused on automotive applications. Engineered plastics and engineered composites add value for more specialized high-performance applications used across a variety of industries. Masterbatches are compounds that provide differentiated properties when combined with commodity plastics used in packaging, agriculture and durable goods applications. Specialty powders are largely used to mold toys, industrial tanks and sporting goods. Performance colors provide powdered, pelletized and liquid color concentrates for the plastics industry.

Sales & Marketing / Customers—Our products are sold through our regional sales organizations to a broad base of established customers and distributors. These products are transported to our customers primarily by either truck or bulk rail.

Joint Venture Relationships—We participate in several manufacturing joint ventures in Saudi Arabia, Indonesia and Thailand. We hold majority interests and have operational control of the joint ventures in Indonesia. We do not hold majority interests in any of the remaining joint ventures, nor do we have operational control. These joint ventures provide us with production capacity of approximately 70 thousand tons of compounding and solutions. These capacities are based on our percentage ownership interest in the joint ventures' total capacities.

Raw Materials—The principal materials used in the production of our products are polypropylene, polyethylene, polystyrene, nylon and titanium dioxide. Raw materials required for the production of our products are obtained from our wholly owned or joint venture facilities and from a number of major plastic resin producers or other suppliers at market-based prices.

Our ability to pass through the increased cost of raw materials to customers is dependent on global market demand. In general, the pricing for purchases and sales of most products is determined by global market forces.

Industry Dynamics / Competition—With respect to product competition, the market is influenced and based on a variety of factors, including product development, price, product quality, product delivery, reliability of supply, product performance and customer service. We compete with regional and multinational marketers and producers of plastic resins and compounds. As polypropylene compounds are largely utilized in the automotive industry, we are also exposed to the volatility of this industry, which has significantly decreased since 2019.

Refining Segment

Overview—The primary products of our Refining segment are refined products made from heavy, high-sulfur crude oil and other crude oils of varied types and sources available on the U.S. Gulf Coast. These refined products include gasoline and distillates.

Sales & Marketing / Customers—The Houston refinery's products are primarily sold in bulk to other refiners, marketers, distributors and wholesalers at market-related prices. Most of the Houston refinery's products are sold under contracts with a term of one year or less or are sold in the spot market. The Houston refinery's products generally are transported to customers via pipelines and terminals owned and operated by other parties. The sales of refined products accounted for approximately 20%, 22% and 22% of our consolidated revenues in 2024, 2023 and 2022, respectively.

Raw Materials—Our Houston refinery, which is located on the Houston Ship Channel in Houston, Texas, has a crude oil processing capacity of approximately 268 thousand barrels per day on a calendar day basis (normal operating basis), or approximately 292 thousand barrels per day on a stream day basis (maximum achievable over a 24-hour period). The Houston refinery is a full conversion refinery designed to refine heavy, high-sulfur crude oil. This crude oil is more viscous and denser than traditional crude oil and contains higher concentrations of sulfur and heavy metals, making it more difficult to refine into gasoline and other high-value fuel products. As a result, high-sulfur crude oil has historically been less costly to purchase than light, low-sulfur crude oil. U.S. production is predominantly light sweet crude and much of the heavy crude used in production has generally been imported from Canada, Mexico and other global producers, and has at times been subject to supply disruptions.

We purchase the crude oil used as a raw material for the Houston refinery on the open market on a spot basis and under a number of supply agreements with regional producers, generally with terms varying from three months to one year.

Industry Dynamics / Competition—Our refining competitors are major integrated oil companies, refineries owned or controlled by foreign governments and independent domestic refiners. Based on published data, as of November 2024, there were 126 operable crude oil refineries in the U.S., and total U.S. refinery capacity was approximately 18 million barrels per day. During 2024, the Houston refinery processed an average of approximately 237 thousand barrels per day of heavy crude oil.

Our refining operations compete for the purchases of crude oil based on price and quality. Supply disruptions could impact the availability and pricing. We compete in gasoline and distillate markets as a bulk supplier of fungible products satisfying industry and government specifications. Competition is based on price and location.

The markets for fuel products tend to be volatile as well as cyclical due to supply and demand fundamentals and changing crude oil and refined product prices. Crude oil prices are impacted by worldwide political events, the economics of exploration and production and refined products demand. Prices and demand for fuel products are influenced by seasonal and short-term factors such as weather and driving patterns, as well as by longer term issues such as the economy, environmental concerns, energy conservation and alternative fuels. Industry fuel products supply is dependent on short-term industry operating capabilities and on long-term refining capacity.

A crack spread is a benchmark indication of refining margins based on the processing of a specific type of crude oil into an assumed selection of major refined products. The Houston refinery generally tracks the Maya 2-1-1 crack spread, which represents the difference between the current month U.S. Gulf Coast price of two barrels of Maya crude oil as set by Petróleos Mexicanos and one barrel each of U.S. Gulf Coast Reformulated Blendstock for Oxygen Blending Gasoline and of U.S. Gulf Coast Ultra Low Sulfur Diesel. While these benchmark refining spreads are generally indicative of the level of profitability at the Houston refinery and similarly configured refineries, there are many other factors specific to our refinery, other refineries and the industry in general, such as the price of other crude oils used in processing and the value of refinery by-products, which influence operating results. Refinery by-products are products other than gasoline and distillates that represent about one-third of the total product volume, and include coke, sulfur, and lighter materials such as NGLs and crude olefins streams. The cost of Renewable Identification Numbers (“RINs”), which are renewable fuel credits mandated by the U.S. Environmental Protection Agency (the “EPA”), can also affect profitability.

Other—In 2022 we announced our plan to exit the refining business as it was determined to be the best strategic and financial path forward for the Company. We commenced shutdown activities in January 2025 and anticipate our refinery exit will be substantially completed in the first quarter of 2025.

Technology Segment

Overview—Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts. We market our process technologies and our polyolefin catalysts to external customers and also use them in our own manufacturing operations. Over the past three years, approximately 20% of our catalyst sales were sold internally to other segments.

Our polyolefin process licenses are structured to provide a standard core technology, with individual customer needs met by adding customized modules that provide the required capabilities to produce the defined production grade slate and plant capacity. In addition to the basic license agreement, a range of services can also be provided, including project assistance, training, assistance in starting up the plant and ongoing technical support after start-up. We may also offer marketing and sales services. In addition, licensees may continue to purchase polyolefin catalysts that are consumed in the production process, generally under long-term catalyst supply agreements with us.

Research and Development—Our research and development (“R&D”) activities are designed to improve our existing products and processes, and discover and commercialize new materials, catalysts and processes. These activities focus on product and application development, process development, catalyst development and fundamental polyolefin-focused research.

In 2024, 2023 and 2022, our R&D expenditures were \$135 million, \$130 million and \$124 million, respectively. A portion of these expenses are related to technical support and customer service and are allocated to the other business segments. In 2024, 2023 and 2022 approximately 45% to 50% of all R&D costs were allocated to business segments other than Technology.

GENERAL

Intellectual Property

We maintain an extensive patent portfolio and continue to file new patent applications in the U.S. and other countries. As of December 31, 2024, we owned approximately 6,200 patents and patent applications worldwide. Our patents and trade secrets cover our processes, products and catalysts and are significant to our competitive position, particularly with regard to PO, intermediate chemicals, petrochemicals, polymers and our process technologies. While we believe that our intellectual property provides competitive advantages, we do not regard our businesses as being materially dependent upon any single patent, trade secret or trademark. Some of our production capacity operates under licenses from third parties.

Environmental

Most of our operations are affected by national, state, regional and local environmental laws. Matters pertaining to the environment are discussed in Part I, Item 1A. *Risk Factors*; Part I, Item 3. *Legal Proceedings*; Part II, Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*; and Notes 2 and 17 to the Consolidated Financial Statements.

We have made, and intend to continue to make, the expenditures necessary for compliance with applicable laws and regulations relating to environmental, health and safety matters. In 2024, we incurred capital expenditures of \$269 million for health, safety and environmental compliance purposes and improvement programs. We estimate incurring approximately \$250 million annually in 2025 and 2026 for similar expenditures.

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

In the future, climate change may physically impact our facilities and supply chain, however, we do not believe these potential impacts are material in the near-term.

Sustainability

Our sustainability goals center on addressing three global challenges: ending plastic waste, taking climate action and advancing a thriving society.

Ending Plastic Waste—We have a goal to produce and market at least two million metric tons of recycled and renewable-based polymers annually by 2030 representing approximately 20% of our 2024 global sales of polyethylene and polypropylene.

We continue to invest upstream to secure plastic waste material and evaluate opportunities to expand mechanical and chemical recycling capacity globally through investments and commercial agreements. In 2024, we laid the foundation for the *MoReTec-1* plant, our first industrial-scale chemical recycling plant at our site in Wesseling, Germany which will use our proprietary *MoReTec* technology to convert post-consumer plastic waste into feedstock for producing new plastic materials. This plant has the flexibility to operate under 100% renewable power and enables a high plastic to plastic yield while reducing greenhouse gas emissions compared to virgin fossil fuel based processes. Targeted startup for this facility is set for 2026.

Taking Climate Action—Our climate ambitions include our goal to reduce absolute scope 1 and 2 greenhouse gas ("GHG") emissions by 42% and absolute scope 3 emissions by 30% by 2030 relative to a 2020 baseline, as well as achieve net zero scope 1 and 2 emissions by 2050.

Certain GHG emissions reduction initiatives planned for implementation by 2030 are linked to existing asset turnaround schedules for our largest sites. In 2024, our Wesseling site in Germany implemented process heat recovery projects, electrification of a large process turbine and optimization of steam demand which includes the phase-out of coal use. These initiatives are expected to reduce our scope 1 emissions by approximately 130 thousand metric tons annually compared to 2020 levels.

In 2024, we secured power purchase agreements with an aggregate generation capacity that will enable us to meet our goal of procuring at least 50 percent of our electricity from renewable sources by 2030, based on 2020 procured levels. These agreements are expected to generate an estimated 5.0 million megawatt hours of renewable electricity annually, reducing our scope 2 emissions by more than 1.8 million metric tons of carbon emissions.

Ceasing operations at the Houston refinery in the first quarter of 2025 is expected to reduce our scope 1 and scope 2 GHG emissions by more than 3 million metric tons annually and our scope 3 emissions by approximately 40 million metric tons annually. We are evaluating multiple options to transform the site for future growth, including chemical recycling to process plastic waste, renewable cracker feedstocks such as renewable distillates and bio-based feedstocks, and repurposing on-site infrastructure to support growth and circular and low carbon product innovation.

We are also engaging with our suppliers of feedstock, raw materials, and logistics services to better understand the GHG emissions associated with our procured goods and services and to identify potential collaborative opportunities to reduce emissions throughout our value chain.

Our ambition to achieve net zero scope 1 and 2 emissions by 2050 will require the development of enabling technologies such as cracker electrification, hydrogen utilization, carbon capture and storage (“CCS”), carbon utilization and other innovative solutions across our manufacturing footprint. Additionally, the transition to net zero requires robust infrastructure, policy support, and market demand for low-carbon products. We advocate for government-backed frameworks to de-risk investments in renewable energy, hydrogen, and CCS.

Advancing a Thriving Society—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, embracing different backgrounds and perspectives, promoting equity and respect among our global colleagues and within our communities, and aligning our suppliers’ values with our own.

Capital Budget—We estimate capital spending to support our sustainability goals, including investments in emissions reduction and our CLCS business, will represent approximately 25% of our total capital expenditures over the next two years.

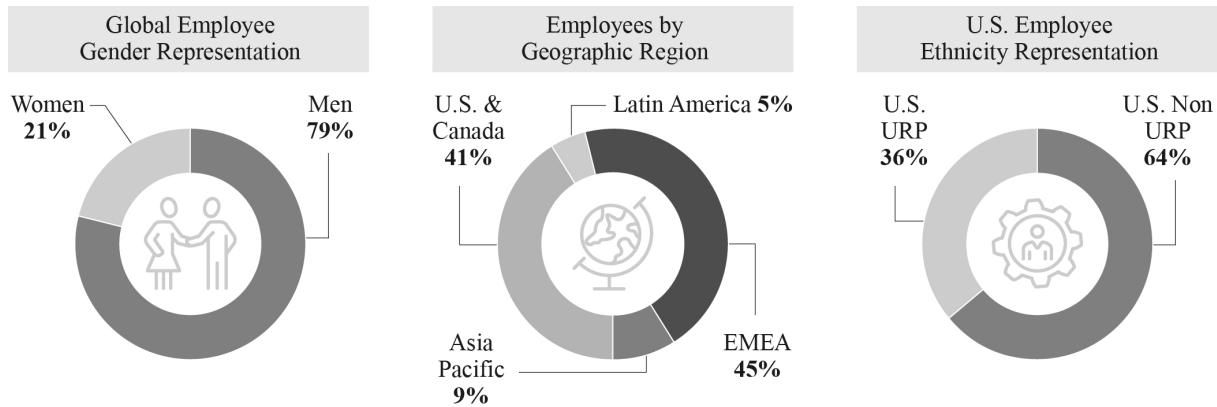
Human Capital

Our success as a company is tied to the passion, knowledge, collaboration, and talent of our global team. Our strategic pillar to Step up Performance and Culture focuses on leading our cultural transformation, embedding equity and promoting inclusion and growing the capabilities and skills of our people through our global learning and development programs.

Stepping up Performance and Culture—In 2024, we focused on educating employees on our competencies and further embedding them in our processes and systems across the enterprise. Aligned with our purpose, commitments and values, the competencies form the “how” we behave daily to achieve our strategic goals and improve our culture. As part of this culture transformation, we concentrated on reinforcing the strategy enabling attributes of our culture in order to create a culture where employees are highly engaged and inspired to innovate and deliver business results.

Diversity, Equity and Inclusion—Our goal is to create a company where fairness, equity 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.

Demographics—As of December 31, 2024, we had approximately twenty thousand employees. Our employee demographics, excluding student employees, consisted of:



U.S. Underrepresented population (“URP”) is based on reporting for the U.S. Equal Employment Opportunity Commission and includes employees who self-identify as Hispanic or Latino, Black or African American, Asian or Pacific Islander, Indian, Alaskan Native, Native Hawaiian or two or more races. Employees who self-identify as White or Caucasian are considered U.S. Non-Underrepresented.

Diversity (Representation)—Cultivating a diverse workforce has a powerful impact on our culture and performance by broadening perspectives and experiences and helps to promote inclusive and impactful results. We also take into consideration Dutch laws with respect to gender ambitions (both male and female) for senior management, including requirements to set appropriate and ambitious gender diversity targets. We currently have an aspirational goal to have at least 33% female senior leaders and at least 33% male senior leaders, globally, by 2032. In 2024, women served in 25% of global senior leadership roles and in the U.S., 22% of senior leaders were from underrepresented populations.

Equity (Fairness)—Our efforts on equity are focused on ensuring that our systems and processes are fair to all employees. Our goal in this area is for all employees to believe they are being treated fairly. In 2024, we completed a pay equity review and performance analysis that involved approximately 13,700 employees, comparing pay for like jobs and focusing on base pay for gender (globally) and ethnicity (U.S. only). Consistent with prior findings, the review reflected that pay is generally administered fairly.

Inclusion (Belonging)—Like equity, we desire a culture where all of our employees feel they are included and belong. To drive change, we introduced new competencies, including one dedicated to promoting inclusion. We focus our inclusion efforts on learning and education, outreach and our eight global employee networks. In 2024, we launched two new networks and achieved 22% participation, an increase from 18% in 2023. Network programming is strongly tied to career development and business and community impact.

Global Talent Development and Engagement—We provide opportunities for growth through on the job training and other more formal 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. Through our leadership development framework, we had approximately 400 leaders participate in a structured leadership development program tailored to different stages in their career.

Safety, Employee Health and Well-Being—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. We cultivate a GoalZERO mindset with clear standards, regular communication, training, and targeted campaigns and events, including our annual Global Safety Day.

Code of Conduct and Human Rights Policy—Our Code of Conduct establishes our expectations on topics such as respect in the workplace, anti-corruption, conflicts of interest, trade compliance, anti-trust and competition law, insider trading, sanctions, misconduct and political donations. It is available in seventeen languages on our company website. New employees are trained on the Code of Conduct, and all employees receive annual refresher training. We also have a human rights policy that establishes our standards for workforce health and safety; prevention of discrimination, harassment and retaliation; diversity and inclusion; workplace security; working conditions and fair wages; freedom of association; freely chosen employment; and child labor protections.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Our executive officers as of February 27, 2025 were as follows:

<u>Name and Age</u>	<u>Significant Experience</u>
Peter Vanacker, 58	Chief Executive Officer since May 2022. President, Chief Executive Officer and Chair of the Executive Committee of Neste Corporation, a renewable products company From September 2018 to May 2022. Chief Executive Officer and Managing Director of the CABB Group, a global supplier of fine and specialty chemicals from April 2015 to August 2018.
Tracey Campbell, 58	Executive Vice President, Sustainability and Corporate Affairs since October 2022. Vice President, Public Affairs from November 2020 to September 2022. Director, Polyolefins Asia Pacific from July 2018 to October 2020.
Trisha Conley, 53	Executive Vice President, People and Culture since February 2023. Senior Vice President, People Development of Renewable Energy Group, a renewable energy company, from August 2020 to January 2023. Vice President of Human Resources, Fuels North America and Head of Country (United States) for Downstream Human Resources at BP, a global energy provider, from July 2015 to July 2020.
Kim Foley, 58	Executive Vice President, Global Olefins & Polyolefins and Refining since August 2024. Executive Vice President, Global Olefins & Polyolefins, Refining and Supply Chain from March 2024 to August 2024. Executive Vice President, Intermediates and Derivatives and Refining from October 2022 to March 2024. Senior Vice President, HSE, Global Engineering and Turnarounds from August 2020 to September 2022. Vice President, Health, Safety and Environment from October 2019 to July 2020.
Dale Friedrichs, 61	Executive Vice President, Operational Excellence and HSE since October 2022. Interim Executive Vice President, People and Culture from October 2022 to February 2023. Senior Vice President, Human Resources and Global Projects from August 2020 to September 2022. Vice President, Human Resources from October 2019 to July 2020. Vice President, Health, Safety, Environment and Security from February 2017 to October 2019.

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<u>Name and Age</u>	<u>Significant Experience</u>
Jeffrey Kaplan, 56	Executive Vice President and General Counsel since October 2022. Executive Vice President, Legal & Public Affairs and Chief Legal Officer from March 2015 to September 2022.
Aaron Ledet, 50	Executive Vice President, Intermediates & Derivatives and Supply Chain since August 2024. Executive Vice President, Intermediates & Derivatives from March 2024 to August 2024. Senior Vice President, Olefins & Polyolefins Americas from October 2022 to March 2024. Director Olefins & Optimization Americas from January 2022 to October 2022. Senior Director Olefins & Feedstocks from May 2021 to December 2021. Director Olefins & Optimization Americas from October 2020 to May 2021. Senior Director Advanced Polymer Solutions US/Canada Region from October 2018 to October 2020.
Michael McMurray, 60	Executive Vice President and Chief Financial Officer since November 2019. Senior Vice President and Chief Financial Officer at Owens Corning, a global manufacturer of insulation, roofing and fiberglass composites, from August 2012 to November 2019.
Torkel Rhenman, 61	Executive Vice President, Advanced Polymer Solutions since October 2022. Executive Vice President, Intermediates & Derivatives, and Refining from August 2020 to September 2022. Executive Vice President, Intermediates & Derivatives from July 2019 to July 2020.
James Seward, 57	Executive Vice President and Chief Innovation Officer since October 2022. Senior Vice President, Research & Development, Technology and Sustainability from August 2020 to September 2022. Senior Vice President, Technology Business, Sustainability, and Olefins & Polyolefins, Europe, Asia and International Joint Venture Management from September 2018 to July 2020.
Yvonne van der Laan, 53	Executive Vice President, Circular and Low Carbon Solutions since October 2022. Senior Director, Global Circularity from May 2022 to September 2022. Director, Olefins & Optimizations, Europe from September 2019 to April 2022. Vice President, Industry & Bulk Cargo for the Port of Rotterdam, the largest seaport in Europe, from February 2016 to September 2019.

Description of Properties

Our principal manufacturing facilities as of December 31, 2024 are set forth below and are identified by the principal segment or segments using the facility. All of the facilities are wholly owned, except as otherwise noted.

<u>Location</u>	<u>Segments</u>
Americas	
Bayport (Pasadena), Texas ⁽¹⁾	I&D
Bayport (Pasadena), Texas	O&P-Americas
Channelview, Texas	O&P-Americas
Channelview, Texas ⁽¹⁾⁽²⁾	I&D
Chocolate Bayou (Alvin), Texas	O&P-Americas
Clinton, Iowa	O&P-Americas
Corpus Christi, Texas	O&P-Americas
Edison, New Jersey	Technology
Houston, Texas	Refining
La Porte, Texas ⁽³⁾	O&P-Americas
La Porte, Texas ⁽³⁾	I&D
Lake Charles, Louisiana	O&P-Americas
Lake Charles, Louisiana ⁽⁴⁾	O&P-Americas
Matagorda (Bay City), Texas	O&P-Americas
Morris, Illinois	O&P-Americas
Victoria, Texas†	O&P-Americas
Europe	
Botlek, Rotterdam, The Netherlands†	I&D
Ferrara, Italy	O&P-EAI and Technology
Fos-sur-Mer, France†	I&D
Frankfurt, Germany†	O&P-EAI and Technology
Knapsack, Germany†	O&P-EAI and APS
Kerpen, Germany	APS
Ludwigshafen, Germany†	Technology
Moerdijk, The Netherlands†	O&P-EAI
Wesseling, Germany	O&P-EAI

† The facility is located on leased land.

- (1) The Bayport PO/TBA plants and the Channelview PO/SM I plant are held by the U.S. PO joint venture between Covestro and Lyondell Chemical Company. These plants are located on land leased by the U.S. PO joint venture.
- (2) Equistar Chemicals, LP operates a polybutadiene unit, which is owned by an unrelated party and is located within the Channelview facility on property leased from Equistar Chemicals, LP.
- (3) The La Porte facilities are on contiguous property.
- (4) The Lake Charles facility is owned by the Louisiana Integrated PolyEthylene JV LLC joint venture and is located on land owned by the joint venture.

Other Locations and Properties

We maintain executive offices in London, the United Kingdom; Rotterdam, The Netherlands; Houston, Texas and Hong Kong, China. We maintain research facilities in Lansing, Michigan; Channelview, Texas; Cincinnati, Ohio; Ferrara, Italy and Frankfurt, Germany. Our Asia-Pacific headquarters are in Hong Kong. We also have technical support centers in Rotterdam, The Netherlands; Mumbai, India; Poznan, Poland; and Shanghai, China. We have various sales facilities worldwide.

Website Access to SEC Reports

Our Internet website address is <http://www.LyondellBasell.com>. Information contained on our Internet website is not part of this report on Form 10-K.

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available on our website, free of charge, as soon as reasonably practicable after such reports are filed with, or furnished to, the U.S. Securities and Exchange Commission ("SEC"). Alternatively, these reports may be accessed at the SEC's website at <http://www.sec.gov>.

Item 1A. Risk Factors.

You should carefully consider the following risk factors in addition to the other information included in this Annual Report on Form 10-K. Each of these risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock.

Risks Related to our Business and Industry

The cyclical and volatility of the industries in which we participate may cause significant fluctuations in our operating results.

Our business operations are subject to the cyclical and volatile nature of the supply-demand balance in the chemical industry. Our future operating results are expected to continue to be affected by this cyclical and volatility. The chemical industry historically has experienced alternating periods of capacity shortages, causing prices and profit margins to increase, followed by periods of excess capacity, resulting in oversupply, declining capacity utilization rates and declining prices and profit margins. While we are exiting the refining business in the first quarter of 2025, we expect to experience similar volatility in that industry until closure of our Houston refinery.

In addition to changes in the supply and demand for products, changes in energy prices and other worldwide economic conditions can cause volatility. These factors result in significant fluctuations in profits and cash flow from period to period and over business cycles.

New capacity additions around the world may lead to periods of oversupply and lower profitability. The timing and extent of any changes to currently prevailing market conditions are uncertain and supply and demand may be unbalanced at any time. As a consequence, we are unable to accurately predict the extent or duration of future industry cycles or their effect on our business, financial condition or results of operations.

A sustained decrease in the price of crude oil may adversely impact the results of our operations, primarily in North America.

Energy costs generally follow price trends of crude oil and natural gas. These price trends may be highly volatile and cyclical. In the past, raw material and energy costs have experienced significant fluctuations that adversely affected our business segments' results of operations. For example, we have benefited from the favorable ratio of U.S. crude oil prices to natural gas prices in the past. If the price of crude oil remains lower relative to U.S. natural gas prices or if the demand for natural gas and NGLs increases, this may have a negative impact on our results of operations.

Costs and limitations on supply of raw materials and energy may result in increased operating expenses.

The costs of raw materials and energy represent a substantial portion of our operating expenses. Due to the significant competition we face and the commodity nature of many of our products, we are not always able to pass on raw material and energy cost increases to our customers. When we do have the ability to pass on the cost increases, we are not always able to do so quickly enough to avoid adverse impacts on our results of operations.

Cost increases for raw materials, energy, or broad-based price inflation also increase working capital needs, which could reduce our liquidity and cash flow. Even if we are able to increase our sales prices to reflect these increases, demand for products may decrease as consumers and customers reduce their consumption or use substitute products, which may have an adverse impact on our results of operations. In addition, producers in natural gas cost-advantaged regions, such as the Middle East and North America, benefit from the lower prices of natural gas and NGLs. Competition from producers in these regions may cause us to reduce exports from Europe and elsewhere. Any such reductions may increase competition for product sales within Europe and other markets, which can result in lower margins in those regions.

For some of our raw materials and utilities there are a limited number of suppliers, and in some cases, the supplies are specific to the particular geographic region in which a facility is located. It is also common in the chemical industry for a facility to have a sole, dedicated source for its utilities, such as steam, electricity and gas. Having a sole or limited number of suppliers may limit our negotiating power, particularly in the case of rising raw material costs. Any new supply agreements we enter into may not have terms as favorable as those contained in our current supply agreements. The reliance on single or limited suppliers heightens our vulnerability to supply chain interruptions, and the closure of such a supplier could cause us to be unable to profitably operate our assets. For example, our ability to operate our site in Brindisi, Italy, may be negatively impacted by the potential shutdown of its propylene supplier.

Additionally, there is concern over the reliability of water sources, including around the U.S. Gulf Coast where several of our facilities are located. The decreased availability or less favorable pricing for water as a result of population growth, drought or regulation could negatively impact our operations, including by impacting our ability to produce or transport our products.

If our raw material or utility supplies were disrupted, our businesses would likely incur increased costs to procure alternative supplies or incur excessive downtime, which would have a negative impact on plant operations. Disruptions of supplies may occur as a result of transportation issues resulting from natural disasters, water levels, and interruptions in marine water routes, among other causes, which can affect the operations of vessels, barges, rails, trucks and pipeline traffic. These risks are particularly prevalent in the U.S. Gulf Coast area. Additionally, increasing exports of NGLs and crude oil from the U.S. or greater restrictions on hydraulic fracturing could restrict the availability of our raw materials, thereby increasing our costs.

With increased volatility in raw material costs, our suppliers could impose more onerous terms on us, resulting in shorter payment cycles and increasing our working capital requirements.

Our ability to source raw materials or deliver products may be adversely affected by political instability, civil disturbances or other governmental actions.

We obtain a portion of our principal raw materials from sources in the Middle East and Central and South America that may be less politically stable than other areas in which we conduct business. Political instability, civil disturbances and actions by governments in these areas are more likely to substantially increase the price and decrease the supply of raw materials necessary for our operations or impair our ability to deliver products to customers, which could have a material adverse effect on our results of operations.

Incidents of civil unrest, including terrorist attacks and demonstrations that have been marked by violence, have occurred in a number of countries, including in the Middle East and South America. Some political regimes in these countries are threatened or have changed as a result of such unrest. Political instability and civil unrest could continue to spread in the region and involve other areas. Such unrest, if it continues to spread or grow in intensity, could lead to civil wars, regional conflicts or regime changes resulting in governments that are hostile to countries in which we conduct substantial business, such as in the U.S., Europe or their respective trading partners.

Our business is capital intensive and we rely on cash generated from operations and external financing to fund our growth and ongoing capital needs. Limitations on access to external financing could adversely affect our operating results.

We require significant capital to operate our current business and fund our growth strategy. Moreover, interest payments, dividends, capital requirements of our joint ventures, the expansion of our current business or other business opportunities may require significant amounts of capital. If we need external financing, our access to credit markets and pricing of our capital is dependent upon maintaining sufficient credit ratings from credit rating agencies and the state of the capital markets generally. There can be no assurances that we would be able to incur indebtedness on terms we deem acceptable, and it is possible that the cost of any financings could increase significantly, thereby increasing our expenses and decreasing our net income. If we are unable to generate sufficient cash flow or raise adequate external financing, including as a result of significant disruptions in the global credit markets, we could be forced to restrict our operations and growth opportunities, which could adversely affect our operating results.

We may use our \$3,750 million revolving credit facility, which backs our commercial paper program, to meet our cash needs, to the extent available. As of December 31, 2024, we had no borrowings or letters of credit outstanding under the facility and no borrowings outstanding under our commercial paper program, leaving an unused and available credit capacity of \$3,750 million. We may also meet our cash needs by selling receivables under our \$900 million U.S. Receivables Facility. As of December 31, 2024, we had no borrowing or letters of credit outstanding and availability of \$900 million under this facility. In the event of a default under our credit facilities or any of our senior notes, we could be required to immediately repay all outstanding borrowings and make cash deposits as collateral for all obligations the facility supports, which we may not be able to do. Any default under any of our credit arrangements could cause a default under many of our other credit agreements and debt instruments. Without waivers from lenders party to those agreements, any such default could have a material adverse effect on our ability to continue to operate.

Risks Related to our Operations

Our operations are subject to risks inherent in the chemical industry, and we could be subject to liabilities for which we are not fully insured or that are not otherwise mitigated.

We maintain property, business interruption, product, general liability, casualty and other types of insurance that we believe are appropriate for our business and operations as well as in line with industry practices. However, we are not fully insured against all potential hazards incident to our business, including losses resulting from natural disasters or climate-related exposures, wars, terrorist acts, or cybersecurity incidents. Changes in insurance market conditions have caused, and may in the future cause, premiums and deductibles for certain insurance policies to increase substantially and, in some instances, for certain insurance to become unavailable or available only for reduced amounts of coverage. If we were to incur a significant liability for which we were not fully insured, we might not be able to finance the amount of the uninsured liability on terms acceptable to us, or at all, and might be obligated to divert a significant portion of our cash flow from normal business operations.

Our business, including our results of operations and reputation, could be adversely affected by safety or product liability issues.

Failure to appropriately manage occupational safety, process safety, product safety, human health, product liability and environmental risks inherent in the chemical and refining businesses and associated with our products, product life cycles and production processes could result in unexpected incidents including releases, fires, or explosions resulting in personal injury, loss of life, environmental damage, loss of revenue, legal liability, and/or operational disruption. Public perception of the risks associated with our products and production processes could impact product acceptance and influence the regulatory environment in which we operate. While we have management systems, procedures and controls to manage these risks, issues could be created by events outside of our control, including natural disasters, severe weather events and acts of sabotage.

Further, because a part of our business involves licensing polyolefin process technology, our licensees are exposed to similar risks involved in the manufacture and marketing of polyolefins. Hazardous incidents involving our licensees, if they do result or are perceived to result from use of our technologies, may harm our reputation, threaten our relationships with other licensees and/or lead to customer attrition and financial losses. Our policy of covering these risks through contractual limitations of liability and indemnities and through insurance may not always be effective. As a result, our financial condition and results of operation would be adversely affected, and other companies with competing technologies may have the opportunity to secure a competitive advantage.

Interruptions of operations at our facilities may result in increased liabilities or lower operating results.

We own and operate large-scale facilities. Our operating results are dependent on the continued operation of our various production facilities and the ability to complete construction and maintenance projects on schedule. Interruptions at our facilities may materially reduce the productivity and profitability of a particular manufacturing facility, or our business as a whole, during and after the period of such operational difficulties. In recent years, we have had to shut down plants on the U.S. Gulf Coast as a result of various hurricanes and cold weather events striking Texas and Louisiana.

Our operations are subject to hazards inherent in chemical manufacturing and refining and the related storage and transportation of raw materials, products and wastes. These potential hazards include:

- pipeline leaks and ruptures;
- explosions;
- fires;
- severe weather and natural disasters;
- mechanical failure;
- unscheduled downtimes;
- supplier disruptions;
- labor shortages or other labor difficulties;
- transportation interruptions;
- remediation complications;
- increased restrictions on, or the unavailability of, water for use at our manufacturing sites or for the transport of our products or raw materials;
- chemical and oil spills;
- discharges or releases of toxic or hazardous substances or gases;
- shipment of incorrect or off-specification product to customers;
- storage tank leaks;
- other environmental risks; and
- cyber-attack or other terrorist acts.

Some of these hazards may cause severe damage to or destruction of property and equipment, personal injury, loss of life, environmental damage, legal liability resulting from government action or litigation, loss of revenue, suspension of operations or the shutdown of affected facilities.

Large capital projects can take many years to complete, and market conditions could deteriorate significantly between the project approval date and the project startup date, negatively impacting project returns. If we are unable to complete capital projects at their expected costs and in a timely manner, or if the market conditions assumed in our project economics deteriorate, our business, financial condition, results of operations and cash flows could be materially and adversely affected.

Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities could materially adversely affect our ability to achieve forecasted internal rates of return and operating results, or impair our ability to meet our sustainability or other targets or goals. For example, higher costs arising from delaying construction of our PO/TBA plant in Houston increased our costs and impacted our projected rate of return on the project. Delays in making required changes or upgrades to our facilities could subject us to fines or penalties as well as affect our ability to contract with our customers and supply certain products we produce. Such delays or cost increases may arise as a result of unpredictable factors, many of which are beyond our control, including:

- denial of or delay in receiving requisite regulatory approvals and/or permits;

- unplanned increases in the cost of construction materials, including due to tariffs;
- unplanned increases in labor costs;
- disruptions in transportation of components or construction materials;
- adverse weather conditions, natural disasters or other events (such as equipment malfunctions, explosions, fires or spills) affecting our facilities, or those of vendors or suppliers;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages; and
- nonperformance by, or disputes with, vendors, suppliers, contractors or subcontractors.

Any one or more of these factors could have a significant impact on our ongoing capital projects. If we were unable to make up the delays associated with such factors or to recover the related costs, or if market conditions change, it could materially and adversely affect our business, financial condition, results of operations and cash flows.

Shared control or lack of control of joint ventures or equity investments may delay decisions or actions regarding our joint ventures, or adversely affect our financial results.

A portion of our operations are conducted through joint ventures or equity investments, where control may be exercised by or shared with unaffiliated third parties. We cannot control the actions or ownership of these partners, including any nonperformance, default or bankruptcy of the joint venture or its partners. The joint ventures that we do not control may also lack financial reporting systems to provide adequate and timely information for our reporting purposes. In addition, a joint venture may lack adequate cybersecurity protections or other controls that could impact its ability to reliably conduct operations.

Our joint venture partners may have different interests or goals than we do and may take actions contrary to our requests, policies or objectives. Differences in views among the joint venture participants also may result in delayed decisions or in failures to agree on major matters, potentially adversely affecting the business and operations of the joint ventures and in turn our business and operations. We may develop a dispute with any of our partners over decisions affecting the venture that may result in litigation, arbitration or some other form of dispute resolution. If a joint venture participant acts contrary to our interest, or is unsuccessful in conducting its business, it could harm our brand, business, results of operations and financial condition.

We may be required to record material charges against our earnings due to any number of events including impairments of our assets.

We review our assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. We test goodwill for impairment at least annually. The need to test for impairment can be based on several indicators, including a significant reduction in prices of or demand for products produced, a weakened outlook for profitability, a significant reduction in margins, an expectation that a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life, other changes to contracts or changes in the regulatory environment.

We may be required to reduce production or idle facilities for extended periods of time or exit certain businesses as a result of the cyclical nature of our industry. Specifically, oversupplies of or lack of demand for particular products or high raw material prices may cause us to reduce production. We may choose to reduce production at certain facilities because we have off-take arrangements at other facilities, which make any reductions or idling unavailable at those facilities.

Temporary outages at our facilities can last for several quarters and sometimes longer. These outages could cause us to incur significant costs, including the expenses of maintaining and restarting these facilities. In addition, we have significant obligations under take-or-pay agreements. Even though we may reduce production at facilities, we may be required to continue to purchase or pay for utilities or raw materials under these arrangements.

Sustained unfavorable market conditions may also result in asset impairments. For example, in 2024, challenging market conditions in Europe resulted in a \$837 million non-cash impairment of property, plant and equipment in our O&P-EAI segment.

Any decision to permanently close facilities or exit a business may result in impairment and other charges to earnings. For example, in April 2022, the Finance Committee of the Board of Directors of the Company approved a plan to exit the refining business, resulting in the recognition of \$179 million, \$334 million and \$187 million of expense in 2024, 2023 and 2022, respectively.

Acquisitions or dispositions of assets or businesses could disrupt our business and harm our financial condition and stock price.

We continually evaluate the performance and strategic fit of all of our businesses and evaluate whether our businesses would benefit from acquisitions to enhance growth or dispositions that would align our footprint with our overall business strategy. These transactions pose risks and challenges that could negatively impact our business and financial statements. In 2024, we launched a strategic review of certain assets in Europe to align our asset base with our strategy.

Acquisitions involve numerous risks, including meeting our standards for compliance, problems combining the purchased operations, technologies or products, unanticipated costs and liabilities, diversion of management's attention from our core businesses, and potential loss of key employees. There can be no assurance that we will be able to integrate successfully any businesses, products, technologies, or personnel that we might acquire. The integration of businesses that we may acquire is likely to be a complex, time-consuming, and expensive process and we may not realize the anticipated revenues, synergies, or other benefits associated with our acquisitions if we do not manage and operate the acquired business up to our expectations. If we are unable to efficiently operate as a combined organization utilizing common information and communication systems, operating procedures, financial controls, and human resources practices, our business, financial condition, and results of operations may be adversely affected.

Dispositions of assets or businesses involve risks, including difficulties in the separation of operations, services, products and personnel, the diversion of management's attention from other business concerns, the disruption of our business, the potential loss of key employees and the retention of uncertain environmental or other contingent liabilities related to the divested business. In addition, they may result in significant asset impairment charges, including those related to goodwill and other intangible assets, which could have a material adverse effect on our financial condition and results of operations. In the event we are unable to successfully divest a business or product line, we may be forced to wind down such business or product line, which could materially and adversely affect our results of operations and financial condition.

We cannot assure you that we will be successful in managing these or any other significant risks that we encounter in acquiring or divesting a business or product line, and any transaction we undertake could materially and adversely affect our business, financial condition, results of operations and cash flows, and may also result in a diversion of management attention, operational difficulties and losses.

Risks related to the Global Economy and Multinational Operations

Economic disruptions and downturns in general, and particularly continued global economic uncertainty or economic turmoil in emerging markets, could have a material adverse effect on our business, prospects, operating results, financial condition and cash flows.

Our results of operations can be materially affected by adverse conditions in the financial markets and depressed economic conditions generally. Economic downturns in the businesses and geographic areas in which we sell our products could substantially reduce demand for our products and result in decreased sales volumes and increased credit risk. Recessionary environments adversely affect our business because demand for our products is reduced, particularly from our customers in industrial markets generally and the automotive and housing industries specifically and may result in higher costs of capital. A significant portion of our revenues and earnings are derived from our business in Europe. In addition, most of our European transactions and assets, including cash and receivables, are denominated in euros.

We also derive significant revenues from our business in emerging markets, particularly the emerging markets in Asia and South America. Any broad-based downturn in these emerging markets, or in a key market such as China, could require us to reduce export volumes into these markets and could also require us to divert product sales to less profitable markets. Any of these conditions could ultimately harm our overall business, prospects, operating results, financial condition and cash flows.

We sell products in highly competitive global markets and face significant price pressures.

We sell our products in highly competitive global markets. Due to the commodity nature of many of our products, competition in these markets is based primarily on price and, to a lesser extent, on product performance, product quality, product deliverability, reliability of supply and customer service. Often, we are not able to protect our market position for these products by product differentiation and may not be able to pass on cost increases to our customers due to the significant competition in our industry.

In addition, we face increased competition from companies that may have greater financial resources and different cost structures or strategic goals than us. These include large integrated oil companies (some of which also have chemical businesses), government-owned businesses, and companies that receive subsidies or other government incentives to produce certain products in a specified geographic region. Continuing competition from these companies, especially in our olefin business, could limit our ability to increase product sales prices in response to raw material and other cost increases, or could cause us to reduce product sales prices to compete effectively, which would reduce our profitability. Competitors with different cost structures or strategic goals than we have may be able to invest significant capital into their businesses, including expenditures for research and development. In addition, specialty products we produce may become commoditized over time. Increased competition could result in lower prices or lower sales volumes, which would have a negative impact on our results of operations.

We operate internationally and are subject to exchange rate fluctuations, exchange controls, political risks and other risks relating to international operations.

We operate internationally and are subject to the risks of doing business on a global level. These risks include fluctuations in currency exchange rates, economic instability and disruptions, restrictions on the transfer of funds and the imposition of trade restrictions or duties and tariffs, and complex regulations concerning privacy and data security. Additional risks from our multinational business include transportation delays and interruptions, war, terrorist activities, epidemics, pandemics, political instability, import and export controls, access to infrastructure, sanctions, changes in governmental policies, labor unrest and current and changing regulatory environments.

We generate revenues from export sales and operations that may be denominated in currencies other than the relevant functional currency. Exchange rates between these currencies and functional currencies in recent years have fluctuated significantly and may do so in the future. It is possible that fluctuations in exchange rates will result in reduced operating results. Additionally, we operate with the objective of having our worldwide cash available in the locations where it is needed, including the United Kingdom for our parent company's significant cash obligations as a result of dividend payments. It is possible that we may not always be able to provide cash to other jurisdictions when needed or that such transfers of cash could be subject to additional taxes, including withholding taxes.

Our operating results could be negatively affected by the laws, rules and regulations, as well as political environments, in the jurisdictions in which we operate. There could be reduced demand for our products, decreases in the prices at which we can sell our products and disruptions of production or other operations. Trade protection measures such as quotas, duties, tariffs, safeguard measures or anti-dumping duties imposed in the countries in which we operate could negatively impact our business. Additionally, there may be substantial capital and other costs to comply with regulations and/or increased security costs or insurance premiums, any of which could reduce our operating results.

We obtain a portion of our principal raw materials from international sources that are subject to these same risks. Our compliance with applicable customs, currency exchange control regulations, transfer pricing regulations or any other laws or regulations to which we may be subject could be challenged. Furthermore, these laws may be modified, the result of which may be to prevent or limit subsidiaries from transferring cash to us.

Furthermore, we are subject to certain existing, and may be subject to possible future, laws that limit or may limit our activities while some of our competitors may not be subject to such laws, which may adversely affect our competitiveness.

Changes in tax laws and regulations could affect our tax rate, financial condition and results of operations.

The Company operates in multiple jurisdictions with complex legal and tax regulatory environments and is subject to taxes in the U.S. and non-U.S. jurisdictions. Significant changes to tax laws and regulations in these jurisdictions or their interpretation could have a material impact on our effective income tax rate. Our future effective income tax rates could also fluctuate based on, among other factors, changes in pre-tax income in countries with varying statutory tax rates, changes in valuation allowances, changes in foreign exchange gains/losses, the amount of exempt income, and changes in unrecognized tax benefits associated with uncertain tax positions. Our tax returns are periodically audited or subjected to review by tax authorities, and we regularly evaluate the likelihood of an adverse result of an examination, however any adverse result of these examinations could also have a material impact on our effective income tax rate, financial condition and results of operations.

Risks Related to Health, Safety, and the Environment

We cannot predict with certainty the extent of future costs under environmental, health and safety and other laws and regulations, and cannot guarantee they will not be material.

We may face liability arising out of the normal course of business, including alleged personal injury or property damage due to exposure to chemicals or other hazardous substances at our current or former facilities, or exposure to products or chemicals that we manufacture, handle or own. In addition, because our products are components of a variety of other end-use products, we, along with other members of the chemical industry, are subject to potential claims related to those end-use products. Any substantial increase in the success of these types of claims could negatively affect our operating results.

We are subject to extensive national, regional, state and local environmental laws, regulations, directives, rules and ordinances concerning pollution, protection of the environment, hazardous materials, health and safety, the security of our facilities, and the safety of our products. We generally expect that these requirements are likely to become more stringent over time. Changes to such laws could result in restrictions on our operations, denial of permits, loss of business opportunities, increased operating costs or additional capital expenditures. We could incur significant costs or operational restrictions due to violations of or liabilities under such laws and regulations in the form of fines, penalties, and injunctive relief. Any substantial liability under such laws could have a material adverse effect on our financial condition, results of operations and cash flows. Additionally, we are required to have permits for our businesses and are subject to licensing regulations. These permits and licenses are subject to renewal, modification and in some circumstances, revocation. Further, the permits and licenses are often difficult, time consuming and costly to obtain and could contain conditions that limit our operations.

We may incur substantial costs to comply with climate change legislation and related regulatory initiatives.

There has been a broad range of proposed or promulgated international, national and state laws focusing on greenhouse gas (“GHG”) emission reduction and global climate change. These proposed or promulgated laws apply or could apply in countries where we have interests or may have interests in the future. Laws and regulations in this field continue to evolve and, while they are likely to be increasingly widespread and stringent, at this stage it is not possible to accurately estimate either a timetable for implementation or our future compliance costs relating to implementation. Under the 2015 Paris Agreement, parties to the United Nations Framework Convention on Climate Change agreed to undertake ambitious efforts to reduce GHG emissions and strengthen adaptation to the effects of climate change.

Jurisdictions in which we operate, including, in particular, the European Union (EU), have prepared national legislation and protection plans to implement their emission reduction commitments under the Paris Agreement. Our operations in Europe participate in the EU Emissions Trading System (ETS) and we meet our obligations through a combination of free and purchased emission allowances. We anticipate that climate regulation in the EU will result in an accelerated reduction of our free allowances, and higher market prices for purchased allowances. These and other future regulations could result in increased costs, additional capital expenditures, or restrictions on operations.

Although the U.S. announced its intent to withdraw from the Paris Agreement and roll back climate regulations in January 2025, several state governments have promulgated regulations directed at GHG emissions reductions from certain types of facilities, and additional regulations could be forthcoming, that could result in increased operating costs for compliance, required acquisition or trading of emission allowances, or other costs. For example, the states of Vermont and New York have enacted ‘climate superfund’ laws that attempt to impose strict liability on companies that have extracted or refined hydrocarbons that led to emissions of GHG over certain thresholds. Additionally, demand for the products we produce may be reduced.

Non-Governmental Organizations have been active in filing lawsuits against governments and private parties in various jurisdictions around the world seeking enforcement of existing laws and new requirements to reduce GHG emissions. In one case decided in The Netherlands in November 2024, the court held that, although there was no basis to support an order for a specific emission reduction target, Royal Dutch Shell had an obligation to take measures to combat climate change. These types of laws, regulations, and litigation results could increase the cost of purchased energy and increase costs of compliance in various locations.

Compliance with climate regulations may result in increased permitting necessary for the operation of our business or for any of our growth plans. Difficulties in obtaining such permits could have an adverse effect on our future growth. In addition, any future potential climate regulations, legislation, or litigation results could impose additional operating restrictions or delays in implementing growth projects or other capital investments, require us to incur increased costs, and could have a material adverse effect on our business and results of operations.

Legislation and regulatory initiatives could lead to a decrease in demand for our products or reputational harm.

New or revised governmental regulations and independent studies relating to the effect of our products on health, safety and the environment may affect demand for our products and the cost of producing our products. Initiatives by governments and private interest groups will potentially result in increased toxicological testing and risk assessments of a wide variety of chemicals, including chemicals used or produced by us. New or revised legislation or regulations could result in additional use restrictions and/or bans of certain chemicals. For example, in the EU, the European Commission is expected to continue to develop and implement legislative changes to the EU regulatory frameworks for chemicals including the Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (“REACH”), and the Classification, Labelling and Packaging Regulation (“CLP”) that could result in increased compliance costs, additional restrictions, and/or bans of chemicals used or produced by us. In the U.S., changes to the U.S. Environmental Protection Agency’s risk evaluation process under the Toxic Substances Control Act (“TSCA”) could also result in additional restrictions and/or bans of chemicals used or produced by us.

Assessments under TSCA, REACH or similar programs or regulations in other state or national jurisdictions may result in heightened concerns about the chemicals we use or produce and may result in additional requirements or bans being placed on the production, handling, labeling or use of those chemicals. Such concerns and additional requirements could also increase the cost incurred by our customers to use our chemical products and otherwise limit the use of these products, which could lead to a decrease in demand for these products. Such a decrease in demand could have an adverse impact on our business and results of operations. International regulators, investors, consumers and other stakeholders are focused on environmental, social, and governance (“ESG”) considerations. ESG disclosure obligations have required and may continue to require us to implement new practices and reporting processes and have created and will continue to create additional compliance risk. If we are unable to meet our circularity, greenhouse gas reduction, diversity, equity and inclusion, or other goals, or if we are perceived by regulators, customers, stockholders or employees to have not responded appropriately to the growing concern for these issues, our reputation, and therefore our ability to sell our products, could be negatively impacted. If, as a result of their assessment of our ESG performance, certain investors are unsatisfied with our actions or progress, they may reconsider their investment in our shares or debt securities. Alternatively, as “anti-ESG” sentiment exists among some individuals and government institutions, we may also face scrutiny, reputational risk, lawsuits or market access restrictions from these parties regarding our ESG initiatives. Providers of debt and equity financing may also consider our sustainability performance and external ESG ratings, which we have limited ability to influence, which could impact our cost of capital and adversely affect our business.

The physical impacts of climate change can negatively impact our facilities and operations.

Potential physical impacts of climate change include increased frequency and severity of hurricanes and floods as well as freezing conditions, tornadoes, and global sea level rise. Although we have preparedness plans in place designed to minimize impacts and enhance safety, should an event occur, it could have the potential to disrupt our supply chain and operations. A number of our facilities are located on the U.S. Gulf Coast, which has been impacted by hurricanes that have required us to temporarily shut down operations at those sites. Our sites rely on rivers and other waterways for transportation that may experience restrictions in times of drought or other unseasonal weather variation. In addition, scarcity of water and drought conditions due to climate change could reduce the availability of fresh water needed to produce our products which could increase our costs of operations.

Increased regulation or deselection of plastic could lead to a decrease in demand growth for some of our products.

There is a growing concern with the accumulation of plastic, plastic additives, and microplastics in the environment, particularly in waterways and oceans. Additionally, plastics are facing increased public backlash and scrutiny, as well as governmental investigations and enforcement, and private litigation. Policy measures to address these concerns are being discussed or implemented by governments at all levels. For example, over the past two years the United Nations Environment Program has been overseeing the development of a new international legally binding instrument on plastic pollution. While these international negotiations have been challenging, significant progress has been made with a goal of finalizing this treaty by the end of 2025. The European Union has been undertaking a series of actions under its Circular Economy Action Plan, including adoption of the Single Use Plastics Directive in 2019, which introduced policy measures for single use plastics including bans, product design requirements, extended producer responsibility obligations, and labeling requirements, and adoption of the Packaging and Packaging Waste Regulation to replace the Packaging and Packaging Waste Directive. In addition, a host of single-use plastic bans, taxes and Extended Producer Responsibility (EPR) bills have been passed by countries around the world and states and municipalities throughout the U.S. Consumer deselection, increased regulation of, or prohibition on, the manufacturing or use of plastic or plastic products could limit the use of these products or increase the costs incurred by our customers to use such products, and could lead to a decrease in demand, particularly for fossil-based PE, PP, and other products we make. Such a decrease in demand could adversely affect our business, operating results, and financial condition.

Failure to effectively and timely achieve our GHG emissions reduction goals could damage our reputation and have an adverse effect on the demand for our products.

We have set GHG emissions reduction targets for 2030 and aim to achieve net zero scope 1 and 2 GHG emissions by 2050. Our ability to achieve these goals depends on many factors, including the development and availability of technology, our ability to secure permits and emissions credits, project execution risk, the availability of infrastructure, the availability of suppliers, the availability of supportive governmental policies and markets, to evolving regulatory requirements, competitor actions, and customer and consumer preferences. We may also not timely adapt to changes or methods in carbon pricing that could increase our costs and reduce our competitiveness. The cost associated with our GHG emissions reduction goals could be significant. We also participate, along with other companies, institutes, universities, trade associations and other organizations, in various initiatives, campaigns, and other projects that express various ambitions, aspirations and goals related to climate change, emissions and energy transition. Our individual ambitions, future performance or policies may differ from the ambitions of those organizations or the individual ambitions of other participants in these various initiatives, campaigns, and other projects, and we may unilaterally change our own ambitions, aspirations and goals. Failure to achieve our emissions targets could result in reputational harm, enforcement or litigation, changing investor sentiment regarding investment in LyondellBasell or a negative impact on access to and cost of capital.

Failure to achieve our circularity goals could have an adverse effect on the demand for our products and damage our reputation.

In September 2020, we announced a circularity goal of producing and marketing at least two million metric tons of recycled and renewable-based polymers annually by 2030. Many of our customers also have goals to increase the recycled and renewable content in their own products and packaging. Our ability to achieve this goal depends on many factors, including the availability of collection and sortation infrastructure, evolving regulations on chemical recycling and recycled content, our ability to grow our CLCS business, established in 2022, make investments in new technologies, expand the global footprint of our recycling facilities and joint ventures, secure access to feedstock, and manufacture recycled and low carbon products at commercial scale. In 2024, we began construction on our first industrial-scale chemical recycling plant at our site in Wesseling, Germany, which utilizes our proprietary *MoReTec* technology, and we may encounter difficulties in the construction or operation of the facility, or the implementation of *MoReTec* technology at that scale, which could negatively impact our ability to achieve our goals and damage our reputation with customers and other stakeholders.

General Risk Factors

Increased IT and cybersecurity threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, data, products, facilities and services, and the expansion of related regulatory requirements could increase our costs and disrupt our operations.

Increased global information cybersecurity threats and more sophisticated, targeted computer crime pose a risk to the confidentiality, availability and integrity of our data, operations and infrastructure. Our cybersecurity and infrastructure protection technologies, disaster recovery plans and systems, employee training and vendor risk management may not be sufficient to defend us against all unauthorized attempts to access our information or impact our systems. We – and our third-party vendors and service providers – have been and may in the future be subject to cybersecurity events of varying degrees. To date, the impacts of prior events have not had a material adverse effect on us, however, there is no assurance that such an event has not already occurred and we are unaware of it, or that we will not suffer a cybersecurity breach and loss in the future. We devote significant resources to prevent cybersecurity events, incidents, and breaches and to protect our data, but our systems and procedures for identifying and protecting against such attacks and mitigating such risks may prove to be insufficient due to system vulnerabilities, human error or malfeasance, or other factors.

Cybersecurity events involving our information technology systems or those of our third-party vendors and service providers can result in disclosure, unavailability, loss of integrity, theft, destruction, loss, misappropriation or release of confidential financial data, regulated personally identifying or identifiable information, intellectual property and other information; give rise to remediation or other expenses; result in litigation, claims and increased regulatory review or scrutiny; reduce our customers' willingness to do business with us; disrupt our operations and the services we provide to customers; and subject us to litigation and legal liability under international, U.S. federal and state laws and regulations. Any of such results could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

We are subject to a variety of laws and regulations in Europe, the United States and other jurisdictions regarding privacy, data protection, and data security, including those related to the collection, storage, handling, use, disclosure, transfer, and security of personal data, and impose obligations on us to ensure transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity, confidentiality, and accountability. Compliance with and interpretation of various data privacy regulations continue to evolve, and any violation could subject us to legal claims, regulatory penalties, and damage to our reputation.

In addition, the complex and dynamic regulatory environment surrounding artificial intelligence ("AI"), including generative AI, subjects us to a variety of risks. These risks include, but are not limited to, data privacy and security vulnerabilities, intellectual property patent, copyright, and misappropriation claims, unauthorized third-party usage of data associated with training models, and malicious use and advanced deceitful communication methods. AI may be leveraged by threat actors to enhance the volume and sophistication of their attacks, potentially resulting in a cybersecurity event affecting us or our suppliers. Furthermore, we face potential missed innovation opportunities and competitive disadvantages. The evolving nature of AI regulations, such as the European Union Artificial Intelligence Act and other global legislative efforts, adds to the uncertainty and complexity of compliance. Changes in these regulations may require significant adjustments to our AI strategies and operations, potentially leading to increased costs and operational disruptions.

Many of our businesses depend on our intellectual property. Our future success will depend in part on our ability to develop new technologies and protect our intellectual property rights, and our inability to do so could reduce our ability to maintain our competitiveness and margins.

We have a significant worldwide patent portfolio of issued and pending patents, and our future results could be impacted by our ability to successfully develop and protect new processes and technologies. Our patents and patent applications, together with proprietary technical know-how, are significant to our competitive position, particularly with regard to PO, intermediate chemicals, polyolefins, licensing and catalysts. We rely on the patent, copyright and trade secret laws of the countries in which we operate to protect our investment in research and development, manufacturing and marketing. We operate plants, sell catalysts and products, participate in joint ventures, and license our process technology in many foreign jurisdictions, including those having heightened risks for intellectual property. In some of these instances, we must disclose at least a portion of our technology to third parties or regulatory bodies. In these cases, we rely primarily on contracts and trade secret laws to protect the associated trade secrets. However, we may be unable to prevent third parties from using our intellectual property without authorization. Proceedings to protect these rights could be costly, and we may not prevail.

The failure of our patents or confidentiality agreements to protect our processes, apparatuses, technology, trade secrets or proprietary know-how could result in significantly lower revenues, reduced profit margins and cash flows and/or loss of market share. We also may be subject to claims that our technology, patents or other intellectual property infringes on a third party's intellectual property rights. Unfavorable resolution of these claims could result in restrictions on our ability to deliver the related service or in a settlement that could be material to us.

Adverse results of legal proceedings could materially adversely affect us.

We are subject to and may in the future be subject to a variety of legal proceedings, claims, and controversies that arise out of the ordinary conduct of our business. Results and timing of these legal matters cannot be predicted with certainty. Irrespective of the merits, litigation and dispute resolution may be both lengthy and disruptive to our operations and may cause significant expenditure and diversion of management attention. We may be faced with significant monetary damages or injunctive relief against us that could have an adverse impact on our business and results of operations should we fail to prevail in certain matters.

For example, in 2024, we were named as one defendant in two separate proposed class action cases related to industry-wide claims about plastics recyclability. The claims made in litigation filed in Kansas are related to alleged public nuisance from plastic waste in the environment, and litigation filed in Missouri seeks damages under antitrust, unfair competition and consumer protection laws. Although the Kansas case was subsequently dismissed, the Missouri case is still pending, and it is possible that similar cases in the future could result in significant fines or damages, or injunctive action that could adversely affect our ability to conduct our business or negatively impact our financial condition or results of operations.

If we lose key employees or are unable to attract and retain the employees we need, our business and operating results could be adversely affected.

Our success depends on our ability to attract and retain key personnel, and we rely heavily on our management team. The inability to recruit and retain key personnel or the unexpected loss of key personnel may adversely affect our operations. In addition, because of the reliance on our management team, our future success depends in part on our ability to identify and develop talent to succeed senior management. The retention of key personnel and appropriate senior management succession planning will continue to be critically important to the successful implementation of our strategies.

There is substantial and continuous competition for engineering, manufacturing, and operations employees. We may not be successful in attracting and retaining such personnel, and we may experience increased compensation and training costs that may not be offset by either improved productivity or higher sales. We have from time to time experienced, and we may continue to experience, difficulty in hiring and retaining employees with appropriate qualifications, and may not be able to fill positions in desired geographic areas or at all.

Significant changes in pension fund investment performance or assumptions relating to pension costs may adversely affect the valuation of pension obligations, the funded status of pension plans, and our pension cost.

Our pension cost is materially affected by the discount rates used to measure pension obligations, the level of plan assets available to fund those obligations at the measurement date and the expected long-term rates of return on plan assets. Significant changes in investment performance or a change in the portfolio mix of invested assets may result in corresponding increases and decreases in the value of plan assets, particularly equity securities, or in a change of the expected rate of return on plan assets. Any changes in key actuarial assumptions, such as the discount rate or mortality rate, would impact the valuation of pension obligations, affecting the reported funded status of our pension plans as well as the net periodic pension cost in the following fiscal years.

Many of our current pension plans have projected benefit obligations that exceed the fair value of the plan assets. As of December 31, 2024, the aggregate deficit was \$815 million. Any declines in the fair values of the pension plans' assets could require additional payments by us in order to maintain specified funding levels.

Our pension plans are subject to legislative and regulatory requirements of applicable jurisdictions, which could include, under certain circumstances, local governmental authority to terminate the plan.

See Note 14 to the Consolidated Financial Statements for additional information regarding pensions and other post-retirement benefits.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity.

We recognize sophisticated global cybersecurity threats and targeted computer crimes pose a continuously evolving 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, a 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 reports 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, and has over thirty years of leadership experience in technology, systems architecture, and cybersecurity.

Cybersecurity events are continuously monitored by global security operations centers staffed in the United States, European Union, and Asia Pacific regions with events and incidents being managed based upon 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 impact of emerging threats or regulatory changes, and monitoring active incidents. This committee also receives escalated alerts within 24-hours of confirmed cybersecurity events, and will determine the severity of the incident, engage with crisis management as necessary, and disseminate that information internally as appropriate and warranted. The Company's generative artificial intelligence 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.

Third-party service providers must meet baseline security requirements before they connect to our systems or manage sensitive information. They are evaluated based on risk, which is based on financial, operational, legal/regulatory, capacity, cybersecurity posture, and reputational impact. Additionally, high risk third-party service providers are continuously monitored for security health and active threats.

We recognize the risk posed by global cybersecurity threats, and our Board is regularly updated on emerging risks and maintains oversight of our cybersecurity program implemented to address them. In 2024, management provided a detailed cybersecurity update to the Board and led discussions on specific cybersecurity and process control topics at its May meeting. The Board also attended a training session led by outside counsel on the challenges public companies face with respect to cybersecurity and ransomware attacks in November.

While management is responsible for assessing and managing our day-to-day risks and control systems, the Audit Committee of the Board oversees our information technology and cybersecurity risks. The Committee conducts a comprehensive review of cybersecurity topics and reviews our programs and practices with management at least annually, and receives management's report on our cybersecurity dashboard, which summarizes key security metrics and activities, at each quarterly Committee meeting.

To further advance cybersecurity awareness, we are developing solutions to mitigate the impact of third-party fraudulent cyber activity, including public facing portals for potential and current partners with capability to report suspected phishing.

Our cybersecurity program includes, but is not limited to:

- annual cybersecurity education for all company computer users on relevant policies and standards, 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 network, applications and manufacturing facilities, using a combination of trusted suppliers and a dedicated, objective team;
- penetration, discovery and vulnerability assessments conducted daily;
- mobile threat protection mechanisms and policies;
- business continuity plans that are well documented and tested regularly; disaster recovery plans that are also well documented and tested at least annually; certain key financial applications that are tested at least semi-annually; and
- 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, management conducted ransomware simulation exercises and engaged outside consultants to perform external perimeter penetration testing.

While we attempt to mitigate cybersecurity risks by employing a number of measures, as described above, our employees, systems, networks, products, facilities and services remain potentially vulnerable to ransomware or sophisticated espionage. Depending on their nature and scope, such threats could potentially lead to the compromise of confidential information, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations or financial condition. As of February 27, 2025, we do not believe that any cybersecurity threats, including those resulting from any previous cybersecurity incidents, have materially affected, or are reasonably likely to materially affect, the Company, including its business strategy, results of operations or financial condition. See Item 1A. Risk Factors - General Risk Factors for additional information.

Item 3. Legal Proceedings.

Information regarding our litigation and other legal proceedings can be found in Note 17 to the Consolidated Financial Statements.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities.

Market and Dividend Information

Our shares were listed on the New York Stock Exchange (“NYSE”) on October 14, 2010 under the symbol “LYB.”

The payment of dividends or distributions in the future will be subject to the requirements of Dutch law and the discretion of our Board of Directors. The declaration of any future cash dividends and, if declared, the amount of any such dividends, will depend upon general business conditions, our financial condition, our earnings and cash flow, our capital requirements, financial covenants and other contractual restrictions on the payment of dividends or distributions.

We intend to continue to declare and pay quarterly dividends, with the goal of increasing the dividend over time, after giving consideration to our cash balances and expected results from operations. However, there can be no assurance that any dividends or distributions will be declared or paid in the future.

Holders

As of February 25, 2025, there were approximately 5,000 record holders of our shares, including Cede & Co. as nominee of the Depository Trust Company.

Equity Compensation Plan

See Part III, Item 11. Executive Compensation for information relating to the Company’s equity compensation plans.

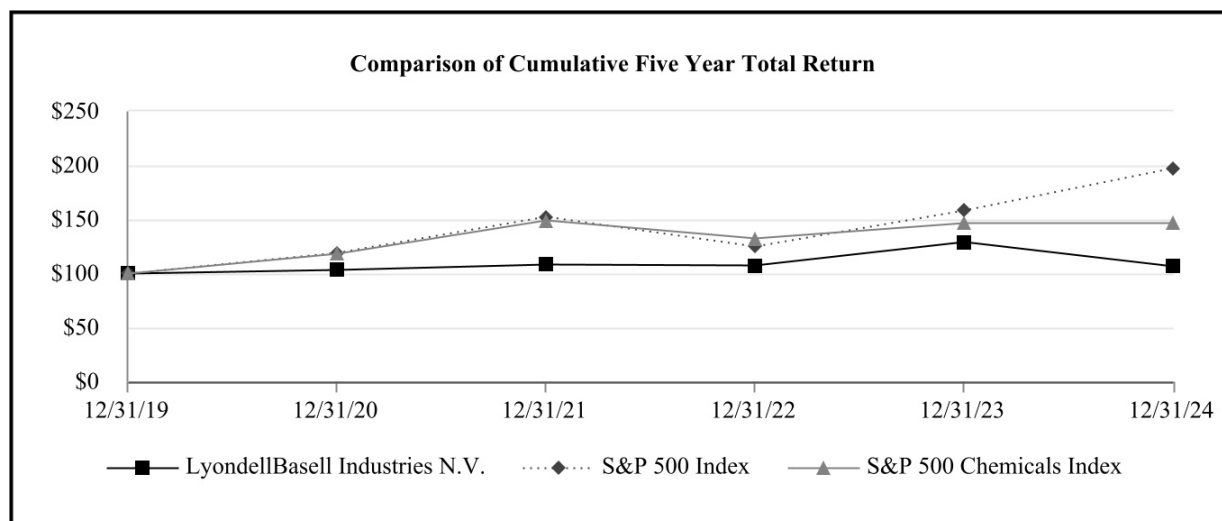
United Kingdom Tax Considerations

As a result of its United Kingdom tax residency, dividend distributions by LyondellBasell Industries N.V. to its shareholders are not subject to withholding tax, as the United Kingdom currently does not levy a withholding tax on dividend distributions.

Performance Graph

The performance graph and the information contained in this section is not “soliciting material,” is being furnished, not filed, with the SEC and is not to be incorporated by reference into any of our filings under the Securities Act or the Exchange Act whether made before or after the date hereof and irrespective of any general incorporation language contained in such filing.

The graph below shows the relative investment performance of LyondellBasell Industries N.V. shares, the S&P 500 Index and the S&P 500 Chemicals Index since December 31, 2019. The graph assumes that \$100 was invested on December 31, 2019 and any dividends paid were reinvested at the date of payment. The graph is presented pursuant to SEC rules and is not meant to be an indication of our future performance.



	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
LyondellBasell Industries N.V.	\$100.00	\$102.64	\$107.84	\$106.79	\$128.89	\$106.49
S&P 500 Index	\$100.00	\$118.40	\$152.39	\$124.79	\$157.59	\$197.02
S&P 500 Chemicals Index	\$100.00	\$118.05	\$148.63	\$131.89	\$146.45	\$146.15

Issuer Purchases of Equity Securities

<u>2024 Period</u>	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs
October 1 - October 31	—	\$ —	—	32,820,080
November 1 - November 30	384,698	\$ 85.80	384,698	32,435,382
December 1 - December 31	629,480	\$ 75.47	629,480	31,805,902
Total	1,014,178	\$ 79.39	1,014,178	31,805,902

On May 24, 2024, our shareholders approved a share repurchase authorization of up to 34.0 million ordinary shares, through November 24, 2025, which superseded any prior repurchase authorizations. The maximum number of shares that may yet be purchased is not necessarily an indication of the number of shares that will ultimately be purchased.

Item 6. Reserved

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

GENERAL

This discussion should be read in conjunction with the information contained in our Consolidated Financial Statements, and the accompanying notes elsewhere in this report. Unless otherwise indicated, the “Company,” “we,” “us,” “our” or similar words are used to refer to LyondellBasell Industries N.V. together with its consolidated subsidiaries (“LyondellBasell N.V.”).

The discussion summarizing the significant factors affecting the results of operations and financial condition for the year ended December 31, 2022 and for the year ended December 31, 2023 compared to 2022 has been excluded from this Form 10-K and can be found in Part II, “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our Annual Report on Form 10-K for the year ended December 31, 2023 which was filed with the Securities and Exchange Commission on February 22, 2024 of which Item 7 is incorporated herein by reference.

OVERVIEW

Results for 2024 decreased when compared to 2023 as impairments recognized in 2024 primarily in our Olefins and Polyolefins-Europe, Asia, International (“O&P-EAI”) segment were partially offset by impairment charges recognized in 2023 in our Advanced Polymer Solutions (“APS”) and Intermediates & Derivatives (“I&D”) segments. Throughout 2024, petrochemical markets faced headwinds from soft global demand, rising raw material costs and economic uncertainty. Markets were broadly pressured by weak demand for durable goods, which impacted margins in the company's Olefins and Polyolefins-Americas (“O&P-Americas”), O&P-EAI and I&D segments. Margins for our I&D and Refining segments fell due to lower crude oil prices and gasoline crack spreads. These decreases were offset by industry cracker outages which benefited olefins margins in our O&P-Americas segment. Margin recovery in the APS segment was limited by global declines in automotive production.

We remain committed to our balanced and disciplined capital allocation strategy. During 2024, we generated \$3,819 million in cash from operating activities, invested \$1,839 million in capital expenditures and returned \$1,915 million to shareholders through dividend payments and share repurchases.

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Results of operations for the periods discussed are presented in the table below.

Millions of dollars	Year Ended December 31,	
	2024	2023
Sales and other operating revenues	\$ 40,302	\$ 41,107
Cost of sales	35,738	35,849
Impairments	949	518
Selling, general and administrative expenses	1,663	1,557
Research and development expenses	135	130
Operating income	1,817	3,053
Interest expense	(481)	(477)
Interest income	150	129
Gain on sale of business	284	—
Other income (expense), net	50	(58)
Loss from equity investments	(217)	(20)
Income from continuing operations before income taxes	1,603	2,627
Provision for income taxes	240	501
Income from continuing operations	1,363	2,126
Income (loss) from discontinued operations, net of tax	4	(5)
Net income	1,367	2,121
Other comprehensive income (loss), net of tax –		
Financial derivatives	115	(80)
Defined benefit pension and other postretirement benefit plans	(2)	(97)
Foreign currency translations	(169)	73
Total other comprehensive income (loss), net of tax	(56)	(104)
Comprehensive income	\$ 1,311	\$ 2,017

RESULTS OF OPERATIONS

Revenues—Revenues decreased by \$805 million, or 2%, in 2024 compared to 2023. Lower average sales prices driven by lower demand resulted in a 2% decrease in revenues.

Cost of Sales—Cost of sales remained relatively unchanged, in 2024 compared to 2023. Fluctuations in our cost of sales are generally driven by changes in feedstock and energy costs. On an annual basis, feedstock and energy related costs generally represent approximately 75% to 80% of cost of sales. Other variable costs account for approximately 10% of cost of sales and fixed operating costs, consisting primarily of expenses associated with employee compensation, depreciation and amortization, and maintenance, account for the remainder.

Impairments—During 2024, we recognized non-cash impairment charges of \$949 million, primarily consisting of impairments of property, plant and equipment of \$892 million in our O&P-EAI and APS segments. During 2023, we recognized non-cash impairment charges of \$518 million, primarily consisting of a goodwill impairment charge of \$252 million in our APS segment and an impairment charge of \$192 million related to our European PO joint venture recognized in our I&D segment. See Notes 7, 8 and 20 to the Consolidated Financial Statements for additional information regarding impairment charges.

SG&A Expenses—Selling, general and administrative (“SG&A”) expenses increased by \$106 million, or 7%, in 2024 compared to 2023, primarily attributable to an increase in employee-related expenses.

Operating Income—Operating income decreased by \$1,236 million, or 40%, in 2024 compared to 2023. In 2024, Operating income decreased for our O&P-EAI, Refining, and I&D segments by \$848 million, \$434 million and \$311 million, respectively. Operating income for our APS, O&P-Americas and Technology segments increased by \$213 million, \$140 million and \$4 million, respectively, in 2024 compared to 2023. Results for each of our business segments are discussed further in the Segment Analysis section below.

Gain on Sale of Business—In the second quarter of 2024, we completed the sale of our Ethylene Oxide & Derivatives (“EO&D”) business and associated production facilities located in Bayport, Texas and recognized a pre-tax gain of \$284 million. See Note 20 to the Consolidated Financial Statements for additional information.

Loss from Equity Investments—Losses from equity investments increased \$197 million, or 985%, in 2024 compared to 2023. Approximately 82% of the change was driven by our O&P-EAI segment, primarily due to the recognition of a deferred tax valuation allowance charge by our Chinese joint venture. The remaining change was primarily driven by lower polypropylene margins at our Mexican joint venture in our O&P-Americas segment.

Income Taxes—Our effective income tax rates of 15.0% in 2024 and 19.1% in 2023 resulted in tax provisions of \$240 million and \$501 million, respectively. The lower effective tax rate for 2024 was primarily attributable to changes in earnings in countries with varying statutory tax rates, largely attributable to fourth quarter non-cash impairments decreasing the effective tax rate by 5.5% in comparison to 2023. There was a further decrease in the effective tax rate of 1.7% related to fluctuations in foreign exchange gains and losses, partially offset by an increase in the effective tax rate of 2.6% related to reduced exempt income in 2024. For additional information, see Note 16 to the Consolidated Financial Statements.

Comprehensive Income—Comprehensive income decreased by \$706 million in 2024 compared to 2023, primarily due to a decrease in net income. The activities from the remaining components of Comprehensive income are discussed below.

Financial derivatives designated as cash flow hedges, primarily our commodity swaps, led to an increase in Comprehensive income of \$195 million in 2024 compared to 2023, reflecting commodity pricing volatility. Defined benefit pension and other postretirement benefit plans led to an increase in Comprehensive income of \$95 million in 2024 compared to 2023, primarily due to actuarial gains resulting from higher-than-expected asset returns offset by a decrease in discount rates. Foreign currency translations decreased Comprehensive income by \$242 million in 2024 compared to 2023, primarily due to the strengthening of the U.S. dollar relative to the euro in 2024, offset by the effective portion of our net investment hedges. See Notes 13, 14 and 18 to the Consolidated Financial Statements for further discussions.

Segment Analysis

We use earnings from continuing operations before interest, income taxes, and depreciation and amortization (“EBITDA”) as our measure of profitability for segment reporting purposes. This measure of segment operating results is used by our chief operating decision maker to assess the performance of, and allocate resources to, our operating segments. Intersegment eliminations and items that are not directly related or allocated to business operations, such as foreign exchange gains or losses and components of pension and other post-retirement benefits other than service costs, are included in “Other.” See the table below for a reconciliation of EBITDA to its nearest generally accepted accounting principles (“GAAP”) measure.

The following table presents the reconciliation of Net Income to EBITDA for each of the periods presented:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Net income	\$ 1,367	\$ 2,121
(Income) loss from discontinued operations, net of tax	(4)	5
Income from continuing operations	1,363	2,126
Provision for income taxes	240	501
Depreciation and amortization	1,522	1,534
Interest expense, net	331	348
EBITDA	\$ 3,456	\$ 4,509

Our continuing operations are managed through six reportable segments: O&P-Americas, O&P-EAI, I&D, APS, Refining and Technology. Revenues and other information for the periods presented are reflected in the tables below for our reportable segments:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues:		
O&P-Americas segment	\$ 11,533	\$ 11,280
O&P-EAI segment	10,867	10,479
I&D segment	10,424	11,086
APS segment	3,634	3,698
Refining segment	8,559	9,714
Technology segment	671	663
Other, including intersegment eliminations	(5,386)	(5,813)
Total	\$ 40,302	\$ 41,107
Operating income (loss):		
O&P-Americas segment	\$ 1,805	\$ 1,665
O&P-EAI segment	(1,008)	(160)
I&D segment	951	1,262
APS segment	(48)	(261)
Refining segment	(213)	221
Technology segment	338	334
Other, including intersegment eliminations	(8)	(8)
Total	\$ 1,817	\$ 3,053

Millions of dollars	Year Ended December 31,	
	2024	2023
Depreciation and amortization:		
O&P-Americas segment	\$ 619	\$ 587
O&P-EAI segment	220	207
I&D segment	401	443
APS segment	90	98
Refining segment	150	158
Technology segment	42	41
Total	\$ 1,522	\$ 1,534
Income (loss) from equity investments:		
O&P-Americas segment	\$ 13	\$ 49
O&P-EAI segment	(217)	(55)
I&D segment	(13)	(13)
APS segment	—	(1)
Total	\$ (217)	\$ (20)
Impairments:		
O&P-Americas segment	\$ —	\$ 25
O&P-EAI segment	892	38
I&D segment	2	192
APS segment	55	252
Refining segment	—	11
Total	\$ 949	\$ 518
Gain on sale of business:		
I&D segment	\$ 284	\$ —
Total	\$ 284	\$ —
Other income (expense), net:		
O&P-Americas segment	\$ 8	\$ 2
O&P-EAI segment	14	(1)
I&D segment	41	(13)
APS segment	12	2
Refining segment	3	—
Technology segment	(1)	—
Other, including intersegment eliminations	(27)	(48)
Total	\$ 50	\$ (58)
EBITDA:		
O&P-Americas segment	\$ 2,445	\$ 2,303
O&P-EAI segment	(991)	(9)
I&D segment	1,664	1,679
APS segment	54	(162)
Refining segment	(60)	379
Technology segment	379	375
Other, including intersegment eliminations	(35)	(56)
Total	\$ 3,456	\$ 4,509

Olefins and Polyolefins-Americas Segment

Overview—EBITDA increased in 2024 relative to 2023 primarily due to improved olefins margins, partially offset by lower polymer margins.

In calculating the impact of margin and volume on EBITDA, consistent with industry practice, management offsets revenues and volumes related to ethylene co-products against the cost to produce ethylene. Volume and price impacts of ethylene co-products are reported in margin.

Ethylene Raw Materials—Ethylene and its co-products are produced from two major raw material groups:

- natural gas liquids (“NGLs”), principally ethane and propane, the prices of which are generally affected by natural gas prices; and
- crude oil-based liquids (“liquids” or “heavy liquids”), including naphtha, condensates and gas oils, the prices of which are generally related to crude oil prices.

We have flexibility to vary the raw material mix and process conditions in our U.S. olefins plants in order to maximize profitability as market prices fluctuate for both feedstocks and products. Although prices of crude-based liquids and natural gas liquids are generally related to crude oil and natural gas prices, during specific periods the relationships among these materials and benchmarks may vary significantly. Ethane made up approximately 75% and 70% of the raw materials used in our North American crackers in 2024 and 2023, respectively.

The following table sets forth selected financial information for the O&P-Americas segment including Income from equity investments, which is a component of EBITDA.

Millions of dollars	Year Ended December 31,	
	2024	2023
Sales and other operating revenues	\$ 11,533	\$ 11,280
Income from equity investments	13	49
EBITDA	2,445	2,303

Revenues—Revenues increased by \$253 million, or 2%, in 2024 compared to 2023. Higher average sales prices across most of our products resulted in a 5% increase in revenue. Lower co-product volumes driven by unplanned outages resulted in a 3% decrease in revenue.

EBITDA—EBITDA increased by \$142 million, or 6%, in 2024 compared to 2023. Higher olefins results led to a 19% increase in EBITDA primarily driven by higher margins resulting from higher ethylene prices due to industry cracker downtime and lower feedstock and energy cost. Lower polymer results led to a 5% decrease in EBITDA primarily due to lower margins reflecting higher monomer cost. During 2024 and 2023, we recognized a LIFO inventory charge of \$22 million and benefit of \$73 million, respectively, which resulted in a 4% decrease in EBITDA. EBITDA decreased 2% due to lower income from equity investments reflecting lower polypropylene margins at our joint venture in Mexico.

Olefins and Polyolefins-Europe, Asia, International Segment

Overview—EBITDA decreased in 2024 compared to 2023 primarily driven by an \$837 million non-cash impairment of property, plant and equipment related assets included in our European strategic review.

In calculating the impact of margin and volume on EBITDA, consistent with industry practice, management offsets revenues and volumes related to ethylene co-products against the cost to produce ethylene. Volume and price impacts of ethylene co-products are reported in margin.

Ethylene Raw Materials—In Europe, naphtha is the primary raw material for our ethylene production and represented approximately 60% and 65% of the raw materials used in 2024 and 2023, respectively.

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The following table sets forth selected financial information for the O&P-EAI segment including Loss from equity investments, which is a component of EBITDA.

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues	\$ 10,867	\$ 10,479
Loss from equity investments	(217)	(55)
EBITDA	(991)	(9)

Revenues—Revenues increased by \$388 million, or 4%, in 2024 compared to 2023. Higher average sales prices and volumes each resulted in a 2% increase in revenue primarily due to higher demand.

EBITDA—EBITDA decreased by \$982 million in 2024 compared to 2023. The decrease in EBITDA was largely driven by an \$837 million non-cash impairment of property, plant and equipment related to our European assets included in our strategic review. Increase in losses from equity investments of \$162 million, driven by a deferred tax valuation allowance recognized in the fourth quarter of 2024 by a Chinese joint venture reduced EBITDA. The remainder of the change was primarily driven by an increase in polymer results as margins improved due to higher average prices coupled with lower energy costs.

Intermediates and Derivatives Segment

Overview—EBITDA decreased in 2024 compared to 2023, primarily driven by lower oxyfuels and related products margins as a result of lower crude oil and gasoline pricing combined with lower blend premiums.

The following table sets forth selected financial information for the I&D segment including Loss from equity investments, which is a component of EBITDA.

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues	\$ 10,424	\$ 11,086
Loss from equity investments	(13)	(13)
EBITDA	1,664	1,679

Revenues—Revenues decreased by \$662 million, or 6%, in 2024 compared to 2023 driven by lower average sales prices for oxyfuels and related products as a result of lower gasoline crack spreads and blend premiums.

EBITDA—EBITDA decreased \$15 million, or 1%, in 2024 compared to 2023. Lower oxyfuels and related products margins driven by lower gasoline cracks in the US and Europe and lower oxyfuel prices as compared to the prior year drove a 43% decrease in EBITDA. The decrease was partially offset by increased oxyfuels and related products volumes primarily from our newest PO/TBA plant which drove an 11% increase in EBITDA. During 2024 we recognized a \$284 million gain on the sale of our EO&D business which resulted in a 17% increase in EBITDA. During 2023, we recognized a non-cash impairment charge of \$192 million related to our equity investment in the European PO joint venture. The absence of a similar charge in 2024 resulted in a 11% increase in EBITDA.

Advanced Polymer Solutions Segment

Overview—EBITDA increased in 2024 compared to 2023, largely due to a decrease in non-cash impairment charges.

The following table sets forth selected financial information for the APS segment including Loss from equity investments, which is a component of EBITDA.

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues	\$ 3,634	\$ 3,698
Loss from equity investments	—	(1)
EBITDA	54	(162)

Revenues—Revenues decreased in 2024 by \$64 million, or 2%, compared to 2023 as a result of lower average sales prices.

EBITDA—EBITDA increased in 2024 by \$216 million, or 133%, compared to 2023. During 2023, we recognized a non-cash goodwill impairment charge of \$252 million after the effect of moving our *Catalloy* and polybutene-1 businesses from our APS segment and reintegrating them into our O&P-Americas and O&P-EAI segments. During 2024, we recognized a non-cash impairment charge of \$55 million related to our specialty powders business. The change in impairment charges in 2024 relative to 2023 resulted in a 122% increase in EBITDA. Improved margins primarily driven by lower raw material cost and favorable mix resulted in a 16% increase in EBITDA.

Refining Segment

Overview—EBITDA decreased in 2024 relative to 2023 primarily due to lower margins.

The following table sets forth selected financial information and heavy crude oil processing rates for the Refining segment and the U.S. refining market margins for the applicable periods. “Brent” is a light sweet crude oil and is one of the main benchmark prices for purchases of oil worldwide. “Maya” is a heavy sour crude oil grade produced in Mexico that is a relevant benchmark for heavy sour crude oils in the U.S. Gulf Coast market. References to industry benchmarks for refining market margins are to industry prices reported by Platts, a division of S&P Global.

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues	\$ 8,559	\$ 9,714
EBITDA	(60)	379
<u>Thousands of barrels per day</u>		
Heavy crude oil processing rates	237	237
<u>Market margins, dollars per barrel</u>		
Brent - 2-1-1	\$ 16.16	\$ 25.71
Brent - Maya differential	11.49	13.26
Total Maya 2-1-1	\$ 27.65	\$ 38.97

Revenues—Revenues decreased by \$1,155 million, or 12%, in 2024 compared to 2023 driven by lower product prices reflecting lower margins on refined products.

EBITDA—EBITDA decreased by \$439 million or 116%, in 2024 compared to 2023. Lower margins drove a 152% decrease in EBITDA primarily due to a decrease in the Maya 2-1-1 industry crack spread of approximately \$11 per barrel to \$28 per barrel. A decrease in costs incurred related to our planned exit from the refining business in 2024 compared to 2023 resulted in a 25% increase in EBITDA.

Technology Segment

Overview—Our Technology segment recognizes revenues related to the sale of polyolefin catalysts and the licensing of chemical and polyolefin process technologies. These revenues are offset in part by the costs incurred in the production of catalysts, licensing and services activities and research and development (“R&D”) activities. In 2024 and 2023, our Technology segment incurred approximately 55% and 50% of all R&D costs, respectively.

EBITDA increased in 2024 compared to 2023 primarily due to higher licensing results partially offset by lower catalyst demand.

The following table sets forth selected financial information for the Technology segment.

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Sales and other operating revenues	\$ 671	\$ 663
EBITDA	379	375

Revenues—Revenues increased by \$8 million, or 1%, in 2024 compared to 2023. Higher licensing revenues resulting from a higher number of contracts reaching significant milestones drove a 3% increase in revenue. Higher catalyst prices drove a 1% increase in revenues. Lower catalyst volumes resulting from lower demand drove a 3% decrease in revenues.

EBITDA—EBITDA in 2024 increased by \$4 million, or 1%, compared to 2023. Licensing results led to a 6% increase in EBITDA resulting from more contracts reaching significant milestones. Lower catalyst volumes driven by lower demand resulted in a 4% decrease in EBITDA.

FINANCIAL CONDITION

The following table summarizes operating, investing and financing cash flow activities:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Cash provided by (used in):		
Operating activities	\$ 3,819	\$ 4,942
Investing activities	(1,853)	(1,777)
Financing activities	(1,895)	(1,950)

Operating Activities—Cash provided by operating activities of \$3,819 million in 2024 primarily reflected earnings adjusted for non-cash items and cash used by the main components of working capital—Accounts receivable, Inventories and Accounts payable.

In 2024, the main components of working capital provided \$30 million of cash driven by a decrease in Accounts receivable and Inventories, partially offset by a decrease in Accounts payable. The decrease in Accounts receivable was due to lower average sales prices coupled with timing of sales and customer payments. The decrease in Inventories was primarily driven by higher sales volumes, slightly offset by inventory build in anticipation of turnarounds in the first quarter of 2025. The decrease in Accounts payable was driven by decreased raw material costs, partially offset by timing of payments.

Cash provided by operating activities of \$4,942 million in 2023 primarily reflected earnings adjusted for non-cash items and cash provided by the main components of working capital.

In 2023, the main components of working capital provided \$269 million of cash driven by a decrease in Accounts receivable and an increase in Accounts payable. The decrease in Accounts receivable was primarily due to lower revenues in our O&P-Americas, O&P-EAI and APS segments, primarily driven by lower average sales prices. The increase in Accounts payable was primarily driven by higher feedstock and energy costs in our O&P-Americas segment.

Investing Activities—Capital expenditures in 2024 totaled \$1,839 million compared to \$1,531 million in 2023, of which approximately 75% and 70%, respectively, support sustaining maintenance such as turnaround activities at several sites as well as other plant Health, Safety and Environmental projects. The remaining expenditures support profit-generating growth projects. See Note 20 to the Consolidated Financial Statements for additional information regarding capital spending by segment.

In 2024, we sold our EO&D business for \$689 million and invested approximately \$500 million to acquire a 35% stake in the National Petrochemical Industrial Company (“NATPET”) joint venture. See Notes 8 and 20 to the Consolidated Financial Statements for additional information.

In 2024, foreign currency contracts with an aggregate notional value of €850 million expired. Upon settlement of these foreign currency contracts, we paid €850 million (\$921 million at the expiry spot rate) to our counterparties and received \$967 million from our counterparties.

In 2023, foreign currency contracts with an aggregate notional value of €750 million expired. Upon settlement of these foreign currency contracts, we paid €750 million (\$820 million at the expiry spot rate) to our counterparties and received \$903 million from our counterparties.

Financing Activities—We made dividend payments totaling \$1,720 million and \$1,610 million, in 2024 and 2023, respectively. Additionally, in 2024 and 2023, we made payments of \$195 million and \$211 million to repurchase outstanding ordinary shares, respectively. For additional information related to our share repurchases and dividend payments, see Note 18 to the Consolidated Financial Statements.

In 2024, we issued \$750 million of 5.5% guaranteed notes due 2034. Additionally, we repaid the \$775 million remaining of outstanding principal on our 5.75% senior notes due 2024.

In 2023, we issued \$500 million of 5.625% guaranteed notes due 2033. Additionally, we repaid the \$425 million remaining of outstanding principal on our 4.0% guaranteed notes due 2023. For additional detail regarding these debt transactions see Note 11 to the Consolidated Financial Statements.

In 2023, we made net repayments of \$200 million through the issuance and repurchase of commercial paper instruments under our commercial paper program.

In 2024, foreign currency contracts with an aggregate notional value of €784 million expired. Upon settlement of these foreign currency contracts, which were designated as cash flow hedges, we paid €784 million (\$835 million at the expiry spot rate) to our counterparties and received \$849 million from our counterparties.

For additional information related to our swaps and currency contracts, see Note 13 to the Consolidated Financial Statements.

Liquidity and Capital Resources

Overview

We plan to fund our working capital, capital expenditures, debt service, dividends and other cash requirements with our current available liquidity and cash from operations, which could be affected by general economic, financial, competitive, legislative, regulatory, business and other factors, many of which are beyond our control. Debt repayment, and the purchase of shares under our share repurchase authorization, may be funded from cash and cash equivalents, cash from short-term investments, cash from operating activities, proceeds from the issuance of debt, or a combination thereof.

As part of our overall capital allocation strategy, we plan to provide returns to shareholders in the form of dividends and share repurchases. Barring any significant or unforeseen business challenges, mergers or acquisitions, over the long-term, we are targeting shareholder returns of 70% of free cash flow, defined as net cash provided by operating activities less capital expenditures. We intend to continue to declare and pay quarterly dividends, with the goal of increasing the dividend over time, after giving consideration to our cash balances and expected results from operations. Our focus on funding our dividends while remaining committed to a strong investment grade balance sheet continues to be the foundation of our capital allocation strategy.

Cash and Liquid Investments

As of December 31, 2024, we had Cash and cash equivalents totaling \$3,375 million, which includes \$1,172 million in jurisdictions outside of the U.S., primarily held within the European Union. There are currently no legal or economic restrictions that would materially impede our transfers of cash.

Credit Arrangements

At December 31, 2024, we had total debt, including current maturities, of \$11,149 million. Additionally, we had \$174 million of outstanding letters of credit, bank guarantees and surety bonds issued under uncommitted credit facilities.

We had total unused availability under our credit facilities of \$4,650 million at December 31, 2024, which included the following:

- \$3,750 million under our \$3,750 million Senior Revolving Credit Facility. This facility backs our \$2,500 million commercial paper program. Availability under this facility is net of outstanding borrowings, outstanding letters of credit provided under the facility and notes issued under our commercial paper program. At December 31, 2024, we had no outstanding commercial paper and no borrowings or letters of credit outstanding under this facility; and
- \$900 million under our \$900 million U.S. Receivables Facility. Availability under this facility is subject to a borrowing base of eligible receivables, which is reduced by outstanding borrowings and letters of credit, if any. At December 31, 2024, we had no borrowings or letters of credit outstanding under this facility.

In 2024, we amended some terms of our credit agreements. See Note 11 to the Consolidated Financial Statements for additional details.

At any time and from time to time, we may repay or redeem our outstanding debt, including purchases of our outstanding bonds in the open market, through privately negotiated transactions or a combination thereof, in each case using cash and cash equivalents, cash from our short-term investments, cash from operating activities, proceeds from the issuance of debt or proceeds from asset divestitures. Any repayment or redemption of our debt will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. In connection with such repurchases or redemptions, we may incur cash and non-cash charges, which could be material in the period in which they are incurred.

In accordance with our current interest rate risk management strategy and subject to management's evaluation of market conditions and the availability of favorable interest rates among other factors, we may from time to time enter into interest rate swap agreements to economically convert a portion of our fixed rate debt to variable rate debt or convert a portion of our variable rate debt to fixed rate debt.

Share Repurchases

In May 2024, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares, through November 24, 2025, which superseded any prior repurchase authorizations. Our share repurchase authorization does not have a stated dollar amount, and purchases may be made through open market purchases, private market transactions or other structured transactions. Repurchased shares could be retired or used for general corporate purposes, including for various employee benefit and compensation plans. The maximum number of shares that may yet be purchased is not necessarily an indication of the number of shares that will ultimately be purchased. In 2024, we purchased 2.2 million shares under our share repurchase authorization for \$198 million.

As of February 25, 2025, we had approximately 31.1 million shares remaining under the current authorization. The timing and amounts of additional shares repurchased, if any, will be determined based on our evaluation of market conditions and other factors, including any additional authorizations approved by our shareholders. For additional information related to our share repurchase authorizations, see Note 18 to the Consolidated Financial Statements.

Capital Budget

In 2025, we are planning to invest approximately \$1.9 billion in capital expenditures. Approximately \$1.2 billion of the 2025 budget is planned for sustaining maintenance, with the remaining budget supporting profit-generating growth projects. Our profit-generating growth project budget includes approximately \$350 million, for projects that support our sustainability goals, including investments in emissions reduction and our CLCS business. Our capital spending plans are aligned with our strategic pillars.

Cash Requirements from Contractual and Other Obligations

As part of our ongoing operations, we enter into contractual arrangements that may require us to make future cash payments under certain circumstances. Our cash requirements related to contractual and other obligations primarily consist of purchase obligations, principal and interest payments on outstanding debt, lease payments, pension and other post-retirement benefits and income taxes. For more information regarding our debt arrangements, lease obligations, pension and other post-retirement benefits and income taxes, see Notes 11, 12, 14 and 16 to the Consolidated Financial Statements, respectively.

We are party to obligations to purchase raw materials, utilities and industrial gases which are designed to ensure sources of supply and are not expected to be in excess of normal requirements. These purchase arrangements include provisions which state minimum purchase quantities or fixed-fees; however, in the event we do not take the contractual minimum volumes, we are obligated to compensate the vendor only for any resulting economic losses they suffer. No material fees were paid to vendors for such losses in 2024. Assuming that contractual minimum volumes are purchased at contract prices as of December 31, 2024, these commitments represent approximately 15% of our annual Cost of sales with a weighted average remaining term of 8 years.

We also have purchase obligations under take-or-pay agreements which require us to either buy and take delivery of a minimum quantity of goods or to pay for any shortfall. These arrangements largely relate to product off-take agreements with a joint venture located in Poland. No material shortfall was paid for quantities not taken under these contracts in 2024. When valued using a contract price as of December 31, 2024, these commitments represent approximately 5% of our annual Cost of sales with a weighted average remaining term of 14 years.

CURRENT BUSINESS OUTLOOK

In 2025 we remain watchful and prepared for the macroeconomic catalysts that will eventually drive restocking of supply chains, improve demand for durable goods and support a more broad-based economic recovery. One indicator of recovery is that North American domestic demand for polyolefins rebounded in 2024, after two years of declines. Increased driving and summertime gasoline specifications should lead to typical seasonal improvements in oxyfuels margins. We expect a gradual recovery in oxyfuel margins over the summer months, with strong octane premiums and the relatively low cost of butane raw materials supportive of long-term oxyfuels fundamentals. Tariff and trade uncertainties are potential headwinds. Our refining operations will cease in the first quarter of 2025, a strategic milestone paving the way for continued growth in circular and low-carbon feedstocks and products. We are aligning our first quarter operating rates with global demand and expect to operate our O&P-Americas, O&P-EAI and I&D assets at approximately 80%, 75% and 80%, respectively.

Value Enhancement Program (“VEP”)

During 2022, we introduced our VEP, which expands capacity through low-cost debottlenecks and improved reliability, reduces costs and emissions by saving energy and increases margins through improvements in procurement, logistics and customer service. We estimate Net income and recurring annual EBITDA benefits for the VEP based on 2017 through 2019 mid-cycle margins and modest inflation relative to a 2021 baseline year. We believe recurring annual EBITDA is useful to investors because it represents a key measure used by management to assess progress towards our strategy of value creation.

At the end of 2024, we estimated VEP benefits to have a year-end annual run rate of approximately \$610 million of Net income which, after adding back income taxes and depreciation and amortization of \$155 million and \$35 million, respectively, results in approximately \$800 million of recurring annual EBITDA. We incurred one-time costs of approximately \$200 million per year in 2023 and 2024 related to our Value Enhancement Program.

We anticipate that our VEP will achieve a 2025 year-end annual run rate of approximately \$760 million of Net income, which, after adding back income taxes and depreciation and amortization of approximately \$190 million and \$50 million, respectively, results in approximately \$1,000 million of recurring annual EBITDA. We estimate incurring one-time costs of \$200 million in 2025 related to our Value Enhancement Program.

RELATED PARTY TRANSACTIONS

We have related party transactions with our joint ventures. We believe that such transactions are affected on terms substantially no more or less favorable than those that would have been agreed upon by unrelated parties on an arm's length basis. See Note 4 to the Consolidated Financial Statements for additional related party disclosures.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Management applies those accounting policies that it believes best reflect the underlying business and economic events, consistent with accounting principles generally accepted in the U.S., see Note 2 to the Consolidated Financial Statements. Inherent in such policies are certain key assumptions and estimates made by management and updated periodically based on its latest assessment of the current and projected business and general economic environment.

Management believes the following accounting policies and estimates, and the judgments and uncertainties affecting them, are critical in understanding our reported operating results and financial condition.

Inventories—We account for our raw materials, work-in-progress and finished goods inventories using the last-in, first-out (“LIFO”) method of accounting.

The cost of raw materials, which represents a substantial portion of our operating expenses, and energy costs generally follow price trends for crude oil and/or natural gas. Crude oil and natural gas prices are subject to many factors, including changes in economic conditions.

Since our inventory consists of manufactured products derived from crude oil, natural gas, natural gas liquids and correlated materials, as well as the associated feedstocks and intermediate chemicals, our inventory market values are generally influenced by changes in the benchmark of crude oil and heavy liquid values and prices for manufactured finished goods. The degree of influence of a particular benchmark may vary from period to period, as the composition of the dollar value LIFO pools change. An actual valuation of inventory under the LIFO method is performed at the end of each year based on the inventory levels and costs at that time. Accordingly, interim LIFO calculations are based on our estimates of expected inventory levels and costs at the end of the year.

LIFO value is measured at the total pool level. The impact of the measurement of each LIFO pool at the lower of cost or market value (“LCM”) is a function of the current market prices and the composition, or product mix, of inventory within the pool at the balance sheet date. Due to the compositions of our LIFO pools, changes in market prices of the materials within the pool from period-to-period do not necessarily correlate with LCM charges. An LCM condition may arise due to a volumetric or price decline in a particular material that had previously provided a positive impact within a pool.

As indicated above, 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 market prices recover. Accordingly, our cost of sales and results of operations may be affected by such fluctuations.

We do not believe any of our inventory is at risk for impairment at this time, however as prices for our products and raw materials are inherently volatile, no prediction can be given with certainty. Given the inherent volatility in the prices of our finished goods and raw materials, sustained price declines could result in LCM inventory valuation charges.

Long-Lived Assets Impairment Assessment—The need to test for impairment can be based on several indicators, including a significant reduction in prices of or demand for products produced, a weakened outlook for profitability, a significant reduction in margins, an expectation that a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life, other changes to contracts or changes in the regulatory environment. If the sum of the undiscounted estimated pre-tax cash flows for an asset group is less than the asset group’s carrying value, fair value is calculated for the asset group using an income approach or a market approach when appropriate, and the carrying value is written down to the calculated fair value. For purposes of impairment evaluation, long-lived assets including finite-lived intangible assets must be grouped at the lowest level for which independent cash flows can be identified.

Significant judgment is involved in developing estimates of future cash flows since the results are based on forecasted financial information prepared using significant assumptions which may include, among other things, projected changes in supply and demand fundamentals (including industry-wide capacity, our planned utilization rate and end-user demand), new technological developments, capital expenditures, new competitors with significant raw material or other cost advantages, changes associated with world economies, the cyclical nature of the chemical and refining industries, uncertainties associated with governmental actions and other economic conditions. Such estimates are consistent with those used in our financial planning and business performance reviews.

When an income approach is used to estimate fair value of our long-lived assets, the cash flows are discounted using a rate that is based on a variety of factors, including market and economic conditions, operational risk, regulatory risk and political risk. This discount rate is also compared to recent observable market transactions, if possible.

In conjunction with our fourth quarter 2024 quarterly asset impairment analysis, we recognized non-cash impairment charges related to property, plant and equipment of \$837 million in our O&P-EAI segment related to the European assets under strategic review and \$55 million in our APS segment related to our specialty powders business. See Note 7 to the Consolidated Financial Statements for additional information.

The estimated fair values for the European assets and specialty powders business were calculated using a discounted cash flow method under the income approach and assumptions including management's view on long-term growth rates in our industry, discount rates and other assumptions based on a market participant perspective. In the fourth quarter of 2024 we launched a marketing effort to gauge market interest in the European assets included in our strategic review. Fair value indicators obtained through our marketing efforts were also considered. These estimates required considerable judgment and are sensitive to changes in underlying assumptions such as future commodity prices, margins, operating rates and capital expenditures including repairs and maintenance. As a result, there can be no assurance that the estimates and assumptions made for purposes of our impairment determination will prove to be an accurate prediction of the future. Should our estimates and assumptions significantly change in future periods, it is possible that we may determine future impairment charges.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions, including pricing, volumes, discount rates, and market information provided by unrelated third parties that can materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions. Property, plant and equipment impairments incurred represent a full write down of the assets, sensitivity analysis would not change the outcome of the impairment assessment.

Equity Method Investments Impairment—Investments in nonconsolidated entities accounted for under the equity method are assessed for impairment when there are indicators of a loss in value, such as a lack of sustained earnings capacity or a current fair value less than the investment's carrying amount. When it is determined such a loss in value is other than temporary, an impairment charge is recognized for the difference between the investment's carrying value and its estimated fair value. When determining whether a decline in value is other than temporary, management considers factors such as the duration and extent of the decline, the investee's financial condition and near-term prospects, and our ability and intention to retain our investment for a period that will be sufficient to allow for any anticipated recovery in the value of the investment. Management's estimate of fair value of an investment is based on the income approach and/or market approach. For the income approach, the fair value is typically based on the present value of expected future cash flows using discount rates believed to be consistent with those used by principal market participants. For the market approach, since quoted market prices are usually not available, we utilize market multiples of revenue and earnings derived from comparable publicly traded industrial gases companies.

During the fourth quarter of 2023, a trend of adverse financial performance triggered an impairment analysis of our investment in our European PO joint venture. We concluded the asset was impaired and recorded a non-cash impairment charge of \$192 million. The fair value of our investment in the joint venture was determined using an income approach which utilized unobservable inputs, which generally consist of market information provided by unrelated third parties. Our fair value estimate was based on significant assumptions including management's best estimates of the expected future cash flows. These estimates required considerable judgment and are sensitive to changes in underlying assumptions such as future commodity prices and PO/SM margins. As a result, there can be no assurance that the estimates and assumptions made for purposes of our impairment determination will prove to be an accurate prediction of the future.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions, including pricing, volumes, discount rates, and market information provided by unrelated third parties that can materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions.

Goodwill—As of December 31, 2024, we had goodwill of \$1,561 million, primarily relating to the acquisition of A. Schulman Inc. in 2018 and the tax effect of the differences between the tax and book basis of our assets and liabilities resulting from the revaluation of those assets and liabilities to fair value in connection with the Company's emergence from bankruptcy and fresh-start accounting in 2010.

Effective January 1, 2023, our *Catalloy* and polybutene-1 businesses were moved from our APS segment and reintegrated into our O&P-Americas and O&P-EAI segments. When moved, a portion of the APS reporting unit's goodwill was allocated to the O&P-Americas and O&P-EAI segments based on the fair values of the businesses that were reintegrated relative to the fair value of the APS segment. In the first quarter of 2023, we evaluated goodwill for impairment immediately before and after the transfer of these businesses. Our evaluation resulted in the recognition of a non-cash goodwill impairment of \$252 million recognized in our APS segment. See Notes 7 and 20 to the Consolidated Financial Statements.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions, including pricing, volumes and discount rates, which could materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions.

We evaluate the recoverability of the carrying value of goodwill annually or more frequently if events or changes in circumstances indicate that the carrying amount of the goodwill of a reporting unit may not be fully recoverable. We have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Qualitative factors assessed for each of the reporting units include, but are not limited to, changes in long-term commodity prices, discount rates, competitive environments, planned capacity, cost factors such as raw material prices, and financial performance of the reporting units. If the qualitative assessment indicates that it is more likely than not that the carrying value of a reporting unit exceeds its estimated fair value, a quantitative test is required.

We also have the option to proceed directly to the quantitative impairment test. Under the quantitative impairment test, the fair value of each reporting unit, calculated using a discounted cash flow model, is compared to its carrying value, including goodwill. The discounted cash flow model inherently utilizes a significant number of estimates and assumptions, including operating margins, tax rates, discount rates, capital expenditures and working capital changes. If the carrying value of the reporting unit including goodwill exceeds its fair value, an impairment charge equal to the excess would be recognized, up to a maximum amount of goodwill allocated to that reporting unit.

In the fourth quarter of 2024, we performed a qualitative impairment assessment of our reporting units, which indicated that it was more likely than not that the fair value of our reporting units was greater than their carrying value including goodwill. Accordingly, a quantitative goodwill impairment test was not required.

In the fourth quarter of 2023, management performed a quantitative impairment assessment for our reporting units within our APS segment and a qualitative impairment assessment of our other reporting units, which indicated that the fair values of our reporting units were greater than their carrying values, including goodwill. Based on this assessment, our historical assessment for impairment, and forecasted demand for our products, a quantitative goodwill impairment test in the fourth quarter was not necessary.

Long-Term Employee Benefit Costs—Our costs for long-term employee benefits, particularly pension and other post-retirement medical and life insurance benefits, are incurred over long periods of time, and involve many uncertainties over those periods. The net periodic benefit cost attributable to current periods is based on several assumptions about such future uncertainties and is sensitive to changes in those assumptions. It is management's responsibility, often with the assistance of independent experts, to select assumptions that in its judgment represent its best estimates of the future effects of those uncertainties and to review those assumptions periodically to reflect changes in economic or other factors.

The current benefit service costs, as well as the existing liabilities, for pensions and other post-retirement benefits are measured on a discounted present value basis. The discount rate is a current rate, related to the rate at which the liabilities could be settled. Our assumed discount rate is based on yield information for high-quality corporate bonds with durations comparable to the expected cash settlement of our obligations. For the purpose of measuring the benefit obligations at December 31, 2024, we used a weighted average discount rate of 5.35% for the U.S. plans, which reflects the different terms of the related benefit obligations. The weighted average discount rate used to measure obligations for non-U.S. plans at December 31, 2024, was 3.66%, reflecting market interest rates. The discount rates in effect at December 31, 2024 will be used to measure net periodic benefit cost during 2025.

The benefit obligation and the net periodic benefit cost of other post-retirement medical benefits are also measured based on assumed rates of future increase in the per capita cost of covered health care benefits. As of December 31, 2024, the assumed rate of increase for our U.S. plans was 6.5%, decreasing to 4.5% in 2033 and thereafter.

The net periodic benefit cost of pension benefits included in expense is affected by the expected long-term rate of return on plan assets assumption. Investment returns that are recognized currently in net income represent the expected long-term rate of return on plan assets applied to a market-related value of plan assets, which is defined as the market value of assets. The expected rate of return on plan assets is a longer-term rate and is expected to change less frequently than the current assumed discount rate, reflecting long-term market expectations, rather than current fluctuations in market conditions.

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The weighted average expected long-term rate of return on assets in our U.S. plans of 7.25% is based on the average level of earnings that our independent pension investment advisor advised could be expected to be earned over time. The weighted average expected long-term rate of return on assets in our non-U.S. plans of 4.14% is based on expectations and asset allocations that vary by region. The asset allocations are summarized in Note 14 to the Consolidated Financial Statements.

The actual rate of return on plan assets may differ from the expected rate due to the volatility normally experienced in capital markets. Management's goal is to manage the investments over the long term to achieve optimal returns with an acceptable level of risk and volatility.

Net periodic pension cost recognized each year includes the expected asset earnings, rather than the actual earnings or loss. Along with other gains and losses, this unrecognized amount, to the extent it cumulatively exceeds 10% of the greater of the projected benefit obligation or the market related value of the plan assets for the respective plan, is recognized as additional net periodic benefit cost over the average remaining service period of the participants in each plan.

The following table reflects the sensitivity of the benefit obligations and the net periodic benefit costs of our pension plans to changes in the actuarial assumptions:

Millions of dollars	Effects on Benefit Obligations in 2024		Effects on Net Periodic Pension Costs in 2025	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Projected benefit obligations at December 31, 2024	\$ 1,232	\$ 1,389	\$ —	\$ —
Projected net periodic pension costs in 2025	—	—	59	54
Discount rate increases by 100 basis points	(101)	(176)	(7)	(5)
Discount rate decreases by 100 basis points	120	205	9	7

The sensitivity of our post-retirement benefit plans obligations and net periodic benefit costs to changes in actuarial assumptions are reflected in the following table:

Millions of dollars	Effects on Benefit Obligations in 2024		Effects on Net Periodic Benefit Costs in 2025	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Projected benefit obligations at December 31, 2024	\$ 139	\$ 52	\$ —	\$ —
Projected net periodic benefit costs in 2025	—	—	(1)	3
Discount rate increases by 100 basis points	(10)	(10)	(1)	(1)
Discount rate decreases by 100 basis points	11	13	1	1

Additional information on the key assumptions underlying these benefit costs appears in Note 14 to the Consolidated Financial Statements.

Accruals for Taxes Based on Income—The determination of our provision for income taxes and the calculation of our tax benefits and liabilities is subject to management's estimates and judgments due to the complexity of the tax laws and regulations in the tax jurisdictions in which we operate. Uncertainties exist with respect to interpretation of these complex laws and regulations.

Deferred tax assets and liabilities are determined based on temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse.

We recognize future tax benefits to the extent that the realization of these benefits is more likely than not. Our current provision for income taxes is impacted by the recognition and release of valuation allowances related to net deferred tax assets in certain jurisdictions. Further changes to these valuation allowances may impact our future provision for income taxes, which will include no tax benefit with respect to losses incurred and no tax expense with respect to income generated in these countries until the respective valuation allowance is eliminated.

We recognize the financial statement benefits with respect to an uncertain income tax position that we have taken or may take on an income tax return when we believe it is more likely than not that the position will be sustained with the tax authorities.

ACCOUNTING AND REPORTING CHANGES

For a discussion of the potential impact of new accounting pronouncements on our Consolidated Financial Statements, see Note 2 to the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

See Note 13 to the Consolidated Financial Statements for further discussion of our management of commodity price risk, foreign exchange risk and interest rate risk.

Commodity Price Risk—Prices for our products and raw materials are subject to changes in supply and demand. Natural gas, crude oil, utilities, and refined products, along with feedstocks for ethylene and propylene production, constitute the main commodity exposures. Pricing terms in our raw material contracts are generally indexed to market prices. Changes in market prices for raw materials generally correlate with market prices for our products. In certain sales contracts, we may negotiate pricing terms to better align with changes in raw material costs. We also selectively enter commodity swap, option and futures contracts to manage commodity price risk. We estimate that a 10% change in commodity prices as of December 31, 2024 and 2023, would change the fair value of our commodity derivative contracts by approximately \$45 million and \$36 million, respectively.

Foreign Exchange Risk—We manufacture and market our products in many countries throughout the world and, as a result, are exposed to changes in foreign currency exchange rates. Our reporting currency is the U.S. dollar. Many of our operating entities use the euro as their functional currency. Translation adjustments are deferred in Accumulated other comprehensive income (loss).

We enter into foreign currency derivatives that are designated as net investment hedges to reduce the volatility in Shareholders' equity resulting from translation adjustments associated with our net investments in foreign operations. We also enter into foreign currency contracts that are designated as cash flow hedges to manage the variability in cash flows associated with intercompany debt balances. The table below illustrates the impact on other comprehensive income (loss) of a 10% fluctuation in the foreign currency rate associated with the hedges at December 31:

	Notional Amount		10% Variance on Foreign Currency Rate	Impact on Other Comprehensive Loss					
Millions of euro/dollars	2024	2023		2024	2023				
Net investment hedges:									
Cross currency basis swaps	€	617	€	617	euro/U.S. dollar rate	\$	65	\$	70
Cross currency swaps	€	750	€	750	euro/U.S. dollar rate	\$	77	\$	81
Forward exchange contracts	€	1,550	€	1,550	euro/U.S. dollar rate	\$	158	\$	165
Cash flow hedges:									
Cross currency swaps	€	268	€	1,052	euro/U.S. dollar rate	\$	29	\$	117

Some of our consolidated entities enter transactions that are not denominated in their functional currency. This results in exposure to foreign currency risk for financial instruments, including, but not limited to, third-party and intercompany receivables and payables and intercompany loans.

Our policy is to maintain a balanced position in foreign currencies to minimize exchange gains and losses arising from changes in exchange rates. We maintain risk management control practices to monitor the foreign currency risk attributable to our inter-company and third party outstanding foreign currency balances. These practices involve the centralization of our exposure to underlying currencies that are not subject to central bank and/or country specific restrictions. By centralizing most of our foreign currency exposure into one subsidiary, we are able to take advantage of natural offsets thereby reducing the overall impact of changes in foreign currency rates on our earnings.

To minimize the effects of our net currency exchange exposures, we enter into forward exchange contracts and cross-currency swaps. We also engage in short-term forward exchange contracts to manage our net exposure to foreign currencies as economic hedges. Changes in the fair value of these foreign currency contracts are reported in the Consolidated Statements of Income and offset the currency exchange results recognized on foreign currency balances.

Other income (expense), net, in the Consolidated Statements of Income reflects net foreign currency gains of \$15 million and losses of \$34 million in 2024 and 2023, respectively. As of December 31, 2024, our foreign currency contracts that are accounted for as economic hedges mature between January 2025 and October 2025, inclusively, and have an aggregate notional amount of \$772 million. A 10% fluctuation compared to the U.S. dollar would have resulted in an additional impact to earnings of approximately \$68 million and \$21 million in 2024 and 2023, respectively.

Interest Rate Risk—We are exposed to interest rate risk with respect to our fixed-rate and variable-rate debt. Fluctuations in interest rates impact the fair value of fixed-rate debt and expose us to the risk that we may need to refinance debt at higher rates. Fluctuations in interest rates impact interest expense from our variable-rate debt. To minimize earnings at risk as part of our interest rate risk management strategy, we may target to maintain floating-rate debt, through the use of interest rate swaps and issuance of variable-rate debt, equal to our cash and cash equivalents, as those assets earn interest based on floating-rates.

Pre-issuance interest rate—To mitigate the risk that benchmark interest rates may increase in connection with future financing activities, we adopted a pre-issuance interest rate strategy, under which we entered forward-starting interest rate swaps that were designated as cash flow hedges. There were no open forward-starting interest rate swaps contracts at December 31, 2024.

Fixed-rate debt—We may enter into interest rate swaps that effectively convert a portion of our fixed-rate debt to variable-rate debt. These interest rate swaps are designated as fair value hedges. At December 31, 2024 and 2023, the total notional amount of these interest rate swaps was \$2,158 million and \$2,171 million, respectively.

At December 31, 2024, after giving consideration to the fixed-rate debt that we have effectively converted to variable-rate debt, approximately 81% of our debt portfolio, on a gross basis, incurred interest at a fixed-rate and the remaining 19% of the portfolio incurred interest at a variable-rate. We estimate that a 10% change in market interest rates as of December 31, 2024 and 2023, would change the fair value of these interest rate swaps by approximately \$24 million and \$14 million, respectively.

Variable-rate debt—At December 31, 2024, we have no borrowings under our Commercial Paper Program. We also have available borrowing capacity under our \$3,750 million Senior Revolving Credit Facility and our \$900 million U.S. Receivables Facility. At December 31, 2024, there were no outstanding borrowings under these facilities. Based on our average variable-rate debt outstanding per year, we estimate that a 10% change in market interest rates as of December 31, 2024 and 2023 would not materially impact the fair value of these facilities.

Item 8. Financial Statements and Supplementary Data.

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MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management of the Company, including the Chief Executive Officer and the Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934, as amended. Internal control over financial reporting is a process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

We conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2024 based on the Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. Based on our evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2024.

The effectiveness of our internal control over financial reporting as of December 31, 2024 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of LyondellBasell Industries N.V.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of LyondellBasell Industries N.V. and its subsidiaries (the "Company") as of December 31, 2024 and 2023, and the related consolidated statements of income, of comprehensive income, of shareholders' equity and of cash flows for each of the three years in the period ended December 31, 2024, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Taxation - Provisions for unrecognized tax benefits

As described in Notes 2, 9, 10, and 16 to the consolidated financial statements, as of December 31, 2024, the Company has recorded an income tax provision of \$ 240 million, income tax receivables of \$79 million, income tax payables of \$311 million, and net deferred tax liabilities of \$2,276 million related to which they have reported \$236 million of unrecognized tax benefits. The Company operates in multiple jurisdictions throughout the world, and its tax returns are periodically audited or subjected to review by tax authorities. As a result, there is an uncertainty in income taxes recognized in the Company's consolidated financial statements. Management recognizes uncertain income tax positions when it is more likely than not, based on the technical merits, that the position or a portion thereof will be sustained upon examination. As disclosed by management, there continues to be increased attention to the tax practices of multinational companies, in particular in the U.S. and Europe where the Company operates.

The principal considerations for our determination that performing procedures relating to the provision for unrecognized tax benefits is a critical audit matter are (i) the significant judgment by management when determining provisions for unrecognized tax benefits, including a high degree of estimation uncertainty relative to the complexity of tax laws, frequency of tax audits, and potential for adjustments as a result of such tax audits; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's timely identification of tax uncertainties; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the identification and recognition of the liabilities for unrecognized tax benefits and controls addressing completeness of the uncertain tax positions. These procedures also included, among others (i) testing management's assessment of the technical merits of tax positions and estimates of the amount of tax benefit expected to be sustained; (ii) testing the completeness of management's assessment of both the identification and possible outcomes of uncertain tax positions; and (iii) evaluating the status and results of tax audits with the relevant tax authorities. Professionals with specialized skill and knowledge were used to assist in evaluating the completeness of the Company's uncertain tax positions, including evaluating the reasonableness of management's assessment of whether tax positions are more likely than not of being sustained and the amount of potential benefit to be realized, as well as the determination and the application of relevant tax laws.

/s/ PricewaterhouseCoopers LLP

Houston, Texas

February 27, 2025

We have served as the Company's auditor since 2008.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENTS OF INCOME

<u>Millions of dollars, except earnings per share</u>	Year Ended December 31,		
	2024	2023	2022
Sales and other operating revenues:			
Trade	\$ 39,668	\$ 40,493	\$ 49,439
Related parties	634	614	1,012
	<u>40,302</u>	<u>41,107</u>	<u>50,451</u>
Operating costs and expenses:			
Cost of sales	35,738	35,849	43,847
Impairments	949	518	69
Selling, general and administrative expenses	1,663	1,557	1,310
Research and development expenses	135	130	124
	<u>38,485</u>	<u>38,054</u>	<u>45,350</u>
Operating income	<u>1,817</u>	<u>3,053</u>	<u>5,101</u>
Interest expense	(481)	(477)	(287)
Interest income	150	129	29
Gain on sale of business	284	—	—
Other income (expense), net	50	(58)	(72)
Income from continuing operations before equity investments and income taxes	1,820	2,647	4,771
(Loss) income from equity investments	(217)	(20)	5
Income from continuing operations before income taxes	1,603	2,627	4,776
Provision for income taxes	240	501	882
Income from continuing operations	1,363	2,126	3,894
Income (loss) from discontinued operations, net of tax	4	(5)	(5)
Net income	<u>1,367</u>	<u>2,121</u>	<u>3,889</u>
Dividends on redeemable non-controlling interests	(7)	(7)	(7)
Net income attributable to the Company shareholders	<u>\$ 1,360</u>	<u>\$ 2,114</u>	<u>\$ 3,882</u>
Earnings per share:			
Net income (loss) attributable to the Company shareholders —			
Basic:			
Continuing operations	\$ 4.15	\$ 6.50	\$ 11.86
Discontinued operations	0.01	(0.02)	(0.02)
	<u>\$ 4.16</u>	<u>\$ 6.48</u>	<u>\$ 11.84</u>
Diluted:			
Continuing operations	\$ 4.14	\$ 6.48	\$ 11.83
Discontinued operations	0.01	(0.02)	(0.02)
	<u>\$ 4.15</u>	<u>\$ 6.46</u>	<u>\$ 11.81</u>

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Net income	\$ 1,367	\$ 2,121	\$ 3,889
Other comprehensive income (loss), net of tax—			
Financial derivatives	115	(80)	208
Defined benefit pension and other postretirement benefit plans	(2)	(97)	346
Foreign currency translations	(169)	73	(123)
Total other comprehensive income (loss), net of tax	(56)	(104)	431
Comprehensive income	1,311	2,017	4,320
Dividends on redeemable non-controlling interests	(7)	(7)	(7)
Comprehensive income attributable to the Company shareholders	\$ 1,304	\$ 2,010	\$ 4,313

See Notes to the Consolidated Financial Statements.

**LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED BALANCE SHEETS**

<u>Millions of dollars</u>	December 31,	
	2024	2023
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 3,375	\$ 3,390
Restricted cash	13	15
Accounts receivable:		
Trade, net	3,121	3,356
Related parties	171	151
Inventories	4,658	4,765
Prepaid expenses and other current assets	928	1,475
Total current assets	12,266	13,152
Operating lease assets	1,467	1,529
Property, plant and equipment, net	15,066	15,547
Equity investments	4,121	3,907
Goodwill	1,561	1,647
Intangible assets, net	577	641
Other assets	688	577
Total assets	\$ 35,746	\$ 37,000

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED BALANCE SHEETS

<u>Millions of dollars, except shares and par value data</u>	December 31,	
	2024	2023
LIABILITIES, REDEEMABLE NON-CONTROLLING INTERESTS AND EQUITY		
Current liabilities:		
Current maturities of long-term debt	\$ 498	\$ 782
Short-term debt	119	117
Accounts payable:		
Trade	3,220	3,354
Related parties	512	461
Accrued and other current liabilities	2,356	2,436
Total current liabilities	6,705	7,150
Long-term debt	10,532	10,333
Operating lease liabilities	1,419	1,409
Other liabilities	1,967	2,164
Deferred income taxes	2,535	2,886
Commitments and contingencies		
Redeemable non-controlling interests	114	114
Shareholders' equity:		
Ordinary shares, €0.04 par value, 1,275 million shares authorized, 323,889,832 and 324,483,402 shares outstanding, respectively	19	19
Additional paid-in capital	6,150	6,145
Retained earnings	9,325	9,692
Accumulated other comprehensive loss	(1,532)	(1,476)
Treasury stock, at cost, 16,532,666 and 15,939,096 ordinary shares, respectively	(1,500)	(1,450)
Total Company share of shareholders' equity	12,462	12,930
Non-controlling interests	12	14
Total equity	12,474	12,944
Total liabilities, redeemable non-controlling interests and equity	\$ 35,746	\$ 37,000

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENTS OF CASH FLOWS

Millions of dollars	Year Ended December 31,		
	2024	2023	2022
Cash flows from operating activities:			
Net income	\$ 1,367	\$ 2,121	\$ 3,889
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,522	1,534	1,267
Impairments	949	518	69
Amortization of debt-related costs	11	9	14
Share-based compensation	91	91	70
Equity investments—			
Equity loss (income)	217	20	(5)
Distributions of earnings, net of tax	122	169	349
Deferred income tax provision (benefit)	(437)	43	369
Gain on sale of business	(284)	—	—
Changes in assets and liabilities that provided (used) cash:			
Accounts receivable	127	110	1,005
Inventories	25	18	(91)
Accounts payable	(122)	141	(464)
Other, net	231	168	(353)
Net cash provided by operating activities	<u>3,819</u>	<u>4,942</u>	<u>6,119</u>
Cash flows from investing activities:			
Expenditures for property, plant and equipment	(1,839)	(1,531)	(1,890)
Proceeds from sale of business	689	—	15
Acquisition of equity method investments	(551)	(102)	(4)
Proceeds from settlement of net investment hedges	967	903	614
Payments for settlement of net investment hedges	(921)	(820)	(501)
Other, net	(198)	(227)	(211)
Net cash used in investing activities	<u>(1,853)</u>	<u>(1,777)</u>	<u>(1,977)</u>

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENTS OF CASH FLOWS

Millions of dollars	Year Ended December 31,		
	2024	2023	2022
Cash flows from financing activities:			
Repurchases of Company ordinary shares	\$ (195)	\$ (211)	\$ (420)
Dividends paid - common stock	(1,720)	(1,610)	(3,246)
Issuance of long-term debt	744	500	—
Payments of debt issuance costs	(10)	(5)	—
Repayments of long-term debt	(776)	(425)	—
Net repayments of commercial paper	—	(200)	(4)
Net collateral received from interest rate derivatives	—	—	238
Proceeds from settlement of cash flow hedges	882	20	—
Payments for settlement of cash flow hedges	(835)	—	—
Other, net	15	(19)	25
Net cash used in financing activities	(1,895)	(1,950)	(3,407)
Effect of exchange rate changes on cash	(88)	34	(56)
Increase (decrease) in cash and cash equivalents and restricted cash	(17)	1,249	679
Cash and cash equivalents and restricted cash at beginning of period	3,405	2,156	1,477
Cash and cash equivalents and restricted cash at end of period	\$ 3,388	\$ 3,405	\$ 2,156
Supplemental Cash Flow Information:			
Interest paid, net of capitalized interest	\$ 503	\$ 487	\$ 297
Net income taxes paid	343	465	746

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

<u>Millions of dollars</u>	<u>Ordinary Shares</u>		<u>Additional Paid-in Capital</u>	<u>Retained Earnings</u>	<u>Accumulated Other Comprehensive Loss</u>	<u>Company Share of Shareholders' Equity</u>	<u>Non- Controlling Interests</u>
	<u>Issued</u>	<u>Treasury</u>					
Balance, December 31, 2021	\$ 19	\$ (965)	\$ 6,044	\$ 8,563	\$ (1,803)	\$ 11,858	\$ 14
Net income	—	—	—	3,889	—	3,889	—
Other comprehensive income	—	—	—	—	431	431	—
Share-based compensation	—	25	75	(4)	—	96	—
Dividends - common stock (\$4.70 per share)	—	—	—	(1,542)	—	(1,542)	—
Special dividends - common stock (\$5.20 per share)	—	—	—	(1,704)	—	(1,704)	—
Dividends - redeemable non-controlling interests (\$60.00 per share)	—	—	—	(7)	—	(7)	—
Repurchases of Company ordinary shares	—	(406)	—	—	—	(406)	—
Balance, December 31, 2022	\$ 19	\$ (1,346)	\$ 6,119	\$ 9,195	\$ (1,372)	\$ 12,615	\$ 14
Net income	—	—	—	2,121	—	2,121	—
Other comprehensive loss	—	—	—	—	(104)	(104)	—
Share-based compensation	—	107	26	(7)	—	126	—
Dividends - common stock (\$4.94 per share)	—	—	—	(1,610)	—	(1,610)	—
Dividends - redeemable non-controlling interests (\$60.00 per share)	—	—	—	(7)	—	(7)	—
Repurchases of Company ordinary shares	—	(211)	—	—	—	(211)	—
Balance, December 31, 2023	\$ 19	\$ (1,450)	\$ 6,145	\$ 9,692	\$ (1,476)	\$ 12,930	\$ 14
Net income	—	—	—	1,367	—	1,367	—
Other comprehensive loss	—	—	—	—	(56)	(56)	—
Share-based compensation	—	148	5	(7)	—	146	—
Dividends - common stock (\$5.27 per share)	—	—	—	(1,720)	—	(1,720)	—
Dividends - redeemable non-controlling interests (\$60.00 per share)	—	—	—	(7)	—	(7)	—
Repurchases of Company ordinary shares	—	(198)	—	—	—	(198)	—
Distributions to non-controlling interests	—	—	—	—	—	—	(2)
Balance, December 31, 2024	<u>\$ 19</u>	<u>\$ (1,500)</u>	<u>\$ 6,150</u>	<u>\$ 9,325</u>	<u>\$ (1,532)</u>	<u>\$ 12,462</u>	<u>\$ 12</u>

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

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LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Company and Operations

LyondellBasell Industries N.V. is a limited liability company (*Naamloze Vennootschap*) incorporated under Dutch law by deed of incorporation dated October 15, 2009. Unless otherwise indicated, the “Company,” “we,” “us,” “our” or similar words are used to refer to LyondellBasell Industries N.V. together with its consolidated subsidiaries (“LyondellBasell N.V.”).

LyondellBasell N.V. is a worldwide manufacturer of chemicals and polymers, a refiner of crude oil, a significant producer of gasoline blending components and a developer and licensor of technologies for the production of polymers.

2. Summary of Significant Accounting Policies

Basis of Preparation and Consolidation

The accompanying Consolidated Financial Statements have been prepared from the books and records of LyondellBasell N.V. under accounting principles generally accepted in the United States (“U.S. GAAP”). Subsidiaries are defined as being 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.

Cash and Cash Equivalents

Our cash equivalents consist of highly liquid debt instruments such as certificates of deposit, commercial paper and money market accounts with major international banks and financial institutions. Cash equivalents also include other instruments with maturities of three months or less when acquired and exclude restricted cash.

Short-Term Investments

Our investments in debt securities are classified as available-for-sale and held-to-maturity on the basis of our intent and ability to hold the investments. Investments classified as available-for-sale are carried at fair value with changes reflected in other comprehensive income (loss). Credit-related impairments, measured using expected cash flows and limited to the amount by which the amortized cost basis of a security exceeds its fair value, are recognized through an allowance for expected credit losses, and adjusted subsequently if conditions change, with a corresponding impact in earnings. Where there is an intention or a requirement to sell an impaired available-for-sale debt security, the entire impairment is recognized in earnings with a corresponding adjustment to the amortized cost basis of the security.

Investments classified as held-to-maturity are carried at amortized cost less allowance for credit losses recorded through Net income.

Trade Receivables

Trade receivables are amounts due from customers for merchandise sold or services performed in the ordinary course of business and are carried at transaction price net of allowance for credit losses. Allowance for credit losses is measured using historical loss rates for the respective risk categories and incorporating forward-looking estimates. The corresponding expense for the loss allowance is reflected in Selling, general and administrative expenses.

Inventories

Cost of our raw materials, work-in-progress and finished goods inventories is determined using the last-in, first-out (“LIFO”) method and is carried at the lower of cost or market value. Cost of our materials and supplies inventory is determined using the average cost method and is carried at the lower of cost and net realizable value.

Inventory exchange transactions, which involve fungible commodities, are not accounted for as purchases and sales. Any resulting volumetric exchange balances are accounted for as inventory, with cost determined using the LIFO method.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Property, Plant and Equipment

Property, plant and equipment are recorded at historical cost. Historical cost includes expenditures that are directly attributable to the acquisition of the items. Costs may also include borrowing costs incurred on debt during construction of major projects exceeding one year, costs of major maintenance arising from turnarounds of major units and legally obligated decommissioning costs. Routine maintenance costs are expensed as incurred.

Depreciation is computed using the straight-line method over the estimated useful lives of assets to their residual values. The residual values and useful lives of assets are reviewed, and adjusted if appropriate, whenever events or circumstances indicate that a revision is warranted. Land is not depreciated.

We evaluate property, plant and equipment for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Long-lived assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets, which, for us, is generally at the plant group level (or, at times, individual plants in certain circumstances where we have isolated production units with separately identifiable cash flows). If it is determined that an asset or asset group's carrying value exceeded its estimated fair value, the asset is written down to its estimated fair value.

Equity Investments

We account for equity method investments ("equity investments") using the equity method of accounting if we have the ability to exercise significant influence over, but do not control, an investee. Significant influence generally exists if we have an ownership interest representing between 20% and 50% of the voting rights. Under the equity method of accounting, investments are stated initially at cost and are adjusted for subsequent additional investments and our proportionate share of profit or losses and distributions.

We record our share of the profits or losses of the equity investments, net of income taxes, in the Consolidated Statements of Income. When our share of losses in an equity investment equals or exceeds the carrying amount of our investment including advances made by us, we do not recognize further losses, unless we have guaranteed obligations or are otherwise committed to provide further financial support to the investee.

We discontinue applying equity method accounting when our investment is reduced to zero. We record equity losses in excess of the carrying amount of an investment only when we guarantee obligations or we are otherwise committed to provide further financial support to the affiliate. Equity method of accounting is resumed only after the investment realizes net income in excess of our share of net losses not recognized during the period equity method was suspended.

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.

Investments in PO Joint Ventures and the Louisiana Joint Venture—We share ownership with Covestro PO LLC, a subsidiary of Covestro AG (collectively "Covestro"), in a U.S. propylene oxide ("PO") joint venture located in Texas (the "U.S. PO Joint Venture") and a PO/styrene monomer ("SM" or "styrene") joint venture located in The Netherlands (the "European PO Joint Venture", collectively the "PO Joint Ventures"). We operate the PO Joint Ventures manufacturing facilities and arrange the logistics of product delivery. Each partner funds their share of capital expenditures, reimburses manufacturing operating expenses excluding depreciation and amortization expenses, and receives a share of production in-kind.

The U.S. PO Joint Venture owns a PO/SM and a PO/tertiary butyl alcohol ("TBA") plant. Covestro's interest in the U.S. PO Joint Venture represents ownership of an in-kind portion of the PO production of 680 thousand tons per year. We take, in-kind, the remaining PO production and all co-product production.

The European PO Joint Venture owns a PO/SM plant in which each partner is entitled to 50% of the annual in-kind cost-based PO and SM production.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We share ownership in the Louisiana Integrated PolyEthylene JV LLC joint venture (the “Louisiana Joint Venture”) with Sasol Chemicals (USA) LLC (“Sasol”). Under this arrangement, we have a 50% ownership interest in an ethane cracker, a low-density and linear-low density polyethylene plant, and associated infrastructure. Under the terms of the joint venture agreement, each partner provides pro-rata share of ethane feedstocks and off-takes pro-rata shares of cracker and polyethylene products in-kind. We operate the Louisiana Joint Venture assets and market the polyethylene off-take for all partners through our global sales team.

We account for the PO Joint Ventures and the Louisiana Joint Venture using the equity method. The joint ventures were formed solely for the benefit of the partners and do not manufacture for any other parties. We report the cost of our product off-take as Inventory and the equity loss as Cost of sales in our Consolidated Financial Statements. Related production cash flows are reported in the operating cash flow section of the Consolidated Statements of Cash Flows.

Our equity investment in the PO Joint Ventures and the Louisiana Joint Venture represents our share of the manufacturing plants and is decreased by recognition of our share of equity loss, which is equal to the depreciation of the assets of these joint ventures. Other changes in the investment balance are principally due to our additional capital contributions to these joint ventures to fund capital expenditures. Such contributions are reported in the investing cash flow section of the Consolidated Statements of Cash Flows.

Our product off-take of PO and its co-products from the PO Joint Ventures was 2.0 million, 2.2 million and 2.4 million tons in 2024, 2023 and 2022, respectively. Our product off-take of ethylene and polyethylene produced from the Louisiana Joint Venture was 1.1 million, 1.2 million, and 1.0 million tons in 2024, 2023, and 2022, respectively.

Redeemable Non-controlling Interests

Our redeemable non-controlling interests relate to shares of cumulative perpetual special stock (“redeemable non-controlling interest stock”) issued by our consolidated subsidiary, formerly known as A. Schulman, Inc. (“A. Schulman”). Holders of redeemable non-controlling interest stock are entitled to receive cumulative dividends at the rate of 6% per share and the liquidation preference of \$1,000 per share. Redeemable non-controlling interest stock may be redeemed at any time at the discretion of the holders and is reported in the Consolidated Balance Sheets outside of permanent equity. Dividends on these shares are deducted from or added to the amount of Income (loss) attributable to the Company shareholders if and when declared by the Company.

Goodwill

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 less than its carrying amount. We first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Qualitative factors assessed for each of the reporting units include, but are not limited to, changes in long-term commodity prices, discount rates, competitive environments, planned capacity, cost factors such as raw material prices, and financial performance of the reporting units. If the qualitative assessment indicates that it is more likely than not that the carrying value of a reporting unit exceeds its fair value, a quantitative test is required. If the carrying value of the reporting unit including goodwill exceeds its fair value, an impairment charge equal to the excess would be recognized up to a maximum amount of goodwill allocated to that reporting unit.

In the fourth quarter of 2024, we performed a qualitative impairment assessment of our reporting units, which indicated that it was more likely than not that the fair value of our reporting units was greater than their carrying value including goodwill. Accordingly, a quantitative goodwill impairment test was not required.

Intangible Assets

Intangible assets consist of emission allowances, various contracts, software costs, patents and trademarks, know-how, and in-process research and development costs. These assets are amortized using the straight-line method over their estimated useful lives or over the term of the related agreement. We evaluate definite-lived intangible assets with the associated long-lived asset group for impairment whenever impairment indicators are present.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Research and Development

Research and development (“R&D”) costs are expensed when incurred. Subsidies for R&D are included in Other income (expense), net. Depreciation expense related to assets employed in R&D is included as a cost of R&D.

Income Taxes

The income tax for the period comprises current and deferred tax. Income tax is recognized in the Consolidated Statements of Income, except to the extent that it relates to items recognized in other comprehensive income (loss) or directly in equity. In these cases, the applicable tax amount is recognized in other comprehensive income (loss) or directly in equity, respectively.

Deferred income taxes reflect the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts recognized for income tax purposes, as well as the net tax effects of net operating loss carryforwards. 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.

We recognize uncertain income tax positions in our financial statements when we believe it is more likely than not, based on the technical merits, that the position or a portion thereof will be sustained upon examination. For a position that is more likely than not to be sustained, the benefit recognized is measured at the largest cumulative amount that is greater than 50 percent likely of being realized.

Other Provisions

Environmental Remediation Costs—Environmental remediation liabilities include liabilities related to sites we currently own, sites we no longer own, as well as sites where we have operated that belong to other parties. Liabilities for anticipated expenditures related to investigation and remediation of contaminated sites are accrued when it is probable a liability has been incurred and the amount of the liability can be reasonably estimated. Only certain post-remediation monitoring costs, the timing of which can be determined with reasonable certainty, are discounted to present value.

Asset Retirement Obligations—At some sites, we are legally obligated to decommission our plants upon site exit. Asset retirement obligations are recorded at the fair value using the present value of the estimated costs to retire the asset at the time the obligation is incurred. That cost, which is capitalized as part of the related long-lived asset, is depreciated on a straight-line basis over the remaining useful life of the related asset. Accretion expense in connection with the discounted liability is recognized over the estimated timeline to settle the obligation. Such depreciation and accretion expenses are included in Cost of sales.

Foreign Currency Translation and Remeasurement

Functional and Reporting Currency—Items included in the financial information of each of LyondellBasell N.V.’s entities are measured using the currency of the primary economic environment in which the entity operates (“the functional currency”) and then translated to the U.S. dollar (“the reporting currency”) as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;
- Income and expenses for each income statement are translated at monthly average exchange rates; and
- All resulting exchange differences are recognized as a separate component within other comprehensive income (loss) (foreign currency translation adjustments).

Transactions and Balances—Foreign currency transactions are recorded in their respective functional currency using exchange rates prevailing at the dates of the transactions. Exchange gains and losses resulting from the settlement of such transactions and from remeasurement of monetary assets and liabilities denominated in foreign currencies at the balance sheet date are recognized in earnings.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Revenue Recognition

Substantially all our revenues are derived from contracts with customers. We account for contracts when both parties have approved the contract and are committed to perform, the rights of the parties and payment terms have been identified, the contract has commercial substance and collectability is probable.

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied. This generally occurs at the point in time when performance obligations are fulfilled and control transfers to the customer. In most instances, control transfers upon transfer of risk of loss and title to the customer, which usually occurs when we ship products to the customer from our manufacturing facility. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods. Customer incentives are generally based on volumes purchased and recognized over the period earned. Sales, value-added, and other taxes that we collect concurrent with revenue-producing activities are excluded from the transaction price as they represent amounts collected on behalf of third parties. We apply the practical expedient to recognize the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that we otherwise would have recognized is one year or less. Shipping and handling costs are treated as a fulfillment cost and not as a separate performance obligation.

We have marketing arrangements to off-take and sell the production of some of our joint ventures in return for a percentage of the price realized on the sales to the end customer. In such arrangements, when we obtain control of the product, revenue and cost of sales are presented on a gross basis. Otherwise, we recognize revenue, net of amounts due to the joint venture, which represents commissions earned.

Payments are typically required within a short period following the transfer of control of the product to the customer. We occasionally require customers to prepay purchases to ensure collectability. Such prepayments do not represent financing arrangements, since payment occurs within a short time frame. We apply the practical expedient which permits us to disregard the effects of a significant financing component when, at contract inception, we expect the period between the payment and fulfillment of the performance obligation will be one year or less.

Contract balances typically arise when a difference in timing between the transfer of control to the customer and receipt of consideration occurs. Our contract liabilities, which are reflected in our Consolidated Financial Statements as Accrued and other current liabilities, and Other liabilities, consist primarily of customer payments for products or services received before the transfer of control to the customer occurs.

Share-Based Compensation

We grant restricted stock units (“RSUs”), performance share units (“PSUs”), and other cash and stock awards to employees as a form of compensation. Prior to 2024, we also granted stock option awards (“Stock options”). Our share-based compensation awards are accounted for as equity-classified awards with compensation expense based on the grant date fair value and recognized over the vesting period in the income statement. We use a straight-line vesting method for cliff-vested awards and a graded vesting method for ratable-vested awards. We have elected to recognize forfeitures as they occur for stock-based compensation. When options are exercised and awards are paid out, shares are issued from our treasury shares. The holders of unvested RSUs are entitled to nonforfeitable dividend equivalents settled in the form of cash payments, which are recognized as dividends in Retained earnings. Outstanding PSUs accrue dividend equivalent units, which will be converted to shares upon payment at the end of the performance period and are classified as Accrued and other current liabilities and Other liabilities on the Consolidated Balance Sheets. Dividend equivalents for PSUs are also recorded in Retained earnings. See Notes 15 and 18 to the Consolidated Financial Statements for additional information.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Leases

Leases with a term longer than 12 months are recorded on the balance sheet as a lease asset and lease liability. If at inception of a contract, a lease is identified, we recognize a lease asset and a corresponding lease liability based on the present value of the lease payments over the lease term, discounted using our incremental borrowing rate, unless an implicit rate is readily determinable. Lease payments include fixed and variable lease components derived from usage or market-based indices, such as the consumer price index. Other variable lease payments may fluctuate for a variety of reasons including usage, output, insurance or taxes. These variable amounts are expensed as incurred and not included in the lease assets or lease liabilities. Options to extend or terminate a lease are reflected in the lease payments and lease term when it is reasonably certain that we will exercise those options. Leases are classified as either finance or operating, with classification affecting the pattern of expense recognition in the Consolidated Statements of Income. The majority of our leases are operating leases for which we recognize lease expense on a straight-line basis over the lease term. We apply the practical expedient to account for lease and associated non-lease components as a single lease component for all asset classes with the exception of utilities and pipeline assets within major manufacturing equipment. For these assets, non-lease components are separated from lease components and accounted for as normal operating expenses. Leases with an initial term of 12 months or less are recognized in the Consolidated Statements of Income on a straight-line basis over the lease term.

Financial Instruments and Hedging Activities

Pursuant to our risk management policies, we selectively enter into derivative transactions to manage market risk volatility associated with changes in commodity pricing, currency exchange rates and interest rates. Certain derivatives used for this purpose are designated as net investment hedges, cash flow hedges or fair value hedges. Derivative instruments are recorded at fair value on the balance sheet. Gains and losses related to changes in the fair value of derivative instruments not designated as hedges are recorded in earnings.

Cash flows from derivatives designated as hedges are reported in our Consolidated Statements of Cash Flows under the same category as the cash flows from the hedged items unless the derivative contract contains a significant financing element. Cash flows for derivatives with a significant financing element are classified as Cash flows from financing activities. Cash flows related to economic hedges are classified consistent with the cash flows of the economic hedged items.

Net Investment Hedges—We enter into foreign currency derivatives and foreign currency denominated debt to reduce the volatility in shareholders' equity resulting from changes in currency exchange rates of our foreign subsidiaries with respect to the U.S. dollar. Our foreign currency derivatives consist of cross-currency contracts and forward exchange contracts.

We use the critical terms approach through the application of the spot method to assess hedge effectiveness at least quarterly. For derivatives designated as net investment hedges, gains or losses attributable to changes in spot foreign exchange rates over the designation period are reflected in foreign currency translation adjustments within other comprehensive income (loss). Recognition in earnings is delayed until the net investment is sold or liquidated. At that time, the amount recognized is reported in the same line item as the gain or loss on the liquidation of the hedged foreign operations. For our cross-currency swaps, the associated interest receipts and payments are recorded in Interest expense. For our foreign currency forward contracts, we amortize initial forward point values on a straight-line basis to interest expense over the life of the hedging instrument. We monitor on a quarterly basis for any over-hedged positions requiring de-designation and re-designation of the hedge to remove such over-hedged condition.

Cash Flow Hedges—We enter into cash flow hedges to manage the variability in cash flows of a future transaction. Our cash flow hedges include cross currency swaps, forward starting interest rate swaps and commodity swaps. For derivatives designated as cash flow hedges, the gains and losses are recorded in other comprehensive income (loss) and released to earnings in the same line item and in the same period during which the hedged item affects earnings.

We use the critical terms and the quantitative long-haul methods to assess hedge effectiveness and monitor, at least quarterly, any change in effectiveness.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We have cross-currency swap contracts designated as cash flow hedges to reduce our exposure to the foreign currency exchange risk associated with certain intercompany loans. Under the terms of these contracts, we make interest payments in euros and receive interest in U.S. dollars. Upon the maturities of these contracts, we will pay the principal amount of the loans in euros and receive U.S. dollars from our counterparties.

We enter into forward-starting interest rate contracts to mitigate the risk of adverse changes in benchmark interest rates on future anticipated debt issuances.

We also execute commodity futures, options and swaps to manage the volatility of the commodity price related to anticipated purchases of raw materials and product sales. We enter into over-the-counter commodity swaps and options with one or more counterparties whereby we pay a predetermined fixed price and receive a price based on the average monthly rate of a specified index for the specified nominated volumes.

Fair Value Hedges—We use interest rate swaps as part of our current interest rate risk management strategy to achieve a desired proportion of variable versus fixed rate debt. Under these arrangements, we exchange fixed-rate for floating-rate interest payments to effectively convert our fixed-rate debt to floating-rate debt. For derivatives that have been designated as fair value hedges, the gains and losses of the derivatives and hedged items are recorded in earnings.

We use the long-haul method to assess hedge effectiveness using a regression analysis approach at least quarterly. We perform the regression analysis over an observation period of three years, utilizing data that is relevant to the hedge duration.

Fair Value Measurements

We categorize assets and liabilities, measured at fair value, into one of three different levels depending on the observability of the inputs employed in the measurement. Level 1 inputs are quoted prices for identical instruments in active markets. Level 2 inputs are quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs or significant value-drivers are observable. Level 3 inputs are model-derived valuations in which one or more significant inputs or significant value-drivers are unobservable.

Fair value measurements are classified according to the lowest level input or value-driver that is significant to the valuation. A measurement may therefore be classified within Level 3 even though there may be significant inputs that are readily observable.

Changes in Fair Value Levels—Management reviews the disclosures regarding fair value measurements at least quarterly. If an instrument classified as Level 1 subsequently ceases to be actively traded, it is transferred out of Level 1. In such cases, instruments are reclassified as Level 2, unless the measurement of its fair value requires the use of significant unobservable inputs, in which case it is reclassified as Level 3.

We use the following inputs and valuation techniques to estimate the fair value of our financial instruments disclosed in Note 13 to the Consolidated Financial Statements.

Cross-Currency Swaps—The fair value of our cross-currency swaps is calculated using the present value of future cash flows discounted using observable inputs such as known notional value amounts, yield curves, basis curves, as applicable, and with the foreign currency leg revalued using published spot and forward exchange rates on the valuation date.

Forward-Starting and Fixed-for-Floating Interest Rate Swaps—The fair value of our forward-starting and fixed-for-floating interest rate swaps is calculated using the present value of future cash flows using observable inputs such as benchmark interest rates and market yield curves.

Commodity Derivatives—The fair values of our commodity derivatives are measured using closing market prices of public exchanges and from third-party broker quotes and pricing providers.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The fair value of our commodity swaps classified as Level 2 is determined using a combination of observable and unobservable inputs. The observable inputs consist of future market values of various crude and heavy fuel oils, which are readily available through public data sources. The unobservable input, which is the estimated discount or premium used in the market pricing, is calculated using an internally-developed, multi-linear regression model based on the observable prices of the known components and their relationships to historical prices. A significant change in this unobservable input would not have a material impact on the fair value measurement of our Level 2 commodity swaps.

Forward Exchange Contracts—The fair value of our forward exchange contracts is based on forward market rates.

Equity Securities—The fair value of our investment in equity securities is based on the net asset value provided by the fund administrator.

Short-Term Debt—The fair value of short-term borrowings related to precious metal financing arrangements, accounted for as embedded derivatives, is determined based on the future price of the associated precious metal.

Long-Term Debt—The fair value of our senior and guaranteed notes is calculated using pricing data obtained from well-established and recognized vendors of market data for debt valuations.

Fair Value Measurements - Pension Assets

We use the following inputs and valuation techniques to estimate the fair value of our pension assets disclosed in Note 14 to the Consolidated Financial Statements.

Common and Preferred Stock—Valued at the closing price reported on the market on which the individual securities are traded.

Fixed Income Securities—Certain securities that are not traded on an exchange are valued at the closing price reported by pricing services. Other securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Commingled Funds—Valued based upon the net asset value of units of such commingled trust funds held at year end by the pension plans. Unit values are based on the fair value of the underlying assets of the fund derived from inputs principally from, or corroborated by, observable market data by correlation or other means.

Real Estate—Valued based upon the net asset value of units of the real estate fund or partnership held by the master trust at year end.

Hedge Funds—Valued based upon the unit values of such alternative investments held at year end by the pension plans. Unit values are based on the fair value of the underlying assets of the fund.

Private Equity—Valued based upon the unit values of such alternative investments held at year end by the pension plans. Unit values are based on the fair value of the underlying assets of the fund. Certain securities held in the fund are valued at the closing price reported on an exchange or other established quotation service for over-the-counter securities. Other assets held in the fund are valued based on the most recent financial statements prepared by the fund manager.

Convertible Securities—Valued at the quoted prices for similar assets or liabilities in active markets.

U.S. Government Securities—Certain securities, including Separate Trading of Registered Interest and Principal of Securities, are valued at the closing price reported on the active market on which the individual securities are traded.

Cash and Cash Equivalents—Valued at the quoted prices for identical assets or liabilities in active markets.

Non-U.S. Insurance Arrangements—Valued based upon the estimated cash surrender value of the underlying insurance contract, which is derived from an actuarial determination of the discounted benefits cash flows.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Employee Benefits

Pension Plans—We have funded and unfunded defined benefit plans and defined contribution plans. For the defined benefit plans, a projected benefit obligation is calculated annually by independent actuaries using the projected unit credit method. Pension costs primarily represent the increase in the actuarial present value of the obligation for pension benefits based on employee service during the year and the interest on this obligation in respect of employee service in previous years, net of expected return on plan assets.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity and are reflected in Accumulated other comprehensive income (loss) in the period in which they arise.

Other Post-Employment Obligations—Certain employees are entitled to post-retirement medical benefits upon retirement. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment applying the same accounting methodology used for defined benefit plans.

Termination Benefits—Contractual termination benefits are payable when employment is terminated due to an event specified in the provisions of a social/labor plan or statutory law. A liability is recognized for one-time termination benefits when we are committed to (i) make payments and the number of affected employees and the benefits to be received are known to both parties, and (ii) terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal and can reasonably estimate such amount. Benefits falling due more than 12 months after the balance sheet date are discounted to present value.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Supply Chain Finance Arrangements

We facilitate a voluntary supply chain finance program that provides suppliers, at their sole discretion, the opportunity to sell their receivables due from us to a participating financial intermediary in order to be paid earlier than our contracted payment terms. We are not a party to any agreement between our suppliers and the financial intermediary. When a supplier utilizes the program and receives an early payment from the financial intermediary, the supplier takes a discount on the invoice. We pay the financial intermediary the full amount of the invoice on the contractually agreed upon due date. The majority of the suppliers using the program are on 90-day payment terms. There is no economic impact to the Company from a supplier's decision to take an early payment. No guarantees are provided by us or any of our subsidiaries under the program.

As of December 31, 2024 and 2023, Accounts payable-Trade included \$141 million and \$65 million, respectively, payable to suppliers who have elected to participate in the supply chain financing program.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes the activity in our supply chain financing program included in Accounts Payable-Trade:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u> <u>2024</u>
Confirmed obligations outstanding at the beginning of the year	\$ 65
Invoices confirmed during the year	767
Confirmed invoices paid during the year	(691)
Confirmed obligations outstanding at the end of the year	<u>\$ 141</u>

Recently Adopted Guidance

Segment Disclosures—In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*. The guidance improves the disclosures about a public entity’s reportable segments and addresses requests from investors for additional, detailed information about a reportable segment’s expenses. The guidance is effective for fiscal years beginning after December 15, 2023 and interim periods within fiscal years beginning after December 15, 2024. The adoption of this ASU at *December 31, 2024* did not have a material impact on the Consolidated Financial Statements.

Accounting Guidance Issued But Not Adopted as of December 31, 2024

Expense Disaggregation Disclosures—In November 2024, the FASB issued ASU 2024-03, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses*. This guidance requires incremental disclosures about specific expense categories, including but not limited to, purchases of inventory, employee compensation, depreciation, amortization and selling expenses. The amendments are effective for fiscal years beginning after December 15, 2026, and for interim periods within fiscal years beginning after December 15, 2027. Early adoption is permitted, and the amendments may be applied either prospectively or retrospectively. The adoption of this ASU will not have a material impact on our Consolidated Financial Statements as the guidance relates only to disclosure.

Income Tax Disclosures—In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*. The guidance requires companies to disclose certain specific categories in the rate reconciliation and provide additional information for reconciling items that meet the quantitative threshold of 5% of the expected tax using the applicable statutory income tax rate. There is also a required disclosure to provide the net income taxes paid or received disaggregated by federal, state, and foreign taxes with jurisdictions to be separately disclosed if the jurisdiction is 5% or more of the total net income taxes paid or received. The guidance is effective for annual periods beginning after December 15, 2024. Earlier adoption is permitted. We intend to adopt the new guidance to our Income Tax Disclosures in 2025, when effective. There is no material impact on our Consolidated Financial Statements.

3. Revenues

Contract Balances—Contract liabilities were \$117 million and \$175 million at December 31, 2024 and 2023, respectively. Revenue recognized in each reporting period, included in the contract liability balance at the beginning of the period, was immaterial.

Disaggregation of Revenues—We participate globally across the petrochemical value chain and are an industry leader in many of our product lines. Our chemicals businesses consist primarily of large processing plants that convert large volumes of liquid and gaseous hydrocarbon feedstocks into plastic resins and other chemicals. Our chemical products tend to be basic building blocks for other chemicals and plastics. Our plastic products are used in large volumes as well as smaller specialty applications. Our refining business consists of our Houston refinery, which processes crude oil into refined products such as gasoline and distillates.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Revenues disaggregated by key products are summarized below:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Sales and other operating revenues:			
Olefins and co-products	\$ 3,889	\$ 3,508	\$ 4,782
Polyethylene	7,583	7,587	9,694
Polypropylene	6,287	5,642	7,458
Propylene oxide and derivatives	2,357	2,287	3,097
Oxyfuels and related products	5,074	5,640	5,482
Intermediate chemicals	2,693	2,864	4,012
Compounding and solutions	3,616	3,686	4,197
Refined products	8,080	9,179	10,975
Other	723	714	754
Total	<u>\$ 40,302</u>	<u>\$ 41,107</u>	<u>\$ 50,451</u>

The following table presents our revenues disaggregated by geography, based upon the location of the customer:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Sales and other operating revenues:			
United States	\$ 19,467	\$ 20,003	\$ 24,789
Germany	2,410	2,547	3,555
China	2,375	2,164	2,533
Mexico	1,757	1,642	2,042
Italy	1,418	1,365	1,737
Japan	1,338	1,749	1,954
France	1,069	1,091	1,366
Poland	923	905	1,271
The Netherlands	724	805	1,178
Other	8,821	8,836	10,026
Total	<u>\$ 40,302</u>	<u>\$ 41,107</u>	<u>\$ 50,451</u>

Transaction Price Allocated to the Remaining Performance Obligations—Our contracts with customers are commodity supply arrangements that settle based on market prices at future delivery dates; therefore, transaction prices are entirely variable. Transaction prices are known at the time revenue is recognized since they are generally determined by the commodity price index at a specific date, at month-end or at the month average once products are shipped to our customers. Future estimates of transaction prices for disclosure purposes are substantially constrained as they are highly susceptible to factors outside our control, including volatility in commodity markets, industry production capacities and operating rates, planned and unplanned industry operating interruptions, foreign exchange rates and worldwide geopolitical trends. We have elected the practical expedient to not disclose unsatisfied performance obligations with an original contract duration of one year or less.

4. Related Party Transactions

We have related party transactions with our joint ventures. These related party transactions include the sales and purchases of goods and services in the normal course of business as well as certain financing arrangements.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

These transactions are summarized as follows:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
The Company billed related parties for:			
Sales of products	\$ 634	\$ 614	\$ 1,012
Shared service agreements	10	4	2
Total	\$ 644	\$ 618	\$ 1,014
Related parties billed the Company for:			
Sales of products	\$ 3,899	\$ 3,673	\$ 4,837
Shared service agreements	40	79	94
Total	\$ 3,939	\$ 3,752	\$ 4,931

5. Accounts Receivable

Our receivables primarily consist of customer accounts. We perform ongoing credit evaluations of our customers' financial condition and, in certain circumstances, require letters of credit or corporate guarantees from them. Accounts receivable are reflected in the Consolidated Balance Sheets, net of allowance for credit losses of \$4 million and \$6 million as December 31, 2024 and 2023, respectively. We recorded allowances for credit losses for receivables, which are reflected in the Consolidated Statements of Income, however, such amounts were immaterial for each of the years ended December 31, 2024, 2023 and 2022.

6. Inventories

Inventories consisted of the following components at December 31:

<u>Millions of dollars</u>	2024	2023
Finished goods	\$ 3,014	\$ 3,134
Work-in-process	145	182
Raw materials and supplies	1,499	1,449
Total inventories	\$ 4,658	\$ 4,765

At December 31, 2024 and 2023, approximately 75% and 78%, respectively, of our inventories were valued using the last in, first out ("LIFO") method and the remaining inventories, consisting primarily of materials and supplies, were valued at the moving average cost method. The excess of the estimated net realizable value of our inventories over LIFO cost was approximately \$1,310 million and \$1,478 million at December 31, 2024 and 2023, respectively.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

7. Property, Plant and Equipment, Goodwill and Intangible Assets

Property, Plant and Equipment—The components of property, plant and equipment, at cost, and the related accumulated depreciation are as follows at December 31:

<u>Millions of dollars</u>	<u>Estimated Useful Life (years)</u>	<u>2024</u>	<u>2023</u>
Land		\$ 280	\$ 327
Major manufacturing equipment	25	14,303	14,875
Buildings	30	2,508	2,513
Light equipment and instrumentation	5 - 20	3,471	3,793
Office furniture	15	21	21
Major turnarounds	4 - 7	1,803	1,888
Information system equipment	3 - 5	70	67
Construction in progress		1,718	1,422
Total property, plant and equipment		24,174	24,906
Less accumulated depreciation		(9,108)	(9,359)
Property, plant and equipment, net		\$ 15,066	\$ 15,547

Capitalized Interest—We capitalize interest costs incurred on funds used to construct property, plant and equipment. In 2024, 2023 and 2022, we capitalized interest of \$19 million, \$7 million and \$114 million, respectively.

Intangible Assets—The components of identifiable intangible assets, at cost, and the related accumulated amortization are as follows at December 31:

<u>Millions of dollars</u>	<u>2024</u>			<u>2023</u>		
	<u>Cost</u>	<u>Accumulated Amortization</u>	<u>Net</u>	<u>Cost</u>	<u>Accumulated Amortization</u>	<u>Net</u>
Emission allowances	\$ 744	\$ (525)	\$ 219	\$ 760	\$ (514)	\$ 246
Customer relationships	309	(125)	184	317	(108)	209
Software costs	188	(86)	102	161	(63)	98
Other	728	(656)	72	736	(648)	88
Total intangible assets	\$ 1,969	\$ (1,392)	\$ 577	\$ 1,974	\$ (1,333)	\$ 641

Amortization of these identifiable intangible assets for the next five years is expected to be \$92 million in 2025, \$73 million in 2026, \$57 million in 2027, \$42 million in 2028 and \$42 million in 2029.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Depreciation and Amortization Expense—Depreciation and amortization expense is summarized as follows:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Property, plant and equipment	\$ 1,323	\$ 1,303	\$ 1,033
PO Joint Ventures and Louisiana Joint Venture	118	148	155
Emission allowances	8	8	8
Customer relationships	21	20	19
Software costs	23	17	14
Other	29	38	38
Total depreciation and amortization	<u>\$ 1,522</u>	<u>\$ 1,534</u>	<u>\$ 1,267</u>

Impairment—In 2024, we announced a strategic review of some of our European assets with the goal of strengthening our future profitability. The review is ongoing, and we remain committed to safe and efficient operations as well as delivering on our customer commitments. During the fourth quarter of 2024, as a part of our quarterly asset impairment analysis, we assessed the assets included in the scope of our strategic review for impairment. Our assessment resulted in the recognition of a \$837 million non-cash property, plant and equipment impairment charge in our O&P-EAI segment. The impairment charge reflects challenging market conditions in the region. Additionally, unfavorable market conditions resulted in the loss of customers in our APS specialty powders business unit, resulting in a non-cash impairment charge of \$55 million related to property, plant and equipment.

Fair values for these impairments were determined utilizing a discounted cash flow method under the income approach and assumptions including management's view on long-term growth rates in our industry, discount rates and other assumptions based on a market participant perspective. In the fourth quarter of 2024 we launched a marketing effort to gauge market interest in the European assets included in our strategic review. Fair value indicators obtained through our marketing efforts were also considered. These are inherently subjective fair value measurements and are classified as Level 3 within the fair value hierarchy and reflected as Impairments in the Consolidated Statements of Income.

Asset Retirement Obligations—In certain cases, we are contractually obligated to decommission our plants upon exiting a site. In such cases, we have accrued the net present value of the estimated costs. As of December 31, 2024 and 2023 asset retirement obligations associated with our planned exit from the refinery business were \$262 million and \$259 million, respectively. The remaining asset retirement obligations are primarily related to our facilities in Europe.

The changes in our asset retirement obligations are as follows:

<u>Millions of dollars</u>	Year Ended December 31,	
	2024	2023
Beginning balance	\$ 311	\$ 305
Liabilities settled	(6)	(5)
Changes in estimates	3	—
Accretion expense	9	10
Effects of exchange rate changes	(2)	1
Ending balance	<u>\$ 315</u>	<u>\$ 311</u>

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Although we may have asset retirement obligations associated with some of our other facilities, the present value of those obligations is not material in the context of an indefinite expected life of the facilities. We continually review the optimal future alternatives for our facilities. Any decision to retire one or more facilities may result in an increase in the present value of such obligations.

Discontinued Operations—We began reporting the Berre refinery as a discontinued operation in the second quarter of 2012. The estimated cost and associated cash flows pertaining to the final closure and dismantlement of our Berre refinery from the Prefect of Bouches du Rhone are not deemed to be material.

We anticipate the exit of our Houston refinery operations will be substantially completed in the first quarter of 2025. As a result, we will report these operations as discontinued operations in the first quarter of 2025. See Note 20 to the Consolidated Financial Statements for additional information.

Goodwill—The changes in the carrying amount of goodwill in each of the Company’s reportable segments for the years ended December 31, 2024 and 2023 were as follows:

Millions of dollars	O&P - Americas	O&P - EAI	I&D	APS	Technology	Total
December 31, 2022	\$ 162	\$ 86	\$ 201	\$ 1,370	\$ 8	\$ 1,827
Reallocation of goodwill	315	269	—	(584)	—	—
Acquisitions	—	—	—	31	—	31
Assets held for sale	—	—	(14)	—	—	(14)
Impairment charge	—	—	—	(252)	—	(252)
Foreign currency translation adjustments	—	25	28	2	—	55
December 31, 2023	477	380	215	567	8	1,647
Foreign currency translation adjustments	(5)	(25)	(6)	(50)	—	(86)
December 31, 2024	\$ 472	\$ 355	\$ 209	\$ 517	\$ 8	\$ 1,561

Goodwill as of December 31, 2024 and 2023 is presented net of accumulated impairment charges of \$252 million related to a 2023 impairment charge recognized in our Advanced Polymer Solutions segment.

As of December 31, 2022, goodwill included in our Advanced Polymer Solutions reporting unit was \$1,370 million, the majority of which related to the 2018 acquisition of A. Schulman. As of December 31, 2022, a large portion of the Advanced Polymer Solutions reporting unit’s fair value was derived from our *Catalloy* and polybutene-1 businesses, which had disproportionately low carrying values in comparison to the remaining assets of the reporting unit, which had relatively higher carrying values due to the 2018 purchase price allocation associated with the acquisition of A. Schulman. Effective January 1, 2023, our *Catalloy* and polybutene-1 businesses were moved from our Advanced Polymer Solutions segment and reintegrated into our Olefins and Polyolefins-Americas and Olefins and Polyolefins-Europe, Asia, International segments. Accordingly, on January 1, 2023, we allocated goodwill of \$584 million from our Advanced Polymer Solutions segment to our Olefins and Polyolefins-Americas and Olefins and Polyolefins-Europe, Asia, International segments. The amounts allocated were \$315 million and \$269 million for Olefins and Polyolefins-Americas and Olefins and Polyolefins-Europe, Asia, International segments, respectively. The allocation was based on the fair values of the businesses that were reintegrated relative to the fair value of the Advanced Polymer Solutions segment.

As a result of the reallocation of goodwill and the change in both fair value and carrying value among reporting units, we recognized a non-cash goodwill impairment charge of \$252 million in the first quarter of 2023 in our Advanced Polymer Solutions segment. Fair values were determined utilizing a discounted cash flow method under the income approach and assumptions including management’s view on long-term growth rates in our industry, discount rates and other assumptions based on a market participant perspective, which are inherently subjective. The fair value of the reporting unit is Level 3 within the fair value hierarchy. The charge is reflected as Impairments in the Consolidated Statements of Income.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

8. Equity Investments

Our principal equity investments are as follows at December 31:

Percent of Ownership	2024	2023
<u>Olefins and Polyolefins-Americas</u>		
Louisiana Joint Venture	50.00 %	50.00 %
Indelpro S.A. de C.V.	49.00 %	49.00 %
<u>Olefins and Polyolefins-Europe, Asia, International</u>		
Basell Orlen Polyolefins Sp. Z.o.o.	50.00 %	50.00 %
PolyMirae Co. Ltd.	50.00 %	50.00 %
Bora LyondellBasell Petrochemical Co. Ltd.	50.00 %	50.00 %
National Petrochemical Industrial Company	35.00 %	— %
HMC Polymers Company Ltd.	28.56 %	28.56 %
Al-Waha Petrochemicals Ltd.	25.00 %	25.00 %
Saudi Ethylene & Polyethylene Company Ltd.	25.00 %	25.00 %
Saudi Polyolefins Company	25.00 %	25.00 %
<u>Intermediates and Derivatives</u>		
U.S. PO Joint Venture	60.62 %	60.62 %
European PO JV	50.00 %	50.00 %
Ningbo ZRCC Lyondell Chemical Co. Ltd.	26.65 %	26.65 %

The following table summarizes changes in our equity investments:

Millions of dollars	Year Ended December 31,	
	2024	2023
Beginning balance	\$ 3,907	\$ 4,295
Capital contributions	113	54
Loss from equity investments	(217)	(20)
Acquisition of equity investments	551	102
Distribution of earnings, net of tax	(122)	(169)
Depreciation of PO Joint Ventures and Louisiana Joint Venture	(118)	(148)
Impairments	(13)	(192)
Currency exchange effects	(26)	9
Other	46	(24)
Ending balance	\$ 4,121	\$ 3,907

Capital contributions in 2024 and 2023 include \$84 million and \$32 million, respectively, related to our PO Joint Ventures.

Acquisition of Joint Venture—In May 2024, we acquired a 35% interest in Saudi Arabia-based National Petrochemical Industrial Company (“NATPET”) from Alujain Corporation for approximately \$500 million. The joint venture currently has the capacity to produce 400 thousand tons of polypropylene per year. We will market the majority of the off-take through our global sales team. The joint venture is included in our O&P-EAI segment and accounted for using the equity method of accounting.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Impairments—During the fourth quarter of 2023, we recognized a non-cash impairment charge of \$192 million related to our European PO joint venture due to a trend of negative financial performance and the unfavorable long-term economic outlook for the joint venture. The fair value of our investment was determined using an income approach and the significant inputs used in our fair value determination, including projected cash flows and the discount rate, are considered Level 3. This charge is reflected as Impairments in the Consolidated Statements of Income.

Summarized balance sheet information of our investments accounted for under the equity method (presented on a 100% basis) at December 31 are as follows:

<u>Millions of dollars</u>	2024	2023
Current assets	\$ 3,230	\$ 3,622
Noncurrent assets	8,517	10,810
Total assets	11,747	14,432
Current liabilities	1,637	2,903
Noncurrent liabilities	1,064	2,300
Net assets	\$ 9,046	\$ 9,229

Summarized income statement information of our investments accounted for under the equity method (presented on a 100% basis) are as follows:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Revenues	\$ 13,113	\$ 12,540	\$ 15,435
Cost of sales	(12,669)	(12,044)	(14,900)
Gross profit	444	496	535
Net operating expenses	(614)	(514)	(519)
Operating (loss) income	(170)	(18)	16
Interest income	26	23	7
Interest expense	(148)	(131)	(24)
Foreign currency translation	(17)	(1)	(1)
Other expense, net	(3)	(23)	(26)
Loss before income taxes	(312)	(150)	(28)
(Provision for) benefit from income taxes	(252)	22	(1)
Net loss	\$ (564)	\$ (128)	\$ (29)

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

9. Prepaid Expenses, Other Current Assets and Other Assets

The components of Prepaid expenses and other current assets were as follows at December 31:

<u>Millions of dollars</u>	<u>2024</u>	<u>2023</u>
Assets held for sale	\$ —	\$ 444
Income tax receivable	79	268
VAT receivables	179	214
Financial derivatives	210	184
Renewable identification numbers	127	113
Advances to suppliers	83	90
Prepaid insurance	36	36
Other	214	126
Total prepaid expenses and other current assets	<u>\$ 928</u>	<u>\$ 1,475</u>

The components of Other assets were as follows at December 31:

<u>Millions of dollars</u>	<u>2024</u>	<u>2023</u>
Deferred tax assets	\$ 259	\$ 196
Company-owned life insurance	46	48
Financial derivatives	75	45
Pension assets	56	39
Other	252	249
Total other assets	<u>\$ 688</u>	<u>\$ 577</u>

10. Accrued and Other Current Liabilities

Accrued and other current liabilities consisted of the following components at December 31:

<u>Millions of dollars</u>	<u>2024</u>	<u>2023</u>
Payroll and benefits	\$ 517	\$ 497
Operating lease liabilities	355	360
Renewable identification numbers	132	220
Financial derivatives	71	242
Taxes other than income taxes	199	183
Contract liabilities	110	175
Income taxes	311	143
Product sales rebates	132	140
Interest	127	123
Liabilities held for sale	—	120
Asset Retirement Obligations	113	1
Other	289	232
Total accrued and other current liabilities	<u>\$ 2,356</u>	<u>\$ 2,436</u>

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

11. Debt

Long-term loans, notes and other debt, net of unamortized discount, debt issuance cost and cumulative fair value hedging adjustments, consisted of the following at December 31:

Millions of dollars	2024	2023
Senior Notes due 2024, \$1,000 million, 5.75%	\$ —	\$ 775
Senior Notes due 2055, \$1,000 million, 4.625% (\$15 million of discount; \$10 million of debt issuance cost)	975	975
Guaranteed Notes due 2027, \$300 million, 8.1%	300	300
Issued by LYB International Finance B.V.:		
Guaranteed Notes due 2043, \$750 million, 5.25% (\$18 million of discount; \$6 million of debt issuance cost)	726	726
Guaranteed Notes due 2044, \$1,000 million, 4.875% (\$9 million of discount; \$8 million of debt issuance cost)	983	982
Issued by LYB International Finance II B.V.:		
Guaranteed Notes due 2026, €500 million, 0.875% (\$1 million of debt issuance cost)	515	542
Guaranteed Notes due 2027, \$1,000 million, 3.5% (\$2 million of discount; \$1 million of debt issuance cost)	584	585
Guaranteed Notes due 2031, €500 million, 1.625% (\$3 million of discount; \$2 million of debt issuance cost)	514	542
Issued by LYB International Finance III, LLC:		
Guaranteed Notes due 2025, \$500 million, 1.25% (\$1 million of debt issuance cost)	487	481
Guaranteed Notes due 2030, \$500 million, 3.375% (\$1 million of debt issuance cost)	123	124
Guaranteed Notes due 2030, \$500 million, 2.25% (\$2 million of discount; \$3 million of debt issuance cost)	473	474
Guaranteed Notes due 2033, \$500 million, 5.625% (\$5 million of debt issuance cost)	495	495
Guaranteed Notes due 2034, \$750 million, 5.5% (\$5 million of discount; \$7 million of debt issuance cost)	738	—
Guaranteed Notes due 2040, \$750 million, 3.375% (\$1 million of discount; \$7 million of debt issuance cost)	742	742
Guaranteed Notes due 2049, \$1,000 million, 4.2% (\$14 million of discount; \$10 million of debt issuance cost)	976	976
Guaranteed Notes due 2050, \$1,000 million, 4.2% (\$6 million of discount; \$10 million of debt issuance cost)	982	975
Guaranteed Notes due 2051, \$1,000 million, 3.625% (\$2 million of discount; \$10 million of debt issuance cost)	918	916
Guaranteed Notes due 2060, \$500 million, 3.8% (\$4 million of discount; \$5 million of debt issuance cost)	482	483
Other	17	22
Total	11,030	11,115
Less current maturities	(498)	(782)
Long-term debt	\$ 10,532	\$ 10,333

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Fair value hedging adjustments associated with the fair value hedge accounting of our fixed-for-floating interest rate swaps for the applicable periods are as follows:

Millions of dollars	Gains (Losses)		Cumulative Fair Value Hedging Adjustments Included in Carrying Amount of Debt	
	Year Ended December 31,		December 31,	
	2024	2023	2024	2023
Guaranteed Notes due 2025, 1.25%	\$ (5)	\$ (5)	\$ 4	\$ 9
Guaranteed Notes due 2026, 0.875%	(4)	(5)	4	8
Guaranteed Notes due 2027, 3.5%	3	2	5	2
Guaranteed Notes due 2030, 3.375%	1	(4)	18	17
Guaranteed Notes due 2030, 2.25%	1	(4)	21	20
Guaranteed Notes due 2031, 1.625%	(2)	(8)	1	3
Guaranteed Notes due 2050, 4.2%	(7)	(4)	2	9
Guaranteed Notes due 2051, 3.625%	(2)	(18)	70	72
Guaranteed Notes due 2060, 3.8%	2	(2)	9	7
Total	<u>\$ (13)</u>	<u>\$ (48)</u>	<u>\$ 134</u>	<u>\$ 147</u>

Fair value adjustments are recognized in Interest expense in the Consolidated Statements of Income.

Aggregate maturities of debt during the next five years are \$617 million in 2025, which includes \$492 million that remains outstanding under our 1.25% Guaranteed Notes due 2025, \$522 million in 2026, \$893 million in 2027, \$1 million in 2028, \$1 million in 2029 and \$9,420 million thereafter. We may repay maturing debt using cash and cash equivalents, cash from operating activities, proceeds from the issuance of debt or other sources of cash.

Long-Term Debt

Senior Revolving Credit Facility—In July 2024, we amended our credit agreement to increase our senior unsecured revolving credit facility (the “Senior Revolving Credit Facility”) from \$3,250 million to \$3,750 million and extend the maturity to July 2029. Our Senior Revolving Credit Facility may be used for dollar and euro denominated borrowings. The facility has a \$200 million sub-limit for dollar and euro denominated letters of credit, a \$1,000 million uncommitted accordion feature, and supports our commercial paper program. Borrowings under the facility bear interest at either a base rate, SOFR or EURIBOR rate, plus an applicable margin. Additional fees are incurred for the average daily unused commitments. At December 31, 2024, we had no borrowings or letters of credit outstanding and \$3,750 million of unused availability under this facility.

The facility contains customary covenants and warranties, including specified restrictions on indebtedness and liens. Additionally, we are required to maintain a maximum leverage ratio (calculated as the ratio of total net funded debt to consolidated earnings before interest, taxes and depreciation and amortization, both as defined in the Amended and Restated Credit Agreement) financial covenant 3.50 to 1.00. In the event an acquisition meeting certain thresholds is consummated we can elect to increase the maximum leverage ratio for each of the first six fiscal quarters ending after such acquisition as indicated in the Amended and Restated Credit Agreement.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Covenants and Provisions—Our \$300 million 8.1% guaranteed notes due 2027, which are guaranteed by LyondellBasell Industries Holdings B.V., a wholly owned subsidiary of LyondellBasell Industries N.V., contain certain restrictions with respect to the level of maximum debt that can be incurred and security that can be granted by certain operating companies that are direct or indirect wholly owned subsidiaries of LyondellBasell Industries Holdings B.V. These notes contain customary provisions for default, including, among others, the non-payment of principal and interest, certain failures to perform or observe obligations under the Agreement on the notes, the occurrence of certain defaults under other indebtedness, failure to pay certain indebtedness and the insolvency or bankruptcy of certain LyondellBasell Industries N.V. subsidiaries.

The indentures governing all other notes contain limited covenants, including those restricting our ability and the ability of our subsidiaries to incur indebtedness secured by significant property or by capital stock of subsidiaries that own significant property, enter into certain sale and lease-back transactions with respect to any significant property or enter into consolidations, mergers or sales of all or substantially all of our assets.

We may redeem some of our notes at any time in whole, or from time to time in part, prior to their scheduled maturity dates, at a redemption price equal to the greater of (i) 100% of the principal amount of the notes redeemed and (ii) the sum of the present values of the remaining scheduled payments of principal and interest (discounted at the applicable treasury yield or comparable government bond rate plus their respective basis points) on the notes to be redeemed. Some of our notes may also be redeemed prior to their respective maturity dates, at a redemption price equal to 100% of the principal amount of the notes redeemed plus accrued and unpaid interest. Certain notes are also redeemable upon certain tax events.

As of December 31, 2024, we are in compliance with our debt covenants.

Guaranteed Notes due 2034—In February 2024, LYB International Finance III, LLC (“LYB Finance III”), a wholly owned finance subsidiary of LyondellBasell Industries N.V., issued \$750 million of 5.5% guaranteed notes due 2034 (the “2034 Notes”) at a discounted price of 99.2%. Net proceeds after deducting original issuance discounts, underwriting fees and offering expenses totaled \$737 million. We used the net proceeds to repay our 5.75% senior notes due 2024.

Senior Notes due 2024—In March 2024, we repaid the \$775 million remaining outstanding principal of our 5.75% senior notes due 2024.

Guaranteed Notes due 2033—In May 2023, LYB International Finance III, LLC (“LYB Finance III”), a wholly owned finance subsidiary of LyondellBasell Industries N.V., issued \$500 million of 5.625% guaranteed notes due 2033 (the “2033 Notes”) at a discounted price of 99.895%. Net proceeds from the sale of the notes totaled \$495 million, after deducting underwriting discounts and offering expenses.

The 2033 Notes are the first green financing instruments we have issued related to our green financing framework. Net proceeds from the sale of the 2033 Notes are being used to finance or refinance, in whole or in part, new or existing eligible green projects in the areas of circular economy, renewable energy, pollution prevention and control, and energy efficiency as discussed further below.

Guaranteed Notes due 2023—In July 2023, we repaid the \$425 million remaining of outstanding principal on our 4.0% guaranteed notes due 2023.

Green Financing Framework—As of December 31, 2024, we have fully allocated the proceeds towards qualifying projects. This includes approximately \$300 million and \$155 million related to new eligible green projects in 2024 and 2023, respectively.

Short-Term Debt

U.S. Receivables Facility—Our U.S. Receivables Facility has a purchase limit of \$900 million in addition to a \$300 million uncommitted accordion feature. In May 2024, we extended the term of the facility to June 2025. This facility provides liquidity through the sale or contribution of trade receivables by certain of our U.S. subsidiaries to a wholly owned, bankruptcy-remote subsidiary on an ongoing basis and without recourse. The bankruptcy-remote subsidiary may then, at its option and subject to a borrowing base of eligible receivables, sell undivided interests in the pool of trade receivables to

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

financial institutions participating in the facility (“Purchasers”). The sale of the undivided interest in the pool of trade receivables is accounted for as a secured borrowing in the Consolidated Balance Sheets. We are responsible for servicing the receivables. We pay variable interest rates on our secured borrowings. Additional fees are incurred for the average daily unused commitments. In the event of liquidation, the bankruptcy-remote subsidiary’s assets will be used to satisfy the claims of the Purchasers prior to any assets or value in the bankruptcy-remote subsidiary becoming available to us. This facility also provides for the issuance of letters of credit up to \$200 million. Performance obligations under the facility are guaranteed by LyondellBasell Industries N.V. The term of the facility may be extended in accordance with the terms of the agreement. The facility is also subject to customary warranties and covenants, including limits and reserves and the maintenance of specified financial ratios. Under the terms of the U.S. Receivable Facility, we are required to maintain a maximum leverage ratio consistent with the terms of the Senior Revolving Credit Facility as discussed above. At December 31, 2024, there were no borrowings or letters of credit outstanding and \$900 million unused availability under the facility.

Commercial Paper Program—We have a commercial paper program under which we may issue up to \$2,500 million of privately placed, unsecured, short-term promissory notes (“commercial paper”). This program is backed by our \$3,750 million Senior Revolving Credit Facility. Proceeds from the issuance of commercial paper may be used for general corporate purposes, including dividends and share repurchases. At December 31, 2024, we had no outstanding borrowings of commercial paper.

Precious Metal Financings—We enter into lease agreements for precious metals which are used in our production processes. Precious metal borrowings are classified as Short-term debt or Long-term debt, other, based on the maturities of the lease agreements. At December 31, 2024 and 2023, we had \$119 million and \$117 million, respectively, of Short-term debt related to our precious metal financings.

Weighted Average Interest Rate—At December 31, 2024 and 2023, our weighted average interest rate on outstanding Short-term debt was 1.1% and 1.9%, respectively.

Additional Information

Debt Discount and Issuance Costs—Amortization of debt discount and debt issuance costs resulted in amortization expense of \$11 million, \$9 million and \$14 million for the years ended December 31, 2024, 2023 and 2022, respectively, which is included in Interest expense in the Consolidated Statements of Income.

Other Information—LYB International Finance B.V., LYB International Finance II B.V., and LYB International Finance III, LLC (“LYB Finance subsidiaries”) are wholly owned finance subsidiaries of LyondellBasell Industries N.V. Any debt securities issued by LYB Finance subsidiaries will be fully and unconditionally guaranteed by LyondellBasell Industries N.V., and no other subsidiaries of LyondellBasell Industries N.V. guarantees these securities. Our unsecured notes rank equally in right of payment to each respective finance subsidiary’s existing and future unsecured indebtedness and to all of LyondellBasell Industries N.V.’s existing and future unsubordinated indebtedness. There are no significant restrictions that would impede LyondellBasell Industries N.V., as guarantor, from obtaining funds by dividend or loan from its subsidiaries.

12. Leases

Operating Leases—The majority of our leases are operating leases. We lease storage tanks, terminal facilities, land, office facilities, railcars, pipelines, barges, plant equipment and other equipment. As of December 31, 2024 and 2023, our Operating lease assets were \$1,467 million and \$1,529 million, respectively. As of December 31, 2024 and 2023, Operating lease liabilities totaled \$1,774 million and \$1,769 million of which \$355 million and \$360 million, respectively, are current and recorded in Accrued and other current liabilities. These values were derived using a weighted average discount rate of 4.1% and 3.8% as of December 31, 2024 and 2023, respectively.

Substantially all of our operating leases have remaining lease terms of 19 years or less and have a weighted-average remaining lease term of 9 years. Certain lease agreements include options to renew the lease, at our discretion, for approximately 1 year to 20 years and do not materially impact our operating lease assets or operating lease liabilities.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Maturities of operating lease liabilities as of December 31, 2024, are as follows:

Millions of dollars

2025	\$	410
2026		337
2027		286
2028		199
2029		117
Thereafter		818
Total lease payments		2,167
Less: Imputed interest		(393)
Present value of lease liabilities	\$	1,774

Operating lease costs were \$519 million, \$570 million and \$536 million for the years ended December 31, 2024, 2023 and 2022, respectively, which are reflected in the Consolidated Statements of Income.

In connection with the planned exit from the refinery business, we recognized accelerated lease amortization costs of \$38 million, \$110 million and \$91 million for the years ended December 31, 2024, 2023 and 2022, respectively, which is included in operating lease cost. See Note 20 to the Consolidated Financial Statements for additional information.

Cash paid for amounts included in the measurement of Operating lease liabilities totaled \$454 million, \$447 million and \$423 million for the years ended December 31, 2024, 2023 and 2022, respectively. Leased assets obtained in exchange for new operating lease liabilities totaled \$383 million, \$312 million and \$248 million for the years ended December 31, 2024, 2023 and 2022, respectively.

As of December 31, 2024, we have entered into operating leases, with an undiscounted value of \$193 million, that have not yet commenced. These leases which will commence in 2025 and 2026, have lease terms ranging from 2 to 20 years.

13. Financial Instruments and Fair Value Measurements

We are exposed to market risks, such as changes in commodity pricing, interest rates and currency exchange rates. To manage the volatility related to these exposures, we selectively enter into derivative contracts pursuant to our risk management policies.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Financial Instruments Measured at Fair Value on a Recurring Basis—The following table summarizes financial instruments outstanding for the periods presented that are measured at fair value on a recurring basis:

Millions of dollars	Fair Value		Balance Sheet Classification
	December 31, 2024	December 31, 2023	
Assets—			
Derivatives designated as hedges:			
Commodities	\$ 14	\$ 1	Prepaid expenses and other current assets
Commodities	7	—	Other assets
Foreign currency	146	44	Prepaid expenses and other current assets
Foreign currency	66	45	Other assets
Interest rates	16	38	Prepaid expenses and other current assets
Derivatives not designated as hedges:			
Commodities	18	98	Prepaid expenses and other current assets
Commodities	2	—	Other assets
Foreign currency	16	3	Prepaid expenses and other current assets
Total	\$ 285	\$ 229	
Liabilities—			
Derivatives designated as hedges:			
Commodities	\$ 14	\$ 109	Accrued and other current liabilities
Commodities	5	33	Other liabilities
Foreign currency	9	40	Accrued and other current liabilities
Foreign currency	—	32	Other liabilities
Interest rates	36	31	Accrued and other current liabilities
Interest rates	146	172	Other liabilities
Derivatives not designated as hedges:			
Commodities	11	52	Accrued and other current liabilities
Foreign currency	1	10	Accrued and other current liabilities
Total	\$ 222	\$ 479	

The financial instruments in the table above are classified as Level 2. We present the gross assets and liabilities of our derivative instruments on the Consolidated Balance Sheets.

Financial Instruments Not Measured at Fair Value on a Recurring Basis—The following table presents the carrying value and estimated fair value of our Short-term precious metal financings and Long-term debt:

<u>Millions of dollars</u>	<u>December 31, 2024</u>		<u>December 31, 2023</u>	
	<u>Carrying Value</u>	<u>Fair Value</u>	<u>Carrying Value</u>	<u>Fair Value</u>
Precious metal financings	\$ 119	\$ 122	\$ 117	\$ 114
Long-term debt	10,521	9,048	10,316	9,225
Total	<u>\$ 10,640</u>	<u>\$ 9,170</u>	<u>\$ 10,433</u>	<u>\$ 9,339</u>

The financial instruments in the table above are classified as Level 2. Our other financial instruments classified within Current assets and Current liabilities have a short maturity and their carrying value generally approximates fair value.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Derivative Instruments:

Commodity Prices—We are exposed to commodity price volatility related to purchases of various feedstocks and sales of our products. We use over-the-counter commodity swaps, options and exchange traded futures contracts to manage these risks, including through cash flow hedging relationships.

The following table presents the notional amounts of our outstanding commodity derivative instruments:

<u>Millions of units</u>	<u>Notional Amount</u>		<u>Unit of Measure</u>	<u>Maturity Date</u>
	<u>December 31, 2024</u>	<u>December 31, 2023</u>		
Derivatives designated as hedges:				
Natural gas	62	72	MMBtu	2025 to 2027
Ethane	14	18	Bbl	2025 to 2026
Power	—	1	MWhs	2025 to 2027
Refined products	—	1	Bbl	2025
Derivatives not designated as hedges:				
Crude oil	—	12	Bbl	2025
Refined products	6	16	Bbl	2025 to 2026
Precious metals	—	1	Troy Ounces	2025
Renewable Identification Numbers	—	59	RINs	N/A

Interest Rates—We are exposed to interest rate risk with respect to our fixed-rate and variable-rate debt. Fluctuations in interest rates impact the fair value of fixed-rate debt and expose us to the risk that we may need to refinance debt at higher rates. Fluctuations in interest rates also impact interest expense from our variable-rate debt. We use forward-starting interest rate swaps that are designated as cash flow hedges to mitigate the risk that benchmark rates will increase in connection with future financing activities. We also use interest rate swaps that are designated as fair value hedges to mitigate the changes in the fair value of our fixed-rate debt by effectively converting it to variable-rate debt. See Note 11 to the Consolidated Financial Statements for additional information.

The following table presents the notional amounts of our outstanding interest rate derivative instruments:

<u>Millions of dollars</u>	<u>Notional Amount</u>		<u>Maturity Date</u>
	<u>December 31, 2024</u>	<u>December 31, 2023</u>	
Cash flow hedges	\$ —	\$ 200	N/A
Fair value hedges	2,158	2,171	2025 to 2031

Foreign Currency Rates—We have significant worldwide operations. The functional currencies of our operating subsidiaries are primarily the U.S. dollar and the euro. We enter into transactions denominated in currencies other than our designated functional currencies that create foreign currency exposure. We enter into foreign currency contracts to economically hedge foreign currency risk related to recognized foreign currency monetary assets and liabilities. Changes in the fair value of such forward and swap contracts are reported in the Consolidated Statements of Income and offset, in part, currency remeasurement results. In the past, we have entered euro-denominated debt that was designated as a net investment hedge. Other income (expense), net, in the Consolidated Statements of Income reflected foreign currency gains of \$15 million and losses of \$34 million and \$14 million in 2024, 2023 and 2022, respectively.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We enter into foreign currency contracts that are designated as net investment hedges to manage the impacts of foreign currency translation of our net investments in foreign operations. We also enter into foreign currency contracts that are designated as cash flow hedges to manage the variability in cash flows associated with intercompany debt balances.

The following table presents the notional amounts of our outstanding foreign currency derivative instruments:

<u>Millions of dollars</u>	<u>Notional Amount</u>		<u>Maturity Date</u>
	<u>December 31, 2024</u>	<u>December 31, 2023</u>	
Net investment hedges	\$ 3,256	\$ 3,289	2025 to 2030
Cash flow hedges	300	1,150	2027
Not designated	772	555	2025

Impact on Earnings and Other Comprehensive Income (loss)—The following tables summarize the pre-tax effect of derivative and non-derivative instruments recorded in Accumulated other comprehensive loss (“AOCI”), the gains (losses) reclassified from AOCI to earnings and additional gains (losses) recognized directly in earnings:

<u>Millions of dollars</u>	<u>Effect of Derivative Instruments</u>			
	<u>Year Ended December 31, 2024</u>			
	<u>Balance Sheet</u>		<u>Income Statement</u>	
	<u>Gain (Loss) Recognized in AOCI</u>	<u>Gain (Loss) Reclassified from AOCI to Income</u>	<u>Additional Gain (Loss) Recognized in Income</u>	<u>Income Statement Classification</u>
Derivatives designated as hedges:				
Commodities	\$ (2)	\$ 4	\$ —	Sales and other operating revenues
Commodities	11	129	—	Cost of sales
Foreign currency	206	(35)	59	Interest expense
Interest rates	11	4	(64)	Interest expense
Derivatives not designated as hedges:				
Commodities	—	—	(21)	Sales and other operating revenues
Commodities	—	—	53	Cost of sales
Foreign currency	—	—	43	Other income (expense), net
Total	\$ 226	\$ 102	\$ 70	

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	Year Ended December 31, 2023				
	Balance Sheet		Income Statement		
	Gain (Loss) Recognized in AOCI	Gain (Loss) Reclassified from AOCI to Income	Additional Gain (Loss) Recognized in Income		Income Statement Classification
Millions of dollars					
Derivatives designated as hedges:					
Commodities	\$ (2)	\$ —	\$ —		Sales and other operating revenues
Commodities	(157)	33	—		Cost of sales
Foreign currency	(142)	31	70		Interest expense
Interest rates	17	5	(20)		Interest expense
Derivatives not designated as hedges:					
Commodities	—	—	188		Sales and other operating revenues
Commodities	—	—	(130)		Cost of sales
Foreign currency	—	—	(29)		Other income (expense), net
Total	\$ (284)	\$ 69	\$ 79		

Millions of dollars	Year Ended December 31, 2022				Income Statement Classification
	Balance Sheet		Income Statement		
	Gain (Loss) Recognized in AOCI	Gain (Loss) Reclassified from AOCI to Income	Additional Gain (Loss) Recognized in Income		
Derivatives designated as hedges:					
Commodities	\$ 21	\$ (59)	\$ —		Cost of sales
Foreign currency	308	(75)	69		Interest expense
Interest rates	296	6	(227)		Interest expense
Derivatives not designated as hedges:					
Commodities	—	—	72		Sales and other operating revenues
Commodities	—	—	(22)		Cost of sales
Foreign currency	—	—	(60)		Other income (expense), net
Total	\$ 625	\$ (128)	\$ (168)		

Amounts excluded from the assessment of effectiveness for foreign currency contracts designated as net investment hedges recognized in other comprehensive income (loss) or Interest expense for the years ended December 31, 2024, 2023 and 2022 were immaterial.

As of December 31, 2024, on a pre-tax basis, \$4 million is scheduled to be reclassified from Accumulated other comprehensive loss as an increase to interest expense over the next twelve months.

Other Financial Instruments:

Cash and Cash Equivalents—At December 31, 2024 and 2023, we had marketable securities classified as Cash and cash equivalents of \$2,610 million and \$2,432 million, respectively.

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14. Pension and Other Post-retirement Benefits

We have defined benefit pension plans which cover employees in the U.S. and various other countries. We also sponsor post-retirement benefit plans other than pensions that provide medical benefits to certain of our U.S., Canadian and French employees. In addition, we provide other post-employment benefits such as early retirement and deferred compensation severance benefits to employees of certain non-U.S. countries. We use a measurement date of December 31 for all of our benefit plans.

Pension Benefits—The following tables provide a reconciliation of projected benefit obligations, plan assets and the funded status of our U.S. and non-U.S. defined benefit pension plans:

Millions of dollars	Year Ended December 31,			
	2024		2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Change in benefit obligation:				
Benefit obligation, beginning of period	\$ 1,155	\$ 1,363	\$ 1,140	\$ 1,276
Service cost	52	21	51	22
Interest cost	62	52	57	51
Actuarial loss (gain)	60	88	(13)	19
Benefits paid	(97)	(59)	(80)	(53)
Participant contributions	—	2	—	2
Settlement	—	(3)	—	(1)
Foreign exchange effects	—	(75)	—	47
Benefit obligation, end of period	1,232	1,389	1,155	1,363
Change in plan assets:				
Fair value of plan assets, beginning of period	960	705	1,021	733
Actual return on plan assets	130	112	10	(53)
Company contributions	43	51	9	51
Benefits paid	(97)	(59)	(80)	(53)
Participant contributions	—	2	—	2
Settlement	—	(3)	—	(1)
Foreign exchange effects	—	(38)	—	26
Fair value of plan assets, end of period	1,036	770	960	705
Funded status of continuing operations, end of period	\$ (196)	\$ (619)	\$ (195)	\$ (658)

Amounts recognized in the Consolidated Balance Sheets consists of the following:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Prepaid benefit cost, long-term	\$ —	\$ 56	\$ —	\$ 39
Accrued benefit liability, current	—	(30)	—	(30)
Accrued benefit liability, long-term	(196)	(645)	(195)	(667)
Funded status of continuing operations, end of period	\$ (196)	\$ (619)	\$ (195)	\$ (658)

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Amounts recognized in Accumulated other comprehensive loss include the following:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Actuarial and investment loss	\$ 276	\$ 94	\$ 303	\$ 140
Prior service cost	—	23	—	27
Balance, end of period	<u>\$ 276</u>	<u>\$ 117</u>	<u>\$ 303</u>	<u>\$ 167</u>

The following additional information is presented for our U.S. and non-U.S. pension plans:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Accumulated benefit obligation for defined benefit plans	\$ 1,204	\$ 1,268	\$ 1,129	\$ 1,252

Pension plans with projected benefit obligations in excess of the fair value of assets are summarized as follows:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Projected benefit obligations	\$ 1,232	\$ 793	\$ 1,155	\$ 839
Fair value of assets	1,036	118	960	142

Pension plans with accumulated benefit obligations in excess of the fair value of assets are summarized as follows:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Accumulated benefit obligations	\$ 1,201	\$ 593	\$ 1,129	\$ 718
Fair value of assets	1,033	8	960	109

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Components of net periodic pension costs for our U.S. and non-U.S. plans are as follows:

<u>Millions of dollars</u>	U.S. Plans		
	Year Ended December 31,		
	2024	2023	2022
Service cost	\$ 52	\$ 51	\$ 48
Interest cost	62	57	48
Expected return on plan assets	(65)	(69)	(97)
Settlement loss	—	—	103
Actuarial loss amortization	20	18	20
Net periodic benefit cost	<u>\$ 69</u>	<u>\$ 57</u>	<u>\$ 122</u>

<u>Millions of dollars</u>	Non-U.S. Plans		
	Year Ended December 31,		
	2024	2023	2022
Service cost	\$ 21	\$ 22	\$ 35
Interest cost	52	51	26
Expected return on plan assets	(28)	(28)	(18)
Prior service cost amortization	3	3	3
Actuarial loss (gain) amortization	5	(1)	7
Net periodic benefit cost	<u>\$ 53</u>	<u>\$ 47</u>	<u>\$ 53</u>

In May 2022, a LyondellBasell sponsored pension plan purchased a group annuity contract from an insurance company to transfer \$361 million of our outstanding pension benefit obligations related to certain U.S. retirees and beneficiaries. The purchase of the group annuity contract was funded with pension plan assets. The insurance company is now required to pay and administer the retirement benefits owed to approximately 9,000 U.S. retirees and beneficiaries with no change to their monthly retirement benefit payment amounts. In connection with this transaction, in the second quarter of 2022, we recognized a non-cash pension settlement loss of \$80 million, reflected in Other income (expense), net, primarily related to the accelerated recognition of actuarial losses included in Accumulated other comprehensive loss.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The actual and target asset allocations for our plans are as follows:

	2024		2023	
	Actual	Target	Actual	Target
Canada				
Fixed income	100 %	100 %	100 %	100 %
United Kingdom—Lyondell Chemical Plans				
Equity securities	25 %	25 %	39 %	38 %
Fixed income	75 %	75 %	61 %	62 %
United Kingdom—Basell Plans				
Equity securities	25 %	25 %	26 %	25 %
Fixed income	75 %	75 %	74 %	75 %
United Kingdom—A. Schulman Plans				
Equity securities and growth assets	26 %	25 %	27 %	25 %
Fixed income and matching assets	74 %	75 %	73 %	75 %
United States				
Equity securities	39 %	40 %	40 %	40 %
Fixed income	48 %	45 %	41 %	45 %
Alternatives	13 %	15 %	19 %	15 %

We estimate contributions to our defined benefit plans in 2025 will be \$47 million and \$55 million for the U.S. and non-U.S. plans, respectively.

As of December 31, 2024, future expected benefit payments by our pension plans which reflect expected future service, as appropriate, are as follows:

<u>Millions of dollars</u>	U.S.	Non-U.S.
2025	\$ 165	\$ 63
2026	97	65
2027	98	65
2028	100	66
2029	100	69
2030 through 2034	506	364

The following tables set forth the principal assumptions on discount rates, projected rates of compensation increase and expected rates of return on plan assets, where applicable. These assumptions vary for the different plans, as they are determined in consideration of local conditions.

The weighted average assumptions used in determining the net benefit liabilities for our pension plans were as follows at December 31:

	2024		2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Discount rate	5.35 %	3.66 %	5.80 %	4.00 %
Rate of compensation increase	4.66 %	3.36 %	4.68 %	3.58 %
Cash balance interest credit rate	4.36 %	— %	4.54 %	— %

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The weighted average assumptions used in determining net benefit costs for our pension plans were as follows:

	Year Ended December 31,					
	2024		2023		2022	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Discount rate	5.80 %	4.00 %	5.50 %	3.99 %	2.80 %	1.45 %
Expected return on plan assets	7.25 %	4.14 %	7.25 %	3.57 %	7.25 %	1.85 %
Rate of compensation increase	4.68 %	3.58 %	4.65 %	2.66 %	4.74 %	2.64 %

The discount rate assumptions reflect the rates at which the benefit obligations could be effectively settled, based on the yields of high-quality long-term bonds where the term closely matches the term of the benefit obligations. We measure service and interest costs by applying the specific spot rates along that same yield curve to the projected cash flows of the plans. This approach provides a more precise measurement of service and interest costs. The weighted average expected long-term rate of return on assets in our U.S. plans of 7.25% is based on the average level of earnings that our independent pension investment adviser had advised could be expected to be earned over a fifteen to twenty year time period consistent with the target asset allocation of the plans, historical capital market performance, historical plan performance (since the 1997 inception of the U.S. Master Trust) and a forecast of expected future asset returns. The weighted average expected long-term rate of return on assets in our non-U.S. plans of 4.14% is based on expectations and asset allocations that vary by region. We review these long-term assumptions on a periodic basis.

Actual rates of return may differ from the expected rate due to the volatility normally experienced in capital markets. Assets are externally managed by professional investment firms over the long term to achieve optimal returns with an acceptable level of risk and volatility in order to meet the benefit obligations of the plans as they come due.

Our pension plans have not directly invested in securities of LyondellBasell N.V., and there have been no significant transactions between any of the pension plans and the Company or related parties thereof.

The pension investments that are measured at fair value are summarized below:

Millions of dollars	December 31, 2024			
	Fair Value	Level 1	Level 2	Level 3
U.S.				
Common and preferred stock	\$ 64	\$ 64	\$ —	\$ —
Commingled funds measured at net asset value	459			
Fixed income securities	97	—	97	—
Real estate measured at net asset value	63			
Hedge funds measured at net asset value	20			
Private equity measured at net asset value	46			
U.S. government securities	253	253	—	—
Cash and cash equivalents	26	26	—	—
Total U.S. Pension Assets	\$ 1,028	\$ 343	\$ 97	\$ —

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

<u>Millions of dollars</u>	December 31, 2024			
	Fair Value	Level 1	Level 2	Level 3
<u>Non-U.S.</u>				
Insurance arrangements	\$ 531	\$ —	\$ —	\$ 531
Commingled funds measured at net asset value	237			
Cash and cash equivalents	1	1	—	—
Total Non-U.S. Pension Assets	<u>\$ 769</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ 531</u>

<u>Millions of dollars</u>	December 31, 2023			
	Fair Value	Level 1	Level 2	Level 3
<u>U.S.</u>				
Common and preferred stock	\$ 155	\$ 155	\$ —	\$ —
Commingled funds measured at net asset value	342			
Fixed income securities	53	—	53	—
Real estate measured at net asset value	80			
Hedge funds measured at net asset value	42			
Private equity measured at net asset value	65			
U.S. government securities	206	206	—	—
Cash and cash equivalents	40	40	—	—
Total U.S. Pension Assets	<u>\$ 983</u>	<u>\$ 401</u>	<u>\$ 53</u>	<u>\$ —</u>

<u>Millions of dollars</u>	December 31, 2023			
	Fair Value	Level 1	Level 2	Level 3
<u>Non-U.S.</u>				
Insurance arrangements	\$ 474	\$ —	\$ —	\$ 474
Commingled funds measured at net asset value	228			
Cash and cash equivalents	1	1	—	—
Total Non-U.S. Pension Assets	<u>\$ 703</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ 474</u>

Certain non-U.S. plans have investments in a pooled asset portfolio which are treated as a nonparticipating insurance contract. The associated plan assets underlying the insurance arrangement are measured at the cash surrender value, which is derived primarily from an actuarial determination of the discounted benefits cash flows. As such, these assets are considered as using significant unobservable inputs (Level 3). These defined benefits pension plan assets at December 31, 2023 were valued at \$474 million and has increased to \$531 million at December 31, 2024. The change is due primarily to the increase of assets in relation with the decrease of the discount rate from 2023 to 2024.

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The fair value measurements of the investments in certain entities that calculate net asset value per share as of December 31, 2024 are as follows:

Millions of dollars	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
U.S.						
Commingled fund investing in Domestic Equity \$	187	\$ —	N/A	daily	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity	155	—	N/A	daily	1 to 3 days	3 days
Commingled fund investing in Fixed Income	117	—	N/A	daily	1 to 3 days	3 to 7 days
Real Estate	63	10	10 years	quarterly	15 to 25 days	45 to 90 days
Hedge Funds	20	—	N/A	quarterly	10 to 30 days	20 to 90 days
Private Equity	46	13	10 years	Not eligible	N/A	N/A
Total U.S.	<u>\$ 588</u>	<u>\$ 23</u>				

Millions of dollars	Fair Value	Unfunded Commitments	Remaining Life	Redemption Frequency (if currently eligible)	Trade to Settlement Terms	Redemption Notice Period
Non-U.S.						
Commingled fund investing in Domestic Equity \$	21	\$ —	N/A	1 to 7 days	1 to 3 days	1 to 3 days
Commingled fund investing in International Equity	23	—	N/A	1 to 7 days	1 to 3 days	1 to 3 days
Commingled fund investing in Fixed Income	193	—	N/A	daily	1 to 3 days	3 days
Total Non-U.S.	<u>\$ 237</u>	<u>\$ —</u>				

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The fair value measurements of the investments in certain entities that calculate net asset value per share as of December 31, 2023 are as follows:

<u>Millions of dollars</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Remaining Life</u>	<u>Redemption Frequency (if currently eligible)</u>	<u>Trade to Settlement Terms</u>	<u>Redemption Notice Period</u>
<u>U.S.</u>						
Commingled fund investing in Domestic Equity	\$ 168	\$ —	N/A	daily	1 to 3 days	3 to 4 days
Commingled fund investing in International Equity	68	—	N/A	daily	1 to 3 days	3 days
Commingled fund investing in Fixed Income	106	—	N/A	daily	1 to 3 days	3 to 7 days
Real Estate	80	11	10 years	quarterly	15 to 25 days	45 to 90 days
Hedge Funds	42	—	N/A	quarterly	10 to 30 days	20 to 90 days
Private Equity	65	14	10 years	Not eligible	N/A	N/A
Total U.S.	<u>\$ 529</u>	<u>\$ 25</u>				

<u>Millions of dollars</u>	<u>Fair Value</u>	<u>Unfunded Commitments</u>	<u>Remaining Life</u>	<u>Redemption Frequency (if currently eligible)</u>	<u>Trade to Settlement Terms</u>	<u>Redemption Notice Period</u>
<u>Non-U.S.</u>						
Commingled fund investing in Domestic Equity	\$ 23	\$ —	N/A	1 to 7 days	1 to 3 days	1 to 3 days
Commingled fund investing in International Equity	24	—	N/A	1 to 7 days	1 to 3 days	1 to 3 days
Commingled fund investing in Fixed Income	181	—	N/A	daily	1 to 3 days	3 days
Total Non-U.S.	<u>\$ 228</u>	<u>\$ —</u>				

Other Post-retirement Benefits—We sponsor unfunded health care and life insurance plans covering certain eligible retired employees and their eligible dependents. Generally, the medical plans pay a stated percentage of medical expenses reduced by deductibles and other coverage. Life insurance benefits are generally provided by insurance contracts. We retain the right, subject to existing agreements, to modify or eliminate these benefits.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following tables provide a reconciliation of benefit obligations of our unfunded other post-retirement benefit plans:

Millions of dollars	Year Ended December 31,			
	2024		2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Change in benefit obligation:				
Benefit obligation, beginning of period	\$ 142	\$ 39	\$ 153	\$ 41
Service cost	—	1	1	1
Interest cost	8	2	7	2
Actuarial loss (gain)	8	15	—	(4)
Benefits paid	(24)	(1)	(25)	(1)
Participant contributions	5	—	6	—
Foreign exchange effects	—	(4)	—	—
Benefit obligation, end of period	139	52	142	39
Change in plan assets:				
Fair value of plan assets, beginning of period	—	—	—	—
Employer contributions	19	1	19	1
Participant contributions	5	—	6	—
Benefits paid	(24)	(1)	(25)	(1)
Fair value of plan assets, end of period	—	—	—	—
Funded status, end of period	\$ (139)	\$ (52)	\$ (142)	\$ (39)

Amounts recognized in the Consolidated Balance Sheets are as follows:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Accrued benefit liability, current	\$ (13)	\$ (1)	\$ (14)	\$ (1)
Accrued benefit liability, long-term	(126)	(51)	(128)	(38)
Funded status, end of period	\$ (139)	\$ (52)	\$ (142)	\$ (39)

Amounts recognized in Accumulated other comprehensive loss are as follows:

Millions of dollars	December 31, 2024		December 31, 2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Actuarial and investment income	\$ 61	\$ 8	\$ 79	\$ 21
Prior service cost	—	(1)	—	(1)
Balance, end of period	\$ 61	\$ 7	\$ 79	\$ 20

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The components of net periodic other post-retirement costs are as follows:

<u>Millions of dollars</u>	U.S. Plans		
	Year Ended December 31,		
	2024	2023	2022
Service cost	\$ —	\$ 1	\$ 1
Interest cost	8	7	5
Actuarial gain amortization	(9)	(10)	(5)
Net periodic benefit (income) cost	<u>\$ (1)</u>	<u>\$ (2)</u>	<u>\$ 1</u>

<u>Millions of dollars</u>	Non-U.S. Plans		
	Year Ended December 31,		
	2024	2023	2022
Service cost	\$ 1	\$ 1	\$ 2
Interest cost	2	2	1
Actuarial gain amortization	(1)	(1)	—
Net periodic benefit cost	<u>\$ 2</u>	<u>\$ 2</u>	<u>\$ 3</u>

The following tables set forth the assumed health care cost trend rates for our U.S. and Non-U.S. Plans:

	U.S. Plans	
	December 31,	
	2024	2023
Immediate trend rate	6.5 %	6.3 %
Ultimate trend rate (the rate to which the cost trend rate is assumed to decline)	4.5 %	4.5 %
Year that the rate reaches the ultimate trend rate	2033	2031

	Non-U.S. Plans			
	Canada		France	
	December 31,		December 31,	
	2024	2023	2024	2023
Immediate trend rate	4.5 %	4.5 %	5.0 %	4.8 %
Ultimate trend rate (the rate to which the cost trend rate is assumed to decline)	4.5 %	4.5 %	5.0 %	4.8 %
Year that the rate reaches the ultimate trend rate	—	—	—	—

The health care cost trend rate assumption does not typically have a significant effect on the amounts reported due to limits on maximum contribution levels to the medical plans.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The weighted average assumptions used in determining the net benefit liabilities for our other post-retirement benefit plans were as follows:

	December 31,			
	2024		2023	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Discount rate	5.24 %	3.53 %	5.74 %	4.36 %
Rate of compensation increase	4.09 %	—	4.13 %	—

The weighted average assumptions used in determining the net benefit costs for our other post-retirement benefit plans were as follows:

	Year Ended December 31,					
	2024		2023		2022	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Discount rate	5.74 %	4.36 %	5.44 %	3.95 %	2.75 %	1.47 %
Rate of compensation increase	4.13 %	—	4.16 %	—	4.18 %	—

As of December 31, 2024, future expected benefit payments by our other post-retirement benefit plans, which reflect expected future service, as appropriate, were as follows:

<u>Millions of dollars</u>	U.S.	Non-U.S.
2025	\$ 13	\$ 1
2026	14	1
2027	13	1
2028	13	1
2029	13	2
2030 through 2034	56	9

Accumulated Other Comprehensive Loss—In 2024, pension benefits actuarial gain and other post-retirement benefits actuarial loss of \$1 million and \$22 million, respectively, are primarily due to changes in discount rate assumption and updated actuarial assumptions. In 2023, pension benefits actuarial loss and other post-retirement benefits actuarial gain of \$146 million and \$4 million, respectively, are primarily due to changes in discount rate assumption and updated actuarial assumptions.

Deferred income taxes related to amounts in Accumulated other comprehensive loss include provisions of \$91 million and \$90 million as of December 31, 2024 and 2023, respectively.

Defined Contribution Plans—Most employees in the U.S. and certain non-U.S. countries are eligible to participate in defined contribution plans (“Employee Savings Plan”) by contributing a portion of their compensation. We make employer contributions, such as matching contributions, to certain of these plans. The Company also has a nonqualified deferred compensation plan that covers senior management in the U.S. This plan was amended and restated in May 2023 and provides Company contributions on behalf of certain eligible employees who earn base pay above the IRS annual compensation limit.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table provides the Company contributions to the Employee Savings Plans:

<u>Millions of dollars</u>	Company Contributions					
	2024		2023		2022	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Employee Savings Plans	\$ 60	\$ 11	\$ 57	\$ 9	\$ 53	\$ 8

15. Incentive and Share-Based Compensation

We are authorized to grant RSUs, PSUs, stock options, and other cash and stock awards under our Long-Term Incentive Plan (“LTIP”). The Compensation and Talent Development Committee oversees our equity award grants, the type of awards, the required performance measures and the timing and duration of each grant. The maximum number of shares of our common stock reserved for issuance under the LTIP is 30,000,000 shares. After taking into consideration outstanding stock-settled awards and assuming a maximum payout for our PSU awards, there were 6,245,410 shares available for issuance as of December 31, 2024.

Total share-based compensation expense and the associated tax benefits are as follows:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Compensation Expense:			
Restricted stock units	\$ 60	\$ 44	\$ 33
Stock options	4	10	8
Performance share units	27	37	29
Total	<u>\$ 91</u>	<u>\$ 91</u>	<u>\$ 70</u>
Tax Benefit:			
Restricted stock units	\$ 14	\$ 10	\$ 8
Stock options	1	2	2
Performance share units	6	9	7
Total	<u>\$ 21</u>	<u>\$ 21</u>	<u>\$ 17</u>

Restricted Stock Unit Awards—RSUs entitle the recipient to be paid out an equal number of ordinary shares upon vesting. Effective in 2024, RSU’s will generally have a three-year vesting period and ratably vest in equal increments on the first, second and third anniversary of the grant date. Historically RSUs generally cliff vested on the third anniversary of the grant date.

The fair value of RSUs is based on the market price of the underlying stock on the date of grant. The weighted average grant date fair value for RSUs granted during the years ended December 31, 2024, 2023 and 2022 was \$95.78, \$93.93 and \$96.14, respectively. The total fair value of RSUs vested and issued was \$45 million, \$30 million and \$20 million during 2024, 2023 and 2022, respectively.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes RSU activity for the year:

	Number of Units (in thousands)	Weighted Average Grant Date Fair Value (per share)
Outstanding at January 1, 2024	994	\$ 96.67
Granted	785	95.78
Vested	(481)	98.95
Forfeited	(62)	99.32
Outstanding at December 31, 2024	1,236	\$ 95.09

As of December 31, 2024, the unrecognized compensation cost related to RSUs was \$51 million, which is expected to be recognized over a weighted average period of 1.28 years.

Stock Option Awards—Stock options allow employees the opportunity to purchase ordinary shares of stock in the future at an exercise price equal to the market price at the date of grant. No stock option awards were granted in 2024. Previous awards generally have a three-year vesting period that vests in equal increments on the first, second and third anniversary of the grant date and have a contractual term of ten years. None of the Stock options are designed to qualify as Incentive Stock Options as defined in Section 422 of the Internal Revenue Code.

The fair value of each Stock option is estimated on the date of grant using the Black-Scholes option valuation model. The principal assumptions utilized in valuing Stock options include the expected stock price volatility (based on our historical stock price volatility over the expected term); the expected dividend yield; and the risk-free interest rate (an estimate based on the yield of a United States Treasury zero coupon bond with a maturity equal to the expected term of the option).

The expected term of Stock options granted is estimated based on the weighted average of historical exercise patterns and the midpoint of the remaining expected life.

In 2022, our board of directors declared a special dividend of \$5.20 per share to all shareholders as of June 6, 2022. Pursuant to the anti-dilutive provisions under the award agreement, the Compensation Committee authorized the reduction of the exercise price for all outstanding stock options in an amount equal to the special dividends per share. The reduction in exercise price of \$5.20 per share for all outstanding stock options was intended to provide an equitable and proportionate adjustment to holders of stock options as a result of the Company's payment of the special dividend. These adjustments did not result in incremental expense.

The weighted average fair value of Stock options granted and the assumptions used in estimating those fair values are as follows:

	Year Ended December 31,	
	2023	2022
Weighted average fair value	\$ 24.85	\$ 24.27
Fair value assumptions:		
Dividend yield	5.0 %	4.3 %
Expected volatility	39.9-40.2%	39.1-40.7%
Risk-free interest rate	3.5-4.7%	1.9-4.2%
Weighted average expected term, in years	5.7	5.4

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes Stock option activity:

	Number of Shares (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Term	Aggregate Intrinsic Value (millions of dollars)
Outstanding at January 1, 2024	2,644	\$ 90.01		
Granted	—	—		
Exercised	(631)	84.98		
Forfeited	(29)	92.78		
Expired	(41)	99.87		
Outstanding at December 31, 2024	1,943	\$ 91.40	5.1 years	\$ —
Exercisable at December 31, 2024	1,555	\$ 90.73	4.4 years	\$ —

The aggregate intrinsic value of Stock options exercised during the years ended December 31, 2024, 2023 and 2022 was \$10 million, \$8 million and \$6 million, respectively.

As of December 31, 2024, the unrecognized compensation cost related to Stock options was \$2 million, which is expected to be recognized over a weighted average period of 1.0 year. During 2024, cash received from the exercise of Stock options was \$52 million and the tax benefit associated with these exercises was \$2 million.

Performance Share Units Awards —A target number of PSUs is granted to participants at the beginning of a three-year performance period. Final payout of awards, which can range from 0% to 200% of target shares granted, is determined and paid after the performance period. These awards are settled in shares of common stock, and each unit is equivalent to one share of our common stock.

The payout for PSUs granted will be equally based on Total Shareholder Return (“TSR”) relative to our peers and a performance metric. The fair value of the portion of the award that vests based on TSR is estimated using a Monte-Carlo simulation. For the other portion of the award, the fair value is determined at the end of each reporting period based on our stock price and the number of shares expected to vest.

The weighted average fair value and the assumptions used in estimating those fair value using a Monte-Carlo simulation are as follows:

	Year Ended December 31,		
	2024	2023	2022
Weighted average fair value	\$ 133.75	\$ 128.95	\$ 122.15
Fair value assumptions:			
Expected volatility of LyondellBasell N.V. common stock	28.60 %	38.04%	48.71%
Expected volatility of peer companies	24.68-43.42%	22.82-52.73%	23.12-61.28%
Average correlation coefficient of peer companies	0.56	0.52	0.59
Risk-free interest rate	4.47 %	4.39%	1.69 %

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes PSU activity:

	Number of Units (in thousands)	Weighted Average Grant Date Fair Value (per share)
Outstanding at January 1, 2024	853	\$ 116.39
Granted	716	108.56
Vested	(538)	117.39
Forfeited	(42)	100.95
Outstanding at December 31, 2024	989	\$ 101.94

The total fair value of PSUs vested during 2024 was \$43 million paid out at 200% of target shares. As of December 31, 2024, the unrecognized compensation cost related to PSUs was \$38 million, which is expected to be recognized over a weighted average period of 1.8 years.

16. Income Taxes

LyondellBasell Industries N.V. is tax resident in the United Kingdom pursuant to a mutual agreement procedure determination ruling between the Dutch and United Kingdom competent authorities and therefore subject solely to the United Kingdom corporate income tax system. LyondellBasell Industries N.V. has little or no taxable income of its own because, as a holding company, it does not conduct any operations. Through our subsidiaries, we have substantial operations world-wide. Taxes are paid on the earnings generated in various jurisdictions where our subsidiaries operate.

The Company operates in multiple jurisdictions with complex legal and tax regulatory environments and is subject to taxes in the U.S. and non-U.S. jurisdictions. We monitor tax law changes and the potential impact to our results of operations. There continues to be increased attention on the tax practices of multinational companies, in particular in the U.S. and Europe where we operate. In 2020, the Organization for Economic Cooperation and Development released Pillar One and Two proposals focused on taxing rights and minimum taxes. The United Kingdom, as well as certain other jurisdictions in which we operate, enacted legislation implementing the Organization for Economic Cooperation and Development's Pillar Two Model Rules effective as of January 1, 2024. This legislation did not have a material impact on the Consolidated Financial Statements; however, we continue to assess and monitor legislative changes.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The significant components of the provision for income taxes are as follows:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Current:			
U.S. federal	\$ 430	\$ 261	\$ 250
Non-U.S.	198	160	205
State	49	37	58
Total current	<u>677</u>	<u>458</u>	<u>513</u>
Deferred:			
U.S. federal	(172)	77	369
Non-U.S.	(279)	(36)	(12)
State	14	2	12
Total deferred	<u>(437)</u>	<u>43</u>	<u>369</u>
Provision for income taxes before tax effects of other comprehensive income	240	501	882
Tax effects of elements of other comprehensive income:			
Pension and post-retirement liabilities	(1)	(36)	125
Financial derivatives	38	(29)	57
Foreign currency translation	44	(28)	59
Total income tax expense in comprehensive income	<u>\$ 321</u>	<u>\$ 408</u>	<u>\$ 1,123</u>

Since the proportion of U.S. revenues, assets, operating income and associated tax provisions is significantly greater than that of any other single taxing jurisdiction within the worldwide group, the reconciliation of the differences between the provision for income taxes and the statutory rate is presented on the basis of the U.S. statutory federal income tax rate of 21% as opposed to the United Kingdom statutory tax rate of 25%. Our effective income tax rate for the year ended December 31, 2024 is 15.0%.

Our effective income tax rate fluctuates based on, among other factors, changes in pre-tax income in countries with varying statutory tax rates, changes in valuation allowances, changes in foreign exchange gains/losses, the amount of exempt income, changes in unrecognized tax benefits associated with uncertain tax positions and changes in tax laws.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table reconciles the expected tax expense (benefit) at the U.S. statutory federal income tax rate to the total income tax provision as calculated:

Millions of dollars	Year Ended December 31,		
	2024	2023	2022
Income (loss) before income taxes:			
U.S.	\$ 1,685	\$ 1,958	\$ 3,289
Non-U.S.	(82)	669	1,487
Total	<u>\$ 1,603</u>	<u>\$ 2,627</u>	<u>\$ 4,776</u>
Income tax at U.S. statutory rate	\$ 337	\$ 552	\$ 1,003
Increase (reduction) resulting from:			
Non-U.S. income/(loss) taxed at different statutory rates	(102)	4	27
Return to accrual adjustments	(26)	(22)	16
State income taxes, net of federal benefit	57	33	60
Exempt income	(101)	(203)	(213)
Uncertain tax positions	18	21	(74)
Patent box ruling	—	(31)	—
Non-deductible impairment	28	62	14
Audit settlement	—	46	—
Foreign currency gain or loss	(27)	8	(6)
Cross border tax effects	19	14	12
Other, net	37	17	43
Income tax provision	<u>\$ 240</u>	<u>\$ 501</u>	<u>\$ 882</u>

Our exempt income primarily includes interest income, export incentives, and equity earnings of joint ventures. Interest income earned by certain of our subsidiaries through intercompany financings is taxed at rates substantially lower than the U.S. statutory rate. Export incentives relate to tax benefits derived from elections and structures available for U.S. exports. Equity earnings attributable to the earnings of our joint ventures, when paid through dividends to certain European subsidiaries, are exempt from all or portions of normal statutory income tax rates. We anticipate the continued favorable treatment for dividends, and export income based on current law. We are currently assessing the impact of new tax regulations released by the IRS during January 2025, which take effect in 2026. We will continue to review and monitor any additional guidance issued by the IRS.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The deferred tax effects of tax loss, credit and interest carryforwards (“tax attributes”) and the tax effects of temporary differences between the tax basis of assets and liabilities and their reported amounts in the Consolidated Financial Statements, reduced by a valuation allowance where appropriate, are presented below.

Millions of dollars	December 31,	
	2024	2023
Deferred tax liabilities:		
Accelerated tax depreciation	\$ 2,342	\$ 2,562
Investment in joint venture partnerships	455	486
Inventory	194	227
Operating lease assets	330	334
Other liabilities	78	134
Total deferred tax liabilities	\$ 3,399	\$ 3,743
Deferred tax assets:		
Tax attributes	\$ 420	\$ 307
Employee benefit plans	248	259
Operating lease liabilities	387	383
Other assets	203	182
Total deferred tax assets	1,258	1,131
Deferred tax asset valuation allowances	(135)	(78)
Net deferred tax assets	1,123	1,053
Net deferred tax liabilities	\$ 2,276	\$ 2,690

Balance sheet classification is presented in the following table:

Millions of dollars	December 31,	
	2024	2023
Deferred tax assets—long-term	\$ 259	\$ 196
Deferred tax liabilities—long-term	2,535	2,886
Net deferred tax liabilities	\$ 2,276	\$ 2,690

Deferred taxes on the unremitted earnings of certain equity joint ventures and subsidiaries of \$57 million and \$77 million at December 31, 2024 and 2023, respectively, have been provided. The Company intends to permanently reinvest approximately \$600 million of our non-U.S. earnings. Repatriation of these earnings to the U.S. in the future could result in a tax impact of approximately \$60 million.

At December 31, 2024 and 2023, we had total tax attributes available in the amount of \$1,968 million and \$1,438 million, respectively, for which a deferred tax asset was recognized at December 31, 2024 and 2023 of \$420 million and \$307 million, respectively.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The scheduled expiration of the tax attributes and the related deferred tax assets, before valuation allowance, as of December 31, 2024 are as follows:

<u>Millions of dollars</u>	<u>Tax Attributes</u>	<u>Deferred Tax on Tax Attributes</u>
2025	\$ 22	\$ 1
2026	13	1
2027	19	4
2028	20	7
2029	15	3
Thereafter	549	53
Indefinite	1,330	351
Total	<u>\$ 1,968</u>	<u>\$ 420</u>

The tax attributes are primarily related to operations in the United States, Germany, United Kingdom, The Netherlands, and France. The related deferred tax assets by primary jurisdictions are shown below:

<u>Millions of dollars</u>	<u>December 31,</u>		
	<u>2024</u>	<u>2023</u>	<u>2022</u>
United States	\$ 114	\$ 151	\$ 84
Germany	107	3	7
United Kingdom	105	91	45
The Netherlands	35	18	13
France	21	23	\$ 46
Other	38	21	15
Total	<u>\$ 420</u>	<u>\$ 307</u>	<u>\$ 210</u>

To fully realize these net deferred tax assets, we will need to generate sufficient future taxable income in the countries where these tax attributes exist during the periods in which the attributes can be utilized. Based upon forecasts of expected taxable income over the periods in which the attributes can be utilized and/or temporary differences are expected to reverse, management believes it is more likely than not that \$285 million of these deferred tax assets at December 31, 2024 will be realized.

As of each reporting date, we consider the weight of all evidence, both positive and negative, to determine if a valuation allowance is necessary for each jurisdiction's net deferred tax assets. We place greater weight on historical evidence over future predictions of our ability to utilize net deferred tax assets. We consider future reversals of existing taxable temporary differences, future taxable income exclusive of reversing temporary differences, and taxable income in prior carry-back year(s) if carry-back is permitted under applicable law, as well as available prudent and feasible tax planning strategies that would, if necessary, be implemented to ensure realization of the net deferred tax asset.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

A summary of the valuation allowances by primary jurisdiction is shown below, reflecting the valuation allowances for all the net deferred tax assets, including deferred tax assets for tax attributes and other temporary differences.

<u>Millions of dollars</u>	December 31,		
	2024	2023	2022
Germany	\$ 43	\$ 1	\$ —
United Kingdom	30	30	29
United States	24	15	11
France	21	23	22
Other	17	9	4
Total	<u>\$ 135</u>	<u>\$ 78</u>	<u>\$ 66</u>

During 2024 and 2023, valuation allowance accruals did not have a material impact to our effective tax rate. The increase in valuation allowances from 2023 to 2024 was primarily due to attributes acquired during 2024 that required a full valuation allowance.

The following table presents a reconciliation of the beginning and ending amounts of unrecognized tax benefits included on our Consolidated Balance Sheet:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
Unrecognized tax benefit, beginning of period	\$ 288	\$ 271	\$ 327
Additions for tax positions of current year	14	37	22
Additions for tax positions of prior years	15	2	13
Reductions for tax positions of prior years	(15)	(22)	(91)
Settlements (payments/refunds)	(66)	—	—
Unrecognized tax benefit, end of period	<u>\$ 236</u>	<u>\$ 288</u>	<u>\$ 271</u>

The majority of the uncertain tax positions, if recognized, will affect the effective tax rate. During 2024 and 2023, our effective tax rate included tax expense of \$18 million and \$21 million, respectively, related to adjustments in uncertain tax position balances. During 2024, we entered into an audit settlement and released a related \$66 million non-cash reserve related to this position. The settlement of this position did not affect the effective tax rate. During 2022, our effective tax rate included a net tax benefit of \$74 million related to adjustments in uncertain tax position balances. The 2022 movement included a \$91 million non-cash tax benefit to our effective tax rate as a reduction for tax positions of prior years.

It is reasonably possible that, within the next twelve months, due to the settlement of uncertain tax positions with various tax authorities and the expiration of statutes of limitations, unrecognized tax benefits could decrease by up to approximately \$50 million.

We recognize interest associated with unrecognized tax benefits in income tax expense. Income tax expense includes interest and penalties of \$15 million, \$11 million and \$1 million in 2024, 2023 and 2022, respectively. Accrued interest and penalties as of December 31, 2024, 2023 and 2022 were \$67 million, \$52 million, and \$41 million, respectively.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We operate in multiple jurisdictions throughout the world, and our tax returns are periodically audited or subjected to review by tax authorities. We are currently under examination in a number of tax jurisdictions. As a result, there is an uncertainty in income taxes recognized in our financial statements. Positions challenged by the tax authorities may be settled or appealed by us.

A summary of the years open to examination in our primary jurisdictions is as follows:

<u>Jurisdiction</u>	<u>Open Tax Years</u>
France	2019 and later
Germany	2008 and later
Italy	2014 and later
The Netherlands	2019 and later
United Kingdom	2022 and later
United States	2014 and later

17. Commitments and Contingencies

Commitments—We have various purchase commitments for materials, supplies and services incidental to the ordinary conduct of business, generally for quantities required for our businesses and at prevailing market prices. These commitments are designed to ensure sources of supply and are not expected to be in excess of normal requirements. Additionally, we have capital expenditure commitments, which we incur in our normal course of business.

Financial Assurance Instruments—We have obtained letters of credit, performance and surety bonds and have issued financial and performance guarantees to support trade payables, potential liabilities and other obligations. Considering the frequency of claims made against the financial instruments we use to support our obligations, and the magnitude of those financial instruments in light of our current financial position, management does not expect that any claims against or draws on these instruments would have a material adverse effect on our Consolidated Financial Statements. We have not experienced any unmanageable difficulties in obtaining the required financial assurance instruments for our current operations.

Environmental Remediation—Accrued liabilities for future environmental remediation costs at current and former plant sites and other remediation sites totaled \$140 million and \$124 million as of December 31, 2024 and 2023, respectively. At December 31, 2024, the accrued liabilities for individual sites range from less than \$1 million to \$43 million. The remediation expenditures are expected to occur over a number of years and are not concentrated in any single year. In our opinion, it is reasonably possible that losses in excess of the liabilities recorded may have been incurred. However, we cannot estimate any amount or range of such possible additional losses. New information about sites, new technology or future developments, such as involvement in investigations by regulatory agencies, could require us to reassess our potential exposure related to environmental matters.

The following table summarizes the activity in our accrued environmental liability included in Accrued and other current liabilities and Other liabilities:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>	
	<u>2024</u>	<u>2023</u>
Beginning balance	\$ 124	\$ 127
Changes in estimates	29	5
Amounts paid	(10)	(9)
Foreign exchange effects	(3)	1
Ending balance	<u>\$ 140</u>	<u>\$ 124</u>

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Indemnification—We are parties to various indemnification arrangements, including arrangements entered into in connection with acquisitions, divestitures and the formation and dissolution of joint ventures. Pursuant to these arrangements, we provide indemnification to and/or receive indemnification from other parties in connection with liabilities that may arise in connection with the transactions and in connection with activities prior to completion of the transactions. These indemnification arrangements typically include provisions pertaining to third-party claims relating to environmental and tax matters, as well as various types of litigation. As of December 31, 2024, we had not accrued any significant amounts for our indemnification obligations, and we are not aware of other circumstances that would likely lead to significant future indemnification obligations. We cannot determine with certainty the potential amount of future payments under the indemnification arrangements until events arise that would trigger a liability under the arrangements.

As part of our technology licensing contracts, we give indemnifications to our licensees for liabilities arising from possible patent infringement claims with respect to certain proprietary licensed technologies. Such indemnifications have a stated maximum amount and generally cover a period of 5 to 10 years.

Legal Proceedings—We are subject to various lawsuits and claims, including but not limited to, matters involving contract disputes, tort claims, and regulatory disputes alleging environmental damages, personal injury and/or property damage, some of which are covered by insurance. We vigorously defend ourselves and prosecute these matters as appropriate.

Our legal organization applies its knowledge, experience and professional judgment to the specific characteristics of our cases, employing a litigation management process to manage and monitor legal proceedings in which we are a party. Our process facilitates the early evaluation and quantification of potential exposures in individual cases. This process also enables us to track those cases that have been scheduled for trial, mediation or other resolution. We regularly assess the adequacy of legal accruals based on our professional judgment, experience and the information available regarding our cases.

Based on consideration of all relevant facts and circumstances, we do not believe the ultimate outcome of any currently pending lawsuit or claim against us will have a material adverse effect upon our operations, financial condition or Consolidated Financial Statements.

18. Shareholders' Equity and Redeemable Non-controlling Interests

Shareholders' Equity

Dividend Distributions—The following table summarizes the dividends paid to common shareholders in the periods presented:

Millions of dollars, except per share amounts	Dividend Per Ordinary Share	Aggregate Dividends Paid	Date of Record
For the year 2024:			
March	\$ 1.25	\$ 408	March 4, 2024
June	1.34	438	June 3, 2024
September	1.34	437	August 26, 2024
December	1.34	437	December 2, 2024
	<u>\$ 5.27</u>	<u>\$ 1,720</u>	
For the year 2023:			
March	\$ 1.19	\$ 389	March 6, 2023
June	1.25	408	May 30, 2023
September	1.25	407	August 28, 2023
December	1.25	406	November 27, 2023
	<u>\$ 4.94</u>	<u>\$ 1,610</u>	

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Share Repurchase Authorization—In May 2024, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares, through November 24, 2025 (“2024 Share Repurchase Authorization”), which superseded any prior repurchase authorizations. The timing and amount of these repurchases, which are determined based on our evaluation of market conditions and other factors, may be executed from time to time through open market or privately negotiated transactions. The repurchased shares, which are recorded at cost, are classified as Treasury stock and may be retired or used for general corporate purposes, including for various employee benefit and compensation plans.

In May 2023, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares, through November 19, 2024 (“2023 Share Repurchase Authorization”), which superseded any prior repurchase authorizations.

In May 2022, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares through November 27, 2023 (“2022 Share Repurchase Authorization”), which superseded our prior repurchase authorizations.

The following table summarizes our share repurchase activity for the periods presented:

<u>Millions of dollars, except shares and per share amounts</u>	<u>Shares Repurchased</u>	<u>Average Purchase Price</u>	<u>Total Purchase Price, Including Commissions and Fees</u>
For the year 2024:			
2024 Share Repurchase Authorization	2,236,348	\$ 88.42	\$ 198
	<u>2,236,348</u>	<u>\$ 88.42</u>	<u>\$ 198</u>
For the year 2023:			
2022 Share Repurchase Authorization	1,365,898	\$ 88.98	\$ 122
2023 Share Repurchase Authorization	983,309	90.99	89
	<u>2,349,207</u>	<u>\$ 89.82</u>	<u>\$ 211</u>
For the year 2022:			
2021 Share Repurchase Authorization	2,111,538	\$ 97.72	\$ 206
2022 Share Repurchase Authorization	2,286,216	87.50	200
	<u>4,397,754</u>	<u>\$ 92.41</u>	<u>\$ 406</u>

Total cash paid for share repurchases for the years ended December 31, 2024, 2023 and 2022 was \$195 million, \$211 million and \$420 million, respectively. Cash payments made during the reporting period may differ from the total purchase price, including commissions and fees, due to the timing of payments.

Ordinary Shares—The changes in the outstanding amounts of ordinary shares are as follows:

	<u>Year Ended December 31,</u>		
	<u>2024</u>	<u>2023</u>	<u>2022</u>
Ordinary shares outstanding:			
Beginning balance	324,483,402	325,723,567	329,536,389
Share-based compensation	1,278,115	793,984	291,104
Employee stock purchase plan	364,663	315,058	293,828
Purchase of ordinary shares	(2,236,348)	(2,349,207)	(4,397,754)
Ending balance	<u>323,889,832</u>	<u>324,483,402</u>	<u>325,723,567</u>

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Treasury Shares—The changes in the amounts of treasury shares held by the Company are as follows:

	Year Ended December 31,		
	2024	2023	2022
Ordinary shares held as treasury shares:			
Beginning balance	15,939,096	14,698,931	10,675,605
Share-based compensation	(1,278,115)	(793,984)	(291,104)
Employee stock purchase plan	(364,663)	(315,058)	(83,324)
Purchase of ordinary shares	2,236,348	2,349,207	4,397,754
Ending balance	16,532,666	15,939,096	14,698,931

Accumulated Other Comprehensive Loss—The components of, and after-tax changes in, Accumulated other comprehensive loss as of and for the years ended December 31, 2024, 2023 and 2022 are presented in the following table:

Millions of dollars	Financial Derivatives	Defined Benefit Pension and Other Post-retirement Benefit Plans	Foreign Currency Translation Adjustments	Total
Balance, December 31, 2021	\$ (354)	\$ (528)	\$ (921)	\$ (1,803)
Other comprehensive income (loss) before reclassifications	393	342	(64)	671
Tax expense before reclassifications	(86)	(95)	(59)	(240)
Amounts reclassified from accumulated other comprehensive loss	(128)	128	—	—
Tax benefit (expense)	29	(29)	—	—
Net other comprehensive income (loss)	208	346	(123)	431
Balance, December 31, 2022	\$ (146)	\$ (182)	\$ (1,044)	\$ (1,372)
Other comprehensive (loss) income before reclassifications	\$ (178)	\$ (142)	\$ 45	\$ (275)
Tax benefit before reclassifications	47	38	28	113
Amounts reclassified from accumulated other comprehensive loss	69	9	—	78
Tax expense	(18)	(2)	—	(20)
Net other comprehensive (loss) income	(80)	(97)	73	(104)
Balance, December 31, 2023	\$ (226)	\$ (279)	\$ (971)	\$ (1,476)
Other comprehensive income (loss) before reclassifications	\$ 51	\$ (21)	\$ (125)	\$ (95)
Tax (expense) benefit before reclassifications	(13)	5	(44)	(52)
Amounts reclassified from accumulated other comprehensive loss	102	18	—	120
Tax expense	(25)	(4)	—	(29)
Net other comprehensive income (loss)	115	(2)	(169)	(56)
Balance, December 31, 2024	\$ (111)	\$ (281)	\$ (1,140)	\$ (1,532)

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The amounts reclassified out of each component of Accumulated other comprehensive loss are as follows:

Millions of dollars	Year Ended December 31,			Affected Line Items on the Consolidated Statements of Income
	2024	2023	2022	
Reclassification adjustments for:				
Financial derivatives:				
Commodities	\$ 4	\$ —	\$ —	Sales and other operating expenses
Commodities	129	33	(59)	Cost of sales
Foreign currency	(35)	31	(75)	Interest expense
Interest rates	4	5	6	Interest expense
Income tax (expense) benefit	(25)	(18)	29	Provision for income taxes
Financial derivatives, net of tax	77	51	(99)	
Amortization of defined pension items:				
Settlement loss	—	—	103	Other income (expense), net
Actuarial loss	15	6	22	Other income (expense), net
Prior service cost	3	3	3	Other income (expense), net
Income tax expense	(4)	(2)	(29)	Provision for income taxes
Defined pension items, net of tax	14	7	99	
Total reclassifications, before tax	120	78	—	
Income tax expense	(29)	(20)	—	Provision for income taxes
Total reclassifications, after tax	<u>\$ 91</u>	<u>\$ 58</u>	<u>\$ —</u>	Amount included in net income

Amortization of defined pension items are included in the computation of net periodic pension and other post-retirement benefit costs, see Note 14 to the Consolidated Financial Statements.

Redeemable Non-controlling Interests

As of December 31, 2024 and 2023, we had 113,053 and 113,075 shares of redeemable non-controlling interest stock outstanding, respectively. During the years ended December 31, 2024 and 2023, 22 and 396 shares, respectively, were redeemed for less than \$1 million in each year. During the year ended December 31, 2022, 1,903 shares were redeemed for approximately \$2 million.

In February, May, August and November 2024, we paid cash dividends of \$15.00 per share to our redeemable non-controlling interest stock shareholders of record as of January 15, 2024, April 15, 2024, July 15, 2024, and October 15, 2024, respectively. In 2024, 2023 and 2022, these dividends were \$7 million for each year.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

19. Per Share Data

Basic earnings per share is based upon the weighted average number of shares of common stock outstanding during the period. Diluted earnings per share includes the effect of certain stock option and other equity-based compensation awards. Our unvested restricted stock units contain non-forfeitable rights to dividend equivalents and are considered participating securities. We calculate basic and diluted earnings per share under the two-class method.

Earnings per share data is as follows:

	Year Ended December 31,					
	2024		2023		2022	
	Continuing Operations	Discontinued Operations	Continuing Operations	Discontinued Operations	Continuing Operations	Discontinued Operations
Millions of dollars						
Net income (loss)	\$ 1,363	\$ 4	\$ 2,126	\$ (5)	\$ 3,894	\$ (5)
Dividends on redeemable non-controlling interests	(7)	—	(7)	—	(7)	—
Net income attributable to participating securities	(6)	—	(7)	—	(10)	—
Net income (loss) attributable to ordinary shareholders— basic and diluted	<u>\$ 1,350</u>	<u>\$ 4</u>	<u>\$ 2,112</u>	<u>\$ (5)</u>	<u>\$ 3,877</u>	<u>\$ (5)</u>
Millions of shares, except per share amounts						
Basic weighted average common stock outstanding	325	325	325	325	327	327
Effect of dilutive securities	1	1	1	1	1	1
Potential dilutive shares	<u>326</u>	<u>326</u>	<u>326</u>	<u>326</u>	<u>328</u>	<u>328</u>
Earnings (loss) per share:						
Basic	<u>\$ 4.15</u>	<u>\$ 0.01</u>	<u>\$ 6.50</u>	<u>\$ (0.02)</u>	<u>\$ 11.86</u>	<u>\$ (0.02)</u>
Diluted	<u>\$ 4.14</u>	<u>\$ 0.01</u>	<u>\$ 6.48</u>	<u>\$ (0.02)</u>	<u>\$ 11.83</u>	<u>\$ (0.02)</u>

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

20. Segment and Related Information

Our operations are managed by senior executives who report to our Chief Executive Officer, the chief operating decision maker. Discrete financial information is available for each of the segments. The Chief Executive Officer uses EBITDA as the primary measure for reviewing the profitability of our segments and allocating resources to the segments. We define EBITDA as earnings from continuing operations before interest, income taxes, and depreciation and amortization.

The activities of each of our segments from which they earn revenues and incur expenses are described below:

- *Olefins and Polyolefins-Americas* (“O&P-Americas”). Our O&P-Americas segment produces and markets olefins and co-products, polyethylene and polypropylene.
- *Olefins and Polyolefins-Europe, Asia, International* (“O&P-EAI”). Our O&P-EAI segment produces and markets olefins and co-products, polyethylene and polypropylene.
- *Intermediates and Derivatives* (“I&D”). Our I&D segment produces and markets propylene oxide and its derivatives, oxyfuels and related products, and intermediate chemicals such as styrene monomer and acetyls.
- *Advanced Polymer Solutions* (“APS”). Our APS segment produces and markets compounding and solutions, such as polypropylene compounds, engineered plastics, masterbatches, engineered composites, colors and powders.
- *Refining*. 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.
- *Technology*. Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts.

“Other” includes intersegment eliminations and items that are not directly related or allocated to business operations, such as foreign exchange gains or losses and components of pension and other post-retirement benefit costs other than service costs. Sales between segments are made at prices approximating prevailing market prices.

Summarized financial information concerning reportable segments is shown in the following tables for the periods presented:

	Year Ended December 31, 2024							
	O&P - Americas	O&P - EAI	I&D	APS	Refining	Technology	Other	Total
Millions of dollars								
Sales and other operating revenues:								
Customers	\$ 7,619	\$ 10,188	\$ 10,219	\$ 3,616	\$ 8,080	\$ 580	\$ —	\$ 40,302
Intersegment	3,914	679	205	18	479	91	(5,386)	—
	11,533	10,867	10,424	3,634	8,559	671	(5,386)	40,302
Less:								
Cost of sales	9,261	10,529	9,208	3,271	8,639	211	(5,381)	35,738
Impairments	—	892	2	55	—	—	—	949
(Income) loss from equity investments	(13)	217	13	—	—	—	—	217
Gain on sale of business	—	—	(284)	—	—	—	—	(284)
Other items	459	440	222	344	130	123	30	1,748
Add:								
Depreciation and amortization expense	619	220	401	90	150	42	—	1,522
EBITDA	\$ 2,445	\$ (991)	\$ 1,664	\$ 54	\$ (60)	\$ 379	\$ (35)	\$ 3,456
Capital expenditures	\$ 635	\$ 525	\$ 445	\$ 105	\$ 31	\$ 95	\$ 3	\$ 1,839

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	Year Ended December 31, 2023							
Millions of dollars	O&P - Americas	O&P - EAI	I&D	APS	Refining	Technology	Other	Total
Sales and other operating revenues:								
Customers	\$ 6,967	\$ 9,822	\$ 10,875	\$ 3,686	\$ 9,179	\$ 578	\$ —	\$ 41,107
Intersegment	4,313	657	211	12	535	85	(5,813)	—
	11,280	10,479	11,086	3,698	9,714	663	(5,813)	41,107
Less:								
Cost of sales	9,146	10,165	9,383	3,393	9,357	210	(5,805)	35,849
Impairments	25	38	192	252	11	—	—	518
(Income) loss from equity investments	(49)	55	13	1	—	—	—	20
Other items	442	437	262	312	125	119	48	1,745
Add:								
Depreciation and amortization expense	587	207	443	98	158	41	—	1,534
EBITDA	\$ 2,303	\$ (9)	\$ 1,679	\$ (162)	\$ 379	\$ 375	\$ (56)	\$ 4,509
Capital expenditures	\$ 480	\$ 273	\$ 590	\$ 75	\$ 32	\$ 69	\$ 12	\$ 1,531

	Year Ended December 31, 2022							
Millions of dollars	O&P - Americas	O&P - EAI	I&D	APS	Refining	Technology	Other	Total
Sales and other operating revenues:								
Customers	\$ 9,420	\$ 12,568	\$ 12,703	\$ 4,197	\$ 10,975	\$ 588	\$ —	\$ 50,451
Intersegment	5,060	887	247	5	918	105	(7,222)	—
	14,480	13,455	12,950	4,202	11,893	693	(7,222)	50,451
Less:								
Cost of sales	11,953	12,943	11,135	3,901	10,883	242	(7,210)	43,847
Impairments	—	69	—	—	—	—	—	69
(Income) loss from equity investments	(98)	68	25	—	—	—	—	(5)
Other items	351	368	250	281	128	124	4	1,506
Add:								
Depreciation and amortization expense	591	171	332	95	39	39	—	1,267
EBITDA	\$ 2,865	\$ 178	\$ 1,872	\$ 115	\$ 921	\$ 366	\$ (16)	\$ 6,301
Capital expenditures	\$ 383	\$ 349	\$ 940	\$ 60	\$ 53	\$ 98	\$ 7	\$ 1,890

Other items include Selling, general and administrative expenses, Research and development expenses, and Other income (expense), net.

LYONDELLBASELL INDUSTRIES N.V.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

A reconciliation of EBITDA to Income from continuing operations before income taxes is shown in the following table for each of the periods presented:

<u>Millions of dollars</u>	Year Ended December 31,		
	2024	2023	2022
EBITDA:			
Total segment EBITDA	\$ 3,491	\$ 4,565	\$ 6,317
Other EBITDA	(35)	(56)	(16)
Less:			
Depreciation and amortization expense	(1,522)	(1,534)	(1,267)
Interest expense	(481)	(477)	(287)
Add:			
Interest income	150	129	29
Income from continuing operations before income taxes	<u>\$ 1,603</u>	<u>\$ 2,627</u>	<u>\$ 4,776</u>

The following assets are summarized and reconciled to consolidated totals in the following table:

<u>Millions of dollars</u>	O&P - Americas	O&P - EAI	I&D	APS	Refining	Technology	Total
December 31, 2024							
Property, plant and equipment, net	\$ 6,592	\$ 1,553	\$ 5,670	\$ 655	\$ —	\$ 596	\$ 15,066
Equity investments	2,011	1,732	377	1	—	—	4,121
Goodwill	472	355	209	517	—	8	1,561
December 31, 2023							
Property, plant and equipment, net	\$ 6,441	\$ 2,139	\$ 5,654	\$ 678	\$ 122	\$ 513	\$ 15,547
Equity investments	2,049	1,513	343	2	—	—	3,907
Goodwill	477	380	215	567	—	8	1,647

Long-lived assets include Property, plant and equipment, net, Intangible assets, net and Equity investments, see Notes 7 and 8 to the Consolidated Financial Statements. The following long-lived assets data is based upon the location of the assets:

<u>Millions of dollars</u>	December 31,	
	2024	2023
Long-lived assets:		
United States	\$ 14,456	\$ 14,334
Germany	1,691	1,593
The Netherlands	784	879
Italy	399	389
Mexico	257	281
France	171	731
China	124	375
Other	1,882	1,513
Total	<u>\$ 19,764</u>	<u>\$ 20,095</u>

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Disposition of Ethylene Oxide & Derivatives (“EO&D”) Business—In May 2024, we sold our U.S. Gulf Coast-based EO&D business along with the production facilities located in Bayport, TX. The EO&D business was included in our I&D segment. In connection with the sale, we received cash proceeds of \$689 million and recognized a pre-tax gain of \$284 million in 2024.

Houston Refinery Operations—In 2022 we announced our plan to exit the refining business as it was determined to be the best strategic and financial path forward for the Company. We commenced shutdown activities in January 2025 and anticipate our refinery exit will be substantially completed in the first quarter of 2025.

Costs incurred for the planned exit from the refinery business are as follows:

<u>Millions of dollars</u>	<u>Year Ended December 31,</u>			<u>Cumulative</u>
	<u>2024</u>	<u>2023</u>	<u>2022</u>	<u>December 31,</u>
				<u>2024</u>
Accelerated lease amortization costs	\$ 38	\$ 110	\$ 91	\$ 239
Personnel costs	35	76	64	175
Asset retirement obligation accretion	8	9	2	19
Asset retirement cost depreciation	80	139	30	249
Other charges	18	—	—	18
Refinery exit costs	\$ 179	\$ 334	\$ 187	\$ 700

As of December 31, 2024, cumulative refinery exit costs were \$700 million. We expect to incur an additional \$70 million in subsequent periods, primarily due to the accretion of liabilities recorded for asset retirement obligations. We estimate that over half of these remaining costs will be incurred in 2025, with the remainder incurred over the next four years.

Impairments—In 2024, we recorded impairments totaling \$949 million. This amount includes charges related to the impairment of assets in our O&P-EAI and APS segments of \$892 million and \$55 million, respectively. Impairment charges included in our O&P-EAI segment relate to assets included in our European strategic review and a Chinese joint venture of \$837 million and \$52 million, respectively. These impairment charges reflect challenging market conditions in these regions. Impairments included in our APS segment includes an impairment charge of \$55 million driven by unfavorable market conditions which resulted in the loss of customers in our APS specialty powders business unit. In 2023, we recorded a non-cash impairment charge of \$192 million related to our European PO Joint Venture, which is included in the operating results for our I&D segment. See Notes 7 and 8 to the Consolidated Financial Statements for additional information.

Segment Structure Changes and Related Goodwill Impairment—Effective January 1, 2023, our *Catalloy* and polybutene-1 businesses were moved from our APS segment and reintegrated into our O&P-Americas and O&P-EAI segments. In connection with this change, we recognized a non-cash goodwill impairment charge of \$252 million in our APS segment. See Note 7 to the Consolidated Financial Statements for additional information regarding the impairment charge.

Disposition of Australian Facility—In the second quarter of 2022 we sold our ownership interest in our PP manufacturing facility located in Geelong, Australia, LyondellBasell Australia (Holdings) Pty Ltd, for consideration of \$38 million. In connection with this sale, we assessed the assets of the disposal group for impairment and determined that the carrying value exceeded the fair value less costs to sell. As a result, we recognized a non-cash impairment charge in the second quarter of 2022 of \$69 million in the operating results of our O&P-EAI segment. The fair value measurement for the disposal group was based on expected consideration and classified as Level 3 within the fair value hierarchy. The charge is reflected as Impairments in the Consolidated Statements of Income.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Effectiveness of Controls and Procedures

Our management, with the participation of our Chief Executive Officer (principal executive officer) and our Chief Financial Officer (principal financial officer) has evaluated the effectiveness of our disclosure controls and procedures in ensuring that the information required to be disclosed in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including ensuring that such information is accumulated and communicated to management (including the principal executive and financial officers) as appropriate to allow timely decisions regarding required disclosure. Based on such evaluation, our principal executive and financial officers have concluded that such disclosure controls and procedures were effective as of December 31, 2024, the end of the period covered by this Annual Report on Form 10-K.

Management's Report on Internal Control over Financial Reporting

Management's report on our internal control over financial reporting can be found in Item 8, *Financial Statements and Supplementary Data*, of this report.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting, as defined in Rule 13a-15(f) of the Act, in our fourth fiscal quarter of 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

During the three months ended December 31, 2024, none of our Section 16 officers or directors adopted or terminated any contract, instruction or written plan for the purchase or sale of our securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) or any "non-Rule 10b5-1 trading arrangement."

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

We have a Code of Conduct for all employees and directors, including our principal executive officer, principal financial officer, principal accounting officer and persons performing similar functions. We also have a Financial Code of Ethics specifically for our principal executive officer, principal financial officer, principal accounting officer and persons performing similar functions. We have posted copies of these codes on the “Corporate Governance” section of our website at www.LyondellBasell.com (within the Investor Relations section). Any waivers of the codes must be approved, in advance, by our Board of Directors. Any amendments to, or waivers from, the codes that apply to our executive officers and directors will be posted on the “Corporate Governance” section of our website.

Information regarding our executive officers is reported under the caption “Information about our Executive Officers” in Part I of this report, which is incorporated herein by reference.

All other information required by this Item will be included in our Proxy Statement relating to our 2025 Annual General Meeting of Shareholders and is incorporated herein by reference.*

Item 11. Executive Compensation.

All information required by this Item will be included in our Proxy Statement relating to our 2025 Annual General Meeting of Shareholders and is incorporated herein by reference.*

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

All information required by this Item will be included in our Proxy Statement relating to our 2025 Annual General Meeting of Shareholders and is incorporated herein by reference.*

Item 13. Certain Relationships and Related Transactions, and Director Independence.

All information required by this Item will be included in our Proxy Statement relating to our 2025 Annual General Meeting of Shareholders and is incorporated herein by reference.*

Item 14. Principal Accounting Fees and Services.

All information required by this Item will be included in our Proxy Statement relating to our 2025 Annual General Meeting of Shareholders and is incorporated herein by reference.*

* *Except for information or data specifically incorporated herein by reference under Items 10 through 14, other information and data appearing in our 2025 Proxy Statement are not deemed to be a part of this Annual Report on Form 10-K or deemed to be filed with the Commission as a part of this report.*

PART IV**Item 15. Exhibits, Financial Statement Schedules.**

(a) (1) Consolidated Financial Statements: The financial statements and supplementary information listed in the Index to Financial Statements, included in Item 8.

(a) (2) Consolidated Financial Statement Schedules: Schedules are omitted because they either are not required or are not applicable or because equivalent information has been included in the financial statements, the notes thereto or elsewhere herein.

(b) Exhibits:

<u>Exhibit Number</u>	<u>Description</u>
3	<u>Articles of Association of LyondellBasell Industries N.V., as amended on June 1, 2018 (incorporated by reference to Exhibit 3.1 of our Current Report on Form 8-K filed with the SEC on June 5, 2018)</u>
4.1*	<u>Description of the Company's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934</u>
4.2	<u>Specimen certificate for Class A ordinary shares, par value €0.04 per share, of LyondellBasell Industries N.V. (incorporated by reference to Exhibit 4.1 to our Annual Report on Form 10-K filed with the SEC on February 16, 2016)</u>
4.3	<u>Registration Rights Agreement by and among LyondellBasell Industries N.V. and the Holders (as defined therein), dated as of April 30, 2010 (incorporated by reference to Exhibit 4.7 to Amendment No. 2 to Form 10 filed with the SEC on July 26, 2010)</u>
4.4	<u>Second Amended and Restated Nomination Agreement, dated June 1, 2018, between AI International Chemicals S.à R.L. and LyondellBasell Industries N.V. (incorporated by reference to Exhibit 10.1 of our Current Report on Form 8-K filed with the SEC on June 5, 2018)</u>
4.5	<u>Indenture, between LyondellBasell Industries N.V. as Company and Computershare Trust Company, N.A., as Trustee (as successor to Wells Fargo Bank, National Association), dated as of March 5, 2015 (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed with the SEC on March 5, 2015)</u>
4.6	<u>Officer's Certificate of LyondellBasell Industries, N.V. relating to the 4.625% Senior Notes due 2055, dated as of March 5, 2015 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on March 5, 2015)</u>
4.7	<u>Form of LyondellBasell Industries N.V.'s 4.625% Senior Notes due 2055 (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed with the SEC on March 5, 2015 and included in Exhibit 4.2 thereto)</u>
4.8	<u>Indenture, among LYB International Finance B.V., as issuer, LyondellBasell Industries N.V., as guarantor, and Computershare Trust Company, N.A., as Trustee (as successor to Wells Fargo Bank, National Association), dated as of July 16, 2013 (incorporated by reference to Exhibit 4.1 to our Form 8-K filed with the SEC on July 16, 2013)</u>
4.9	<u>Officer's Certificate of LYB International Finance B.V. relating to the 5.250% Guaranteed Notes due 2043, dated as of July 16, 2013 (incorporated by reference to Exhibit 4.3 to our Form 8-K filed with the SEC on July 16, 2013)</u>
4.10	<u>Form of LYB International Finance B.V.'s 5.250% Guaranteed Notes due 2043 (incorporated by reference to Exhibit 4.3 to our Form 8-K filed with the SEC on July 16, 2013)</u>

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<u>Exhibit Number</u>	<u>Description</u>
4.11	<u>Officer's Certificate of LYB International Finance B.V. relating to the 4.875% Guaranteed Notes due 2044, dated as of February 28, 2014 (incorporated by reference to Exhibit 4.2 to our Form 8-K filed with the SEC on February 28, 2014)</u>
4.12	<u>Form of LYB International Finance B.V.'s 4.875% Guaranteed Notes due 2044 (incorporated by reference to Exhibit 4.2 to our Form 8-K filed with the SEC on February 28, 2014)</u>
4.13	<u>Indenture, among LYB International Finance II B.V., as Issuer, LyondellBasell Industries N.V., as Guarantor, and Deutsche Bank Trust Company Americas, as Trustee, dated as of March 2, 2016 (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed with the SEC on March 2, 2016)</u>
4.14	<u>Officer's Certificate of LYB International Finance II B.V. relating to the 3.500% Guaranteed Notes due 2027, dated as of March 2, 2017 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on March 2, 2017)</u>
4.15	<u>Form of LYB International Finance II B.V.'s 3.500% Guaranteed Notes due 2027 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on March 2, 2017 and included in Exhibit A thereto)</u>
4.16	<u>Supplemental Indenture, among LYB International Finance II B.V., as Issuer, LyondellBasell Industries N.V., as Guarantor, and Deutsche Bank Trust Company Americas, as Trustee, dated as of September 17, 2019 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on September 17, 2019)</u>
4.17	<u>Form of LYB International Finance II B.V.'s 0.875% Guaranteed Notes due 2026 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on September 17, 2019)</u>
4.18	<u>Form of LYB International Finance II B.V.'s 1.625% Guaranteed Notes due 2031 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on September 17, 2019)</u>
4.19	<u>Indenture, among LYB International Finance III, LLC, as Issuer, LyondellBasell Industries N.V., as Guarantor, and Computershare Trust Company, N.A., as Trustee (as successor to Wells Fargo Bank, National Association), dated as of October 10, 2019 (incorporated by reference to Exhibit 4.1 to our Current Report on Form 8-K filed with the SEC on October 10, 2019)</u>
4.20	<u>Officer's Certificate of LYB International Finance III, LLC relating to the 4.200% Guaranteed Notes due 2049, dated as of October 10, 2019 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 10, 2019)</u>
4.21	<u>Form of LYB International Finance III, LLC's 4.200% Guaranteed Notes due 2049 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 10, 2019)</u>
4.22	<u>Officer's Certificate of LYB International Finance III, LLC relating to the 3.375% Guaranteed Notes due 2030, and 4.200% Guaranteed Notes due 2050 dated as of April 20, 2020 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on April 21, 2020)</u>
4.23	<u>Form of LYB International Finance III, LLC's 3.375% Guaranteed Notes due 2030 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on April 21, 2020)</u>
4.24	<u>Form of LYB International Finance III, LLC's 4.200% Guaranteed Notes due 2050 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on April 21, 2020)</u>

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Exhibit Number	Description
4.25	<u>Officer's Certificate of LYB International Finance III, LLC relating to the 1.250% Guaranteed Notes due 2025, 2.250% Guaranteed Notes due 2030, 3.375% Guaranteed Notes due 2040, 3.625% Guaranteed Notes due 2051, and 3.800% Guaranteed Notes due 2060, dated as of October 8, 2020 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.26	<u>Form of LYB International Finance III, LLC's 1.250% Guaranteed Notes due 2025 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.27	<u>Form of LYB International Finance III, LLC's 2.250% Guaranteed Notes due 2030 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.28	<u>Form of LYB International Finance III, LLC's 3.375% Guaranteed Notes due 2040 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.29	<u>Form of LYB International Finance III, LLC's 3.625% Guaranteed Notes due 2051 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.30	<u>Form of LYB International Finance III, LLC's 3.800% Guaranteed Notes due 2060 (incorporated by reference to Exhibit 4.2 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
4.31	<u>Supplemental Indenture, among LYB International Finance III, LLC, as Issuer, LyondellBasell Industries N.V., as Guarantor, Computershare Trust Company, N.A., as Base Trustee (as successor to Wells Fargo Bank, National Association) and The Bank of New York Mellon Trust Company, N.A., as Trustee, dated as of May 17, 2023 (incorporated by reference to Exhibit 4.44 to Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (File No. 333-261639) filed with the SEC on May 17, 2023)</u>
4.32	<u>Officer's Certificate of LYB International Finance III, LLC relating to the 5.625% Guaranteed Notes due 2033, dated as of May 19, 2023 (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed with the SEC on May 19, 2023)</u>
4.33	<u>Form of LYB International Finance III, LLC's 5.625% Guaranteed Notes due 2033 (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed with the SEC on May 19, 2023)</u>
4.34	<u>Officer's Certificate of LYB International Finance III, LLC relating to the 5.500% Guaranteed Notes due 2034, dated as of February 28, 2024 (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed with the SEC on February 28, 2024)</u>
4.35	<u>Form of LYB International Finance III, LLC's 5.500% Guaranteed Notes due 2034 (incorporated by reference to Exhibit 4.3 to our Current Report on Form 8-K filed with the SEC on February 28, 2024)</u>
10.1+	<u>Offer Letter dated December 8, 2021 between Peter Vanacker and LyondellBasell Industries N.V. (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on December 13, 2021)</u>
10.2+	<u>Offer Letter dated October 10, 2019 between Michael McMurray and Lyondell Chemical Company (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on October 15, 2019)</u>
10.3+	<u>Offer Letter dated May 17, 2019 between Torkel Rhenman and Lyondell Chemical Company (incorporated by reference to Exhibit 10.7 of our Annual Report on Form 10-K filed with the SEC on February 20, 2020)</u>
10.4+	<u>Letter to Torkel Rhenman dated July 22, 2020 (incorporated by reference to Exhibit 10.5 to our Quarterly Report on Form 10-Q filed with the SEC on October 30, 2020)</u>

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<u>Exhibit Number</u>	<u>Description</u>
10.5+	<u>Appointment Letter for Torkel Rhenman dated September 27, 2022 (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q filed with the SEC on October 28, 2022)</u>
10.6+	<u>LyondellBasell Industries N.V. U.S. Senior Management Deferral Plan, as Amended and Restated as of May 18, 2023 (incorporated by reference to Exhibit 10.9 of our Annual Report on Form 10-K filed with the SEC on February 22, 2024)</u>
10.7+	<u>LyondellBasell Executive Severance Plan, Amended & Restated, effective as of November 17, 2023 (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on November 17, 2023)</u>
10.8+*	<u>Form of LyondellBasell Executive Severance Plan Participation Agreement</u>
10.9+	<u>Form of Officer and Director Indemnification Agreement (incorporated by reference to Exhibit 10.12 to our Annual Report on Form 10-K filed with the SEC on February 21, 2019)</u>
10.10+	<u>LyondellBasell Industries Long Term Incentive Plan (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on May 28, 2021)</u>
10.11+	<u>2023 Form of Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.22 of our Annual Report on Form 10-K filed with the SEC on February 23, 2023)</u>
10.12+	<u>2023 Form of Performance Share Unit Award Agreement (incorporated by reference to Exhibit 10.23 of our Annual Report on Form 10-K filed with the SEC on February 23, 2023)</u>
10.13+	<u>2023 Form of Non-Qualified Stock Option Award Agreement (incorporated by reference to Exhibit 10.24 of our Annual Report on Form 10-K filed with the SEC on February 23, 2023)</u>
10.14+	<u>2024 Form of Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.19 of our Annual Report on Form 10-K filed with the SEC on February 22, 2024)</u>
10.15+	<u>2024 Form of Performance Share Unit Award Agreement (incorporated by reference to Exhibit 10.20 of our Annual Report on Form 10-K filed with the SEC on February 22, 2024)</u>
10.16+*	<u>2025 Form of Restricted Stock Unit Award Agreement</u>
10.17+*	<u>2025 Form of Performance Share Unit Award Agreement</u>
10.18+	<u>Form of Director Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.1 of our Quarterly Report on Form 10-Q filed with the SEC on July 31, 2020)</u>
10.19	<u>Third Amended and Restated Credit Agreement, dated July 17, 2024, among LyondellBasell Industries N.V. and LYB Americas Finance Company LLC, as Borrowers, the various institutions from time to time party thereto as Lenders and L/C Issuers, Citibank, N.A., as Administrative Agent, and Wells Fargo Bank, National Association, as Syndication Agent (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on July 18, 2024)</u>
10.20	<u>Receivables Purchase Agreement, dated September 11, 2012, by and among Lyondell Chemical Company, as initial servicer, and LYB Receivables LLC, as seller, PNC National Association, as Administrator and LC Bank, certain conduit purchasers, committed purchasers, LC participants and purchaser agents that are parties thereto from time to time (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on September 14, 2012)</u>

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Exhibit Number	Description
10.21	<u>Second Amendment to Receivables Purchase Agreement, dated August 26, 2015, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10 to our Current Report on Form 8-K filed with the SEC on August 28, 2015)</u>
10.22	<u>Third Amendment to Receivables Purchase Agreement, dated July 24, 2018, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on July 27, 2018)</u>
10.23	<u>Fourth Amendment to Receivables Purchase Agreement, dated as of June 30, 2021, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on July 2, 2021)</u>
10.24	<u>Fifth Amendment to Receivables Purchase Agreement, dated as of May 31, 2023, among LYB Receivables LLC, as seller, Lyondell Chemical Company, as servicer, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.1 to our Quarterly Report on Form 10-Q filed with the SEC on August 4, 2023)</u>
10.25	<u>Sixth Amendment to Receivables Purchase Agreement, dated as of May 29, 2024, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.1 to our Current Report on Form 8-K filed with the SEC on May 30, 2024)</u>
10.26	<u>Acknowledgement of Amendment to Receivables Purchase Agreement, dated April 14, 2020, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.3 of our Current Report on Form 8-K filed with the SEC on April 15, 2020)</u>
10.27	<u>Acknowledgement of Amendment to Receivables Purchase Agreement, dated October 8, 2020, among Lyondell Chemical Company, as servicer, LYB Receivables LLC, as seller, the conduit purchasers, related committed purchasers, LC participants and purchaser agents party thereto, the other parties thereto and Mizuho Bank, Ltd., as Administrator and LC Bank (incorporated by reference to Exhibit 10.3 to our Current Report on Form 8-K filed with the SEC on October 8, 2020)</u>
10.28	<u>Purchase and Sale Agreement, dated September 11, 2012, by and among Lyondell Chemical Company, Equistar Chemicals, LP and LyondellBasell Acetyls, LLC, the other originators from time to time parties thereto, Lyondell Chemical Company, as initial servicer and LYB Receivables LLC, as buyer (incorporated by reference to Exhibit 10.2 to our Current Report on Form 8-K filed with the SEC on September 14, 2012)</u>
19*	<u>Policy Prohibiting Insider Trading</u>
21*	<u>List of subsidiaries of the registrant</u>
23*	<u>Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm</u>
31.1*	<u>Certification of Chief Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934</u>

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Exhibit Number	Description
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934
32**	Certifications pursuant to 18 U.S.C. Section 1350
97.1	Clawback Policy (incorporated by reference to Exhibit 97.1 to our Annual Report on Form 10-K filed with the SEC on February 22, 2024)
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Schema Document
101.CAL*	Inline XBRL Calculation Linkbase Document
101.DEF*	Inline XBRL Definition Linkbase Document
101.LAB*	Inline XBRL Labels Linkbase Document
101.PRE*	Inline XBRL Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)
+	Management contract or compensatory plan, contract or arrangement.
*	Filed herewith.
**	Furnished herewith.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

LYONDELLBASELL INDUSTRIES N.V.

Date: February 27, 2025

/s/Peter Vanacker
Name: Peter Vanacker
Title: Chief Executive Officer

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Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<i>/s/ Peter Vanacker</i> Peter Vanacker	Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2025
<i>/s/ Michael C. McMurray</i> Michael C. McMurray	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 27, 2025
<i>/s/ Chukwuemeka A. Oyolu</i> Chukwuemeka A. Oyolu	Senior Vice President, Chief Accounting Officer & Investor Relations (Principal Accounting Officer)	February 27, 2025
<i>/s/ Jacques Aigrain</i> Jacques Aigrain	Chair of the Board and Director	February 27, 2025
<i>/s/ Lincoln Benet</i> Lincoln Benet	Director	February 27, 2025
<i>/s/ Robin W.T. Buchanan</i> Robin W.T. Buchanan	Director	February 27, 2025
<i>/s/ Anthony R. Chase</i> Anthony R. Chase	Director	February 27, 2025
<i>/s/ Robert W. Dudley</i> Robert W. Dudley	Director	February 27, 2025
<i>/s/ Claire S. Farley</i> Claire S. Farley	Director	February 27, 2025
<i>/s/ Rita Griffin</i> Rita Griffin	Director	February 27, 2025
<i>/s/ Michael S. Hanley</i> Michael S. Hanley	Director	February 27, 2025
<i>/s/ Virginia A. Kamsky</i> Virginia A. Kamsky	Director	February 27, 2025
<i>/s/ Bridget Karlin</i> Bridget Karlin	Director	February 27, 2025
<i>/s/ Albert J. Manifold</i> Albert J. Manifold	Director	February 27, 2025

**DESCRIPTION OF THE COMPANY'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

General

The following descriptions are summaries of material terms of LyondellBasell Industries N.V.'s ("LyondellBasell") ordinary shares, with a par value of four eurocents (€0.04) each, LyondellBasell's Articles of Association (which we refer to herein as our Articles of Association) and Dutch law. The full text of our current Articles of Association has been filed as an exhibit to the Form 8-K filed with the Securities and Exchange Commission (the "SEC") on June 5, 2018.

Ordinary Shares

LyondellBasell's authorized share capital is fifty-one million euro (€51,000,000), consisting of one billion two hundred seventy-five million (1,275,000,000) ordinary shares, each with a par value of four eurocents (€0.04). As of December 31, 2024, there were 323,815,225 ordinary shares outstanding, not including 16,607,273 ordinary shares held in treasury.

The description of LyondellBasell's ordinary shares is contained in our Registration Statement on Form 10 filed with the SEC pursuant to Section 12 of the Securities Exchange Act of 1934 on April 28, 2010, as amended.

Voting and Approval Rights

Generally, each shareholder is entitled to one vote for each ordinary share held on every matter submitted to a vote of shareholders, including the annual election of members of the Board of Directors (the "Board"). There are no cumulative voting rights. Pursuant to Dutch law and our Articles of Association, the nomination of a director to our Board is binding on shareholders unless two-thirds of shareholders, representing at least half of issued share capital, vote against the nominee.

Unless otherwise required by our Articles of Association or Dutch law, matters submitted for a vote at a general meeting of shareholders require the approval of a majority of the votes cast at the general meeting. Pursuant to Dutch law and our Articles of Association, shareholders have the right to approve decisions of the Board relating to (i) the transfer of all or substantially all our enterprise by way of a share or asset sale, consolidation or merger or otherwise, (ii) the entering into or termination of a long-lasting commercial relationship that is of essential importance to our business and (iii) the acquisition or disposition of shares or assets with a value of at least one-third of our consolidated asset value.

There are no laws currently in effect in The Netherlands or provisions in our Articles of Association limiting the rights of non-resident investors to hold or vote ordinary shares.

Dividends and Distributions

Pursuant to our Articles of Association, the Board may determine to allocate amounts to our reserves up to the amount of our annual profits. Out of our share premium reserve and other reserves available for shareholder distributions under Dutch law, the general meeting of shareholders may declare distributions upon a proposal of the Board. We cannot pay dividends if the payment would reduce our shareholders' equity below the aggregate par value of our outstanding ordinary shares, plus reserves (if any) required to be maintained by law. The Board may, subject to certain statutory provisions, distribute one or more interim dividends or other interim distributions before the accounts for any year have been approved and adopted at a general meeting of shareholders, in anticipation of the final dividend or final distribution. Rights to dividends and distributions that have not been collected within five years after the date on which they first became due and payable revert to LyondellBasell.

The payment of dividends or distributions is subject to the requirements of Dutch law and the discretion of our shareholders (in the case of annual dividends) and our Board. The declaration of any cash dividends and, if declared, the amount of any such dividends, will depend upon general business conditions, our financial condition, our earnings and cash flow, our capital requirements, financial covenants and other contractual restrictions on the payment of dividends or distributions. There can be no assurance that any dividends or distributions will be declared or paid in the future. Any future cash dividends or distributions will be paid in U.S. dollars.

Shareholder Meetings

Each shareholder and certain other parties designated under Dutch law will be permitted, either personally or through an attorney authorized in writing, to attend the general meeting of shareholders, to address said meetings and to exercise voting rights, subject to certain provisions of Dutch law and our Articles of Association.

Our general meetings of shareholders will be held in The Netherlands at least annually, within six months after the close of each financial year. Extraordinary general meetings of shareholders may be held as often as the Board deems necessary, or as otherwise provided for pursuant to Dutch law. One or more shareholders representing in the aggregate at least 10% of the issued share capital can request the Board to convene a general meeting of shareholders. In such case, the Board is required to publish a convening notice for such a general meeting of shareholders within four weeks of receipt from such shareholders of (i) a specified agenda for such general meeting of shareholders and, (ii) in the sole discretion of the Board, compelling evidence of the number of shares held by such shareholder or shareholders. If such meeting is not held within six weeks of our receipt of such request, the shareholders requesting a meeting may petition a court in The Netherlands for an order directing the holding of such meeting; the court may order the holding of such a meeting if the persons requesting the meeting can demonstrate that they have a sufficient interest in holding a meeting with the agenda requested by them. In addition, affiliates of Access Industries, one of our shareholders, can require the Board to convene a general meeting of shareholders, for the purpose of allowing for the appointment of one or more of its director nominees under certain circumstances, for so long as it holds, together with its affiliates, at least 5% of the issued share capital.

One or more shareholders representing solely or jointly at least 1% of the issued share capital can request the Board to place a matter on the agenda, provided that the Board has received such request at least 60 days prior to the date of the general meeting of shareholders concerned.

Election and Tenure of Directors

Our Board includes both executive and non-executive members. The executive members of our Board are charged with managing our day-to-day affairs. The non-executive members of our Board are charged with the supervision of the executive Board member(s) and our general course of affairs.

The Board shall determine its size; *provided* that the Board shall consist of at least nine members, including at least one executive Board member who will hold the title of CEO, and the number of non-executive Board members shall at all times exceed the number of executive Board members.

The general meeting of shareholders appoints the member(s) of the Board, subject to the terms of any binding nomination agreements; *provided* that the Board may provide for temporary replacements in the event of a vacancy or the inability to act of a Board member.

We have entered into a binding nomination agreement with affiliates of Access Industries pursuant to which we agreed that (i) if it, together with its affiliates, owns 18% or more of our outstanding ordinary shares, it will have the right to nominate three non-executive members of the Board; (ii) if it, together with its affiliates, owns at least 12% but less than 18% of our outstanding ordinary shares, it will have the right to nominate two non-executive members of the Board; and (iii) if it, together with its affiliates, owns at least 5% but less than 12% of our outstanding ordinary shares, it will have the right to nominate one non-executive member of the Board. The general meeting of shareholders may render such nomination non-binding by means of a resolution adopted by at least two-thirds of the valid votes cast, representing more than half of the issued capital. As of December 31, 2024, three of the members of our Board were nominated in accordance with this agreement.

The general meeting of shareholders may dismiss, or suspend for a period of up to three months, a member of the Board by a resolution adopted by at least two-thirds of the votes cast in a meeting where at least half of the issued share capital is represented. If the general meeting of shareholders has suspended a member of the Board, the general meeting of shareholders shall within three months after the suspension has taken effect resolve either to dismiss such relevant member, or to terminate or continue the suspension, failing which the suspension shall lapse.

Each member of the Board serves a one-year term and there is no limit to the number of times a member of the Board can be reappointed.

Subject to our Articles of Association, the Board may adopt rules and regulations governing its internal proceedings of each such constituency, including rules relating to voting on nominations of directors, board composition and governance.

Issuance of Ordinary Shares/Pre-emptive Rights

Our Articles of Association provide that our Board has the authority to issue shares if authorized by resolution of our shareholders. No such authorization is currently in place. Shareholders may resolve to issue shares on a proposal of the Board in the absence of a Board authorization.

Under Dutch law and our Articles of Association, every holder of ordinary shares will have a preemptive right in the proportion that the aggregate amount of its ordinary shares bears to the total amount of shares outstanding. The preemptive right may be restricted or excluded by a resolution of the Board if the Board is the competent body to issue shares. Otherwise, preemptive rights may be restricted or excluded by shareholders on a proposal of the Board. A holder of ordinary shares will not have a preemptive right to shares which are being issued against contribution other than in cash; to ordinary shares which will be issued to our employees or employees of one of our group companies; and to ordinary shares which will be issued as a result of merger or demerger.

Repurchase of Ordinary Shares

The shareholders may delegate to the Board the authority, subject to certain restrictions contained in Dutch law and our Articles of Association, to cause us to acquire, for consideration, our own fully paid ordinary shares. Such authorization may not be granted for a period exceeding 18 months. In the authorization, the general meeting of shareholders shall determine how many shares thereof may be acquired, the manner in which they may be acquired and between what limits the price for such ordinary shares shall be.

The authorization will not be required for the acquisition of ordinary shares by us for transfer to our employees in accordance with an employee share plan.

At our 2024 annual general meeting of shareholders, shareholders granted authority to the Board to repurchase up to 10% of our issued share capital, or 34 million shares, until November 24, 2025.

Capital Reduction

Upon proposal by the Board, the general meeting of shareholders may reduce our issued share capital by cancellation of ordinary shares held by us, subject to certain statutory provisions. However, if less than one half of the issued share capital is present at the meeting, the general meeting of shareholders may only adopt a resolution for capital reduction with a majority of at least two-thirds of the votes cast. As of December 31, 2024, we held approximately 16.6 million shares in our treasury account.

Amendment of Our Articles of Association

Our Articles of Association may be amended, on the proposal of the Board, by a majority of the votes cast at a general meeting of shareholders; provided that such proposal is stated in the notice for the general meeting and a complete copy of the proposed amendment is filed at our office so that it may be inspected prior to and during the meeting.

Transfer Agent

The transfer agent and registrar for our ordinary shares is Computershare Trust Company, N.A.

**LYONDELLBASELL EXECUTIVE SEVERANCE PLAN
PARTICIPATION AGREEMENT**

This Executive Severance Plan Participation Agreement (the “**Participation Agreement**”) is entered into effective as of _____, 20__ (the “**Participation Date**”), by and between Lyondell Chemical Company (the “**Company**”) and you (the “**Participant**”), pursuant to the LyondellBasell Executive Severance Plan, as amended, restated or amended and restated from time to time (the “**Plan**” or “**LYB Executive Severance Plan**”). The Participant agrees that the terms and conditions of this Agreement and the Plan will govern the Participant’s rights with respect to the severance benefits provided under the Plan (the “**Severance Benefits**”), notwithstanding any contrary provision in any employment agreement or other severance plan. The Participant and the Company agree to execute such further instruments and to take such further action as may reasonably be necessary to carry out the intent of this Participation Agreement. Except as defined in this Participation Agreement (including Exhibit A attached hereto), capitalized terms have the same meanings ascribed to them in the Plan.

The Participant and the Company have entered into this Participation Agreement and have agreed to the terms and conditions included in Exhibit A as an express incentive for the Participant and the Company to enter into the Participation Agreement and in consideration for the Company or any of its affiliates providing (i) the consideration set forth in the Participation Agreement and (ii) Confidential Information to the Participant, to further protect the trade secrets and Confidential Information disclosed or entrusted to the Participant, to protect the business goodwill of the Company and its affiliates, to protect the business opportunities disclosed or entrusted to the Participant, and to protect the other legitimate business interests of the Company and its affiliates. In executing this Participation Agreement, the Participant expressly acknowledges and agrees that (a) the Participation Agreement aligns the Participant’s interests with the Company’s and its affiliates’ long-term business interests and creates a further incentive for the Participant to build the Company’s and its affiliates’ goodwill, and (b) the provisions contained in Exhibit A are reasonably related to the Company’s and its affiliates’ legitimate interests in protecting their goodwill. *[Include the following for new employees:* The Participant understands that the Company has hereby promised to provide to the Participant Confidential Information during the Participant’s employment with the Company.] *[Include the following for promoted employees:* The Participant understands that the Company has hereby promised to provide to the Participant new Confidential Information following the Participant’s promotion to the position of _____.] *[Include the following for employees without promotion:* The Participant understands that the Company has hereby promised to provide to the Participant new Confidential Information following the Participant’s designation of eligibility under the Plan and Participant’s acceptance of this Agreement.]

The Participant and the Company also expressly agree that any long-term incentive awards that may hereafter be granted to the Participant pursuant to the LyondellBasell Industries (“**LYB**”) Long-Term Incentive Plan (the “**LTIP**”) similarly aligns the Participant’s interests with LYB’s and the Company’s long-term business interests and creates a further incentive for the Participant to build the Company’s and LYB’s goodwill, and that the provisions contained in Exhibit A and Section 2 of this Agreement as they relate to such LTIP awards are reasonably related to the Company’s and LYB’s legitimate interest in protecting its goodwill. Accordingly, Section 2 of this Agreement (regarding recovery of payments) also applies to any awards made to the Participant under the LTIP to the extent such awards (1) are granted after the Participant signs this Participation Agreement and (2) vest or become exercisable on account of termination of employment for any reason other than the Participant’s death or disability.

The terms and conditions of this Participation Agreement as offered herein must be accepted by the Participant prior to _____, 20____. Failure to timely accept the terms by such time will result in immediate and irrevocable cancellation of the participation offered.

1. **Participation.** In accordance with, and subject to, the terms and conditions of the Plan, the Company hereby allows the Participant to participate in the LYB Executive Severance Plan.
2. **Covenants; Recovery of Payments.** If the Committee determines that the Participant has committed a breach of any of the Covenants set forth in Exhibit A, upon notice from the Company, the Participant shall reimburse to the Company all or a portion of the Severance Benefits or payments received in respect of any LTIP awards, or both, subject to this Participation Agreement, as the Committee deems appropriate under the circumstances. Such notice shall be provided within the earlier to occur of one year after discovery of the alleged breach or the second anniversary of the Participant's date of termination.
3. **Interpretation and Construction.** This Participation Agreement and the Plan shall be interpreted and construed to the fullest extent possible consistent with the LTIP and any applicable grant letter or award agreement thereunder. In the event of a conflict between the terms of any such document and this Participation Agreement, this Participation Agreement shall control. For the avoidance of doubt, LTIP awards are subject to the terms of this Participation Agreement only to the extent they (a) are granted after the Participant signs this Participation Agreement and (b) vest or become exercisable on account of termination of employment for any reason other than the Participant's death or disability. Incentive compensation awards issued by the Company or LYB pursuant to the LTIP or any other incentive program or arrangement shall remain subject to other provisions of such other award agreements and incentive arrangements, which shall not be affected by this Participation Agreement.
4. This Participation Agreement is governed by ERISA and to the extent applicable, Texas law, without giving effect to its conflicts of law principles. The Participant consents to the jurisdiction of the Harris County District State Court in Houston, Texas, although the Company may choose to seek enforcement of the Covenants in any jurisdiction where the Participant may be found.
5. This Participation Agreement supersedes and replaces all prior or contemporaneous agreements with respect to this Plan and the subject matter hereof. Any prior agreements related to this Plan will have no further force or effect and the parties to any such agreement will have no further rights or obligations thereunder.

[SIGNATURE PAGE TO FOLLOW]

LYONDELL CHEMICAL COMPANY

By: _____ Date: _____
[Insert Name and Title]

PARTICIPANT

_____ Date: _____
[Insert Name]

EXHIBIT A
TO LYONDELLBASELL EXECUTIVE SEVERANCE PLAN
PARTICIPATION AGREEMENT

1. As used in this Exhibit A, the following terms have the meanings set out below:

“**Business**” means the business in which the Company and its affiliates are engaged and for which the Participant has direct or indirect responsibilities during the term of Participant’s employment with the Company or any affiliate.

“**Competitor**” means any business or enterprise engaged in the Business.

“**Confidential Information**” means any trade secret, proprietary or confidential information of the Company or its affiliates.

“**Restricted Area**” means those locations for which the Participant had responsibility, at any time during the twelve (12) months prior to termination of Participant’s employment with the Company, and including any geographical area in which the Company (a) conducts any portion of its Business and for which Participant had responsibility, or (b) has plans to conduct any portion of its Business, where those plans are known to the Participant.

2. Subject to the exceptions set forth in this Exhibit A, the Participant agrees and expressly promises that the Participant shall not, during the Participant’s employment with the Company or its affiliates and for a period of twelve (12) months following the Participant’s termination of employment with the Company and all affiliates (the “**Prohibited Period**”), regardless of the reason for such termination, directly or indirectly, anywhere in the Restricted Area:

- (a) carry on or engage in the Business in competition with the Company, or
- (b) render services to, or be affiliated with, a Competitor.

3. Nothing herein shall prevent the Participant during the Prohibited Period from rendering professional services to a Competitor (but not as an employee of a Competitor) or being affiliated with a diversified entity, so long as the Participant’s affiliation with that Competitor or entity, as applicable, does not:

- (a) cause the Participant to use or disclose any Confidential Information, and
- (b) involve the Participant having direct or indirect responsibilities with respect to any aspect of the entity’s business that engages in the Business.

4. The Participant agrees and expressly promises that, during the Prohibited Period, the Participant shall not directly or indirectly:

- (a) recruit, solicit or induce any employee, consultant, or independent contractor of the Company or any of its affiliates to terminate or lessen such person’s employment or other relationship with the Company or any affiliate, or
- (b) directly or indirectly solicit any then-current customer or business partner of the Company or any affiliate to terminate, alter, or modify its relationship with the Company or any affiliate.

5. Notwithstanding the restrictions in this Exhibit A, nothing herein prohibits:

- (a) the Participant from making general advertisements for employment or engagement, so long as such advertisements are not specifically targeted at any employees, consultants, or independent contractors of the Company or any affiliate, or
- (b) any other person or entity from hiring, inducing, or attempting to induce, solicit, or encourage any employee or other service provider of the Company or any of its affiliates to leave their employ or service, provided that the Participant does not directly or indirectly participate in or direct the prohibited activity and provided further that this clause (b) of paragraph 5 shall not apply with respect to the solicitation of any employee of the Company who is at that time an executive officer of the Company or an employee of the Company directly reporting to any such executive officer.
- (c) Participant or any of Participant's affiliates from owning an aggregate of 5% or less of the outstanding stock of any class of any corporation, if such stock is listed on a national securities exchange or regularly traded in the over-the-counter market by a member of a national securities exchange, provided that neither Participant nor any of Participant's affiliates has the power, directly or indirectly, to control or direct the management or affairs of any such corporation and is not involved in the management of such corporation.

6. It is expressly understood and agreed that although the Company and Participant consider the restrictions contained in Exhibit A to be reasonable for the purpose of preserving the Company's Confidential Information, as well as the Company's relationships with its business partners and employees, if any Covenant set forth in Exhibit A is found by any court having jurisdiction to be invalid or unreasonable, the Covenant shall be limited and reduced so as to contain the maximum restrictions permitted by applicable law. The restrictive covenants set forth in Exhibit A shall be interpreted consistent with, and limited to the extent necessary to comply with, applicable rules of professional conduct. All remaining provisions of this Participation Agreement, and/or portions thereof, shall remain in full force and effect. Further, to the extent that the Participant has agreed to any restrictive covenants in an Other Agreement or is subject to any restrictions regarding confidentiality in an Other Agreement, the restrictions contained in Exhibit A do not modify such restrictive or confidentiality covenants and those restrictive and confidentiality covenants will remain in effect, per the terms of the respective Other Agreement.

7. The Participant agrees that during the Prohibited Period, and at all times thereafter, the Participant will not, in public or in private and whether orally or in writing, make (or encourage any other third party to make) any disparaging or defamatory comments regarding (or otherwise place in a false light or criticize) the Company or any affiliate, or any of the Company's or its affiliates' business, products, policies, decisions, or current or former directors, officers, members, partners, or employees in any respect or make any comments concerning any aspect of the Participant's relationship with the Company or any affiliate or any conduct or events which precipitated any termination of the Participant's employment with or service to the Company or any affiliate. However, the Participant's obligations under this Section 7, and with regard to Confidential Information, shall not prohibit the Participant from making a good faith report of possible violations of applicable law to any governmental agency or entity, from making disclosures that are protected under the whistleblower provisions of applicable law, providing documents to, initiating contact with, or cooperating in any investigation or proceeding of the Securities and Exchange Commission, the Financial Industry Regulatory Authority, or any other securities regulatory agency or authority, which the Participant may do with or without notice to or approval of any member of the LyondellBasell Group or the Company. Nor does this Section prohibit truthful disclosures of Confidential Information required or permitted by applicable law, regulation or order of a court or governmental agency so long as any trade secret is identified as such and filed under seal unless a court mandates otherwise.

8. The Participant acknowledges and agrees that: (a) the Company's Confidential Information is of great competitive importance and commercial value to the Company; (b) the purpose of the covenants set forth in this Exhibit A (the "**Covenants**") is to protect the goodwill, trade secrets and other Confidential Information of the Company and its affiliates; (c) improper use or disclosure by Participant is likely to result in unfair or unlawful competitive activity; (d) because of the nature of the business in which the Company and its affiliates is engaged and because of the nature of the Confidential Information to which the Participant has or will have access, it would be impractical and excessively difficult to determine the actual damages of the Company and its affiliates in the event the Participant breached any such covenants; and remedies at law (such as monetary damages) for any breach of the Participant's obligations under the Covenants would be inadequate. The Participant therefore agrees and consents that if the Participant commits any breach of a Covenant, the Company shall have the right (in addition to, and not in lieu of, any other right or remedy that may be available to it) to temporary and permanent injunctive relief from a court of competent jurisdiction, without posting any bond or other security and without the necessity of proof of actual damage.

The parties expressly represent that the Covenants are reasonable in all respects and are necessary to protect the legitimate business interests of the Company and its affiliates. The parties further acknowledge and agree that the Company and its affiliates conduct the Business on a worldwide basis and the Participant will have Confidential Information regarding the business conducted by the Company and its affiliates in each location where it is conducted and the Participant will be materially associated with the Company's and its affiliates' goodwill. The Participant expressly acknowledges and agrees that any violation of the Covenants would inevitably cause the Participant to disclose Confidential Information of the Company and its affiliates.

If any portion of the Covenants is hereafter determined to be invalid or unenforceable in any respect, such determination shall not affect the remainder thereof, which shall be given the maximum effect possible and shall be fully enforced, without regard to the invalid portions. In particular, without limiting the generality of the foregoing, if the covenants set forth in this Exhibit A are found by a court or an arbitrator to be unreasonable, the Participant and the Company agree that the maximum period, scope or geographical area that is found to be reasonable shall be substituted for the stated period, scope or area, and that the court or arbitrator shall revise the restrictions contained herein to cover the maximum period, scope and area permitted by law. If any of the Covenants are determined to be wholly or partially unenforceable in any jurisdiction, such determination shall not be a bar to or in any way diminish the Company's right to enforce any such covenant in any other jurisdiction

Exhibit 10.16

**LYONDELLBASELL INDUSTRIES
RESTRICTED STOCK UNIT AWARD AGREEMENT**

By letter (the “Grant Letter”), effective as of the date specified in the Grant Letter (the “Grant Date”), LyondellBasell Industries N.V. (the “Company”), pursuant to the LyondellBasell Industries Long-Term Incentive Plan, as amended and restated effective May 28, 2021 (the “Plan”), has granted to the Participant the number of units of Common Stock (as defined in the Plan) specified in the Grant Letter subject to transfer and forfeiture restrictions (“Restricted Stock Units”). These grants are all subject to adjustment as provided in the Plan, and the following terms and conditions (the “Award Agreement”):

1. Relationship to Plan and Company Agreements.

This Restricted Stock Unit grant is subject to all Plan terms, conditions, provisions and administrative interpretations, if any, adopted by the Committee. Except as defined in this Award Agreement, capitalized terms have the same meanings ascribed to them in the Plan. To the extent that this Award Agreement is intended to satisfy the Company’s obligations under any employment agreement between the Company and the Participant, the Participant agrees and acknowledges that this Award Agreement fulfills the Company’s obligations under the employment agreement, this Award Agreement shall be interpreted and construed to the fullest extent possible consistent with such employment agreement, and in the event of a conflict between the terms of such employment agreement and the terms of this Award Agreement, the terms of this Award Agreement shall control.

2. Restriction Period and Vesting Schedule.

- (a) The Restriction Period applicable to the Restricted Stock Units shall lapse and Restricted Stock Units shall vest in three installments: one-third of the Restricted Stock Units shall vest on the first anniversary of the Grant Date, an additional one-third of the Restricted Stock Units shall vest on the second anniversary of the Grant Date, and the final one-third of the Restricted Stock Units shall vest on the third anniversary of the Grant Date. The Participant must be in continuous employment from the Grant Date through the date of vesting of each installment to vest in Restricted Stock Units on that date.
- (b) If the Participant has been in continuous employment since the Grant Date, the Restriction Period shall lapse and the Restricted Stock Units shall become fully vested, irrespective of the limits in subparagraph (a), upon (1) an involuntary termination of employment by the Company without Cause or a constructive termination of employment by the Participant with good reason as defined in Section 10 of the Plan, either of which occurs within one year after the occurrence of a Change of Control or (2) any termination of employment due to death or Disability.
- (c) Notwithstanding paragraph (a), the Restriction Period shall lapse and the Restricted Stock Units shall vest in accordance with paragraph (a) if Participant terminates employment due to Enhanced Retirement.

- (d) Notwithstanding paragraph (a), provided that the Participant has been in continuous employment since the Grant Date, upon termination of employment due to Retirement or involuntary termination not for Cause, and not pursuant to paragraph (b) above, to the extent not previously vested under paragraph (a) above, the Restriction Period shall lapse with respect to any unvested Restricted Stock Units in a pro rata amount determined by multiplying the number of unvested Restricted Stock Units otherwise payable under this Award Agreement by a fraction, the numerator of which is the number of months (with any partial months being considered a full month) of the Participant's employment during the period beginning on the Grant Date and ending on the date of the Participant's termination of employment, and the denominator of which is the number of months in the period beginning on the Grant Date and ending on each date on which such unvested Restricted Stock Units would have vested pursuant to subparagraph (a) above. Remaining Restricted Stock Units shall be forfeited. If the Participant is eligible for Enhanced Retirement, this paragraph (d) shall not apply and paragraph (c) shall control.
- (e) The following definitions apply to this Award Agreement:
- (i) "Disability" means (i) a permanent and total disability as defined in the Company's long-term disability plan in which the Participant is eligible to participate and (ii) the Participant is not eligible for Retirement.
 - (ii) "Enhanced Retirement" means a Participant's termination of service, other than termination of service for Cause, on or after age 60 with 10 years of service with the Company and/or an Affiliate.
 - (iii) "Misconduct" means any act or failure to act that (i) contributes to the Company having to restate all or a portion of its financial statements and materially increases the value of the compensation received by the Participant and/or (ii) caused or was intended to cause a violation of the policies of the Company or Affiliate.
 - (iv) "Retirement" means a Participant's termination of service, other than termination of service for Cause, on or after the earliest of (i) age 55 with 10 years of service with the Company and/or an Affiliate, (ii) the time of retirement as defined in a written agreement between a Participant and a Participating Employer, or (iii) outside the U.S., the time when retirement is permitted and the Participant is eligible to receive a company retirement benefit under applicable law with respect to the Participant's primary place of employment.

3. Terms and Conditions.

Each Restricted Stock Unit shall be subject to the restrictions below and a substantial risk of forfeiture during the Restriction Period. A Participant shall not be entitled to any payment under Section 5 until the Restriction Period for affected Restricted Stock Units lapses. No rights related to a Restricted Stock Unit may be sold, transferred, assigned, pledged or otherwise encumbered or disposed of during the Restriction Period. Restricted Stock Units shall be forfeited on the date the Participant's employment terminates except as otherwise provided in Section 2 hereof.

4. Registration of Units.

The Participant's right to receive Common Stock in settlement of the Restricted Stock Units shall be evidenced by book entry (or by such other manner as the Committee may determine)

5. Settlement.

Subject to Section 14 hereof, when the Restriction Period lapses and Restricted Stock Units vest under Section 2, a Participant shall become entitled to receive, within 60 days of the date the Restricted Stock Units vested, the number of shares of Common Stock equal to the number of Restricted Stock Units which have vested on the particular vesting date. Any shares of Common Stock paid under this Award shall remain subject to the clawback provisions as set forth in Section 14.

To the extent that the shares of Common Stock that a Participant is entitled to receive in accordance with Section 5 are delivered to such Participant by means of the issuance of new shares of Common Stock, the RSU Award shall also include the grant of the euro par value cash amount required to satisfy the obligation of the Participant to pay-up such newly issued shares of Common Stock resulting from the vesting of the Restricted Stock Units from the Company, such cash entitlement to be set-off against the payment obligation for the shares of Common Stock.

6. Dividend Equivalents.

The Company will pay Dividend Equivalents for each outstanding Restricted Stock Unit as soon as administratively practicable after dividends, if any, are paid on the Company's outstanding shares of Common Stock; provided, however, that such payment shall be made no later than March 15th following the year in which the dividends are paid.

7. Withholding.

The Company shall withhold from any distribution under this Award shares of Common Stock having a Fair Market Value equal to all taxes required to be withheld with respect to the Award. In the event all federal, state and other governmental withholding tax requirements imposed upon the Company with respect to the Award cannot be satisfied in this manner, no shares of Common Stock shall be delivered to or for a Participant unless provision to pay required withholding has been made to the Committee's satisfaction.

8. Expatriate Participants.

Payments of Awards made to expatriate Participants will be, pursuant to the applicable expatriate assignment policy of the Participating Employer, tax normalized based on typical income taxes and social security taxes in the expatriate Participant's home country relevant to the expatriate Participant's domestic circumstances.

9. No Fractional Shares.

No fractional shares of Common Stock are permitted in connection with this Award Agreement. For purposes of pro-rata in Section 2(d), Restricted Stock Units shall be rounded up to the nearest whole share of Common Stock. Any shares of Common Stock withheld pursuant to Section 7 shall be rounded to whole shares in the manner determined by the Committee to be appropriate to satisfy the minimum statutory withholding requirements.

10. Successors and Assigns.

This Award Agreement shall bind and inure to the benefit of and be enforceable by the Participant, the Company and their respective permitted successors and assigns (including personal representatives, heirs and legatees), but the Participant may not assign any rights or obligations under this Award Agreement except to the extent and in the manner expressly permitted.

11. No Guaranteed Employment.

No provision of this Award Agreement shall confer any right to continued employment.

12. Section 409A.

It is intended that the provisions of this Award Agreement satisfy the requirements of Section 409A of the Code and the accompanying U.S. Treasury Regulations and pronouncements thereunder, and that the Award Agreement be operated in a manner consistent with such requirements to the extent applicable.

For purposes of Section 409A of the Code, (a) if the Participant is Retirement Eligible, the time of settlement in Section 5 hereof constitutes a specified date within the meaning of Section 1.409A-3(a)(4) of the Treasury Regulations and is within the 90-day period described in Section 1.409A-3(b) of the Treasury Regulations and (b) if the Participant is not Retirement Eligible, the time of settlement in Section 5 hereof is within the short-term deferral period described in Section 1.409A-1(b)(4) of the Treasury Regulations. For purposes of this Section 12, "Retirement Eligible" means that the Participant will be eligible to terminate employment by reason of Retirement or Enhanced Retirement, prior to the date such Retirement or Enhanced Retirement would qualify for short-term deferral treatment under Section 409A of the Code.

If the Company is publicly-traded and the Participant is identified by the Company as a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code on the date on which the Participant has a "separation from service" (other than due to death) within the meaning of Section 1.409A-1(h) of the Treasury Regulations, notwithstanding the provisions of Section 5 hereof, any transfer of shares payable on account of a separation from service that are deferred compensation shall take place on the earlier of (i) the first business day following the expiration of six months from the Participant's separation from service, (ii) the date of the Participant's death, or (iii) such earlier date as complies with the requirements of Section 409A of the Code.

13. Restrictive Covenants.

- (a) This Section 13 shall apply only if the Participant is eligible for Enhanced Retirement and the Restriction Period lapses under Section 2(c), or if the Participant is eligible for Retirement and the Restriction Period lapses under Section 2(d).
- (b) Acknowledgment of Access to Confidential Information and Trade Secrets. Participant agrees and acknowledges that during employment with the Company, Participant will be provided with, develop, and will use confidential and proprietary information and trade secrets of the Company. The confidential and proprietary information and trade secrets include, but are not limited to, the Company's business strategies, non-public financial information, identities of clients and suppliers, pricing and margin information, and any other information that Participant receives as a result of employment with the Company and that provides the Company with an economic benefit from being confidential, whether in written, tangible, electronic or any other form or media (collectively, "Confidential Information"). Confidential Information does not apply to such information which is known to the public so long as such knowledge does not result from a breach of any provision of this Award Agreement by Participant.

- (c) Protection of Company Confidential Information and Trade Secrets. Except as expressly authorized by the Company or in order to carry out the duties and responsibilities as an employee for the Company, Participant will not disclose, directly or indirectly, in any way to anyone the Company's Confidential Information or improperly make use of Confidential Information both during employment with the Company and at any time after employment with the Company terminates. Pursuant to 18 U.S.C. USC § 1833(b), and as set forth fully therein, notice is hereby given that an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, solely for the purpose of reporting or investigating a suspected violation of law; or is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court or agency proceeding. If the filing is a matter of public record (as before a court) any document containing the trade secret should be filed under seal, except pursuant to court order. Nothing in this Agreement prohibits or restricts you from initiating communication with, filing a report, charge, or complaint with, providing documents to, or cooperating in any investigation or proceeding of the Securities and Exchange Commission, the Financial Industry Regulatory Authority, or any other securities regulatory agency or authority, which you may do without notice to or approval of any member of the LyondellBasell Group or the Company.
- (d) Non-Competition. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not (i) perform any duties or responsibilities which are similar to those Participant performed on behalf of the Company in the twenty-four (24) months prior to termination of employment for any person or entity who offers services or products, or both, competitive to those offered by the Company at the time of termination of employment, or (ii) perform any duties or responsibilities for any person or entity whereby Participant uses (or may use) Confidential Information of the Company. This restriction shall apply in any geographic area in which the Company does business as of the date of termination of employment.
- (e) Non-Interference of Company Relationships. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not, directly or indirectly, influence, induce, solicit or otherwise take action intended to disrupt, limit or interfere with any customer, supplier, or vendor relationship which Participant had responsibility for or learned Confidential Information about in the twenty-four (24) months preceding the termination of employment.
- (f) Non-Solicitation of Employees. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not, directly or indirectly, influence, induce, solicit or otherwise take action intended to disrupt, limit or interfere with the relationship of the Company and any employee with whom Participant interacted or knew about through employment at the Company in the twenty-four (24) months preceding the termination of employment.

- (g) Non-Disparagement. Participant agrees that Participant shall not at any time engage in any form of conduct, or make any statement or representation, either oral or written, that disparages, impugns or otherwise impairs the reputation, goodwill or interests of the Company, or any of its officers, directors, shareholders, representatives, and/or employees or agents in either the individual or representative capacities of any of the foregoing individuals (including, without limitation, the repetition or distribution of derogatory rumors, allegations, negative reports or comments). Nor shall Participant direct, arrange or encourage others to make any such derogatory or disparaging statements on Participant's behalf. Nothing in this paragraph, however, shall prevent Participant from providing truthful testimony or information in any proceeding or in response to any request from any governmental agency, or judicial, arbitral or self-regulatory forum, or as otherwise required by applicable law.
- (h) Cooperation. Participant agrees to cooperate with the Company by making Participant reasonably available to testify on behalf of the Company in any action, suit, or proceeding, whether civil, criminal, administrative, or investigative, and to assist the Company in any such action, suit, or proceeding, by providing information and meeting and consulting with the Company and its employees, representatives and counsel.
- (i) Irreparable Harm. Participant acknowledges that the Company has a legitimate need to protect itself from improper or unfair competition and to protect its Confidential Information, as well as the Company's relationships with its business partners and employees, and that the restrictions contained in this Award Agreement are reasonable and necessary to protect the Company's operations, legitimate competitive interests, and Confidential Information. Participant also recognizes the highly competitive nature of the Company's business and that irreparable harm would be caused by Participant's violation of the restrictions contained herein.
- (j) Remedies. Participant agrees that the Company's remedies at law for any violation of this Agreement are inadequate and that the Company has the right to seek injunctive relief in addition to any other remedies available to it. Therefore, if Participant breaches or threatens to breach this Agreement, the Company is entitled to specific performance and injunctive relief, in addition to any other remedies, including but not limited to monetary damages, without the posting of a bond. Participant further agrees to pay any and all legal fees, including without limitation, all attorneys' fees, court costs, and any other related fees and/or costs incurred by the Company in enforcing this Award Agreement. Participant further agrees that a court may extend the duration of the restrictions in Section 13 of this Award Agreement equal to any period of time in which Participant is in violation of this Award Agreement.

14. Clawback.

- (a) If (i) the Committee determines that the Participant has either engaged in, or benefitted from, Misconduct and (ii) the Participant is classified at a level of M-4 or above in the LyondellBasell Group compensation classification system at the time of such determination, upon notice from the Company, the Participant shall reimburse to the Company all or a portion of any amounts (whether in cash or shares) received under this Award Agreement (or forfeit all or any portion of this Award to the extent it has not yet been received) as the Committee deems appropriate under the circumstances. Such notice shall be provided within the earlier to occur of one year after discovery of the alleged Misconduct or the second anniversary of the Participant's date of termination.

- (b) If the Committee determines that the Participant has violated any of the obligations set forth in Section 13 of this Agreement, upon notice from the Company, the Participant shall reimburse to the Company all or a portion of any amounts (whether in cash or shares) received under this Award Agreement (or forfeit all or any portion of this Award to the extent it has not yet been received) as the Committee deems appropriate under the circumstances. Such notice shall be provided within the earlier to occur of one year after discovery of the alleged violation or the second anniversary of the Participant's Date of Termination.
- (c) To the extent required by (i) applicable law, including, without limitation, the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, any Securities and Exchange Commission rule or any applicable securities exchange listing standards; (ii) any policy that has been or may be adopted by the Board or a committee thereof, including the Clawback Policy effective May 19, 2023, and amended on February 21, 2024, or as it may be amended from time to time; or (iii) the provisions of any agreement executed by the Participant, the Participant shall reimburse to the Company all or a portion of the compensation received, including under this Award Agreement (or an amount equal thereto), to the extent necessary to comply with such law(s), policy, and/or agreement, or as the Committee deems appropriate under the circumstances, which clawback may include forfeiture and/or recoupment of such amounts or benefits.

15. Choice of Law.

This Award Agreement shall be governed by the laws of the State of Texas, without regard to conflict of laws principles.

16. Jurisdiction and Forum.

Any action arising out of this Award Agreement or the relationship between the parties established herein shall be brought only in the state or federal courts of the State of Texas, and Participant hereby consents to and submits to the exclusive jurisdiction of such courts.

17. Savings Clause.

It is expressly understood and agreed that although the Company and Participant consider the restrictions contained in Section 13 of this Award Agreement to be reasonable for the purpose of preserving the Company's Confidential Information, as well as the Company's relationships with its business partners and employees, if any restrictive covenant set forth in Section 13 is found by any court having jurisdiction to be invalid or unreasonable, the restrictive covenant shall be limited and reduced so as to contain the maximum restrictions permitted by applicable law. The restrictive covenants set forth in Section 13 shall be interpreted consistent with, and limited to the extent necessary to comply with, applicable rules of professional conduct. All remaining provisions of this Award Agreement, and/or portions thereof, shall remain in full force and effect.

18. Waiver.

The Company's failure to enforce any provision(s) of this Award Agreement shall not in any way be construed as a waiver of any such provision(s), or prevent the Company thereafter from enforcing each and every other provision of this Award Agreement.

LYONDELLBASELL INDUSTRIES N.V.

Note: For Mr. Rhenman, our Executive Vice President, Advanced Polymer Solutions, "Retirement" also includes termination of service on or after age 65. For our Chief Executive Officer, Mr. Vanacker, "Retirement" includes termination of service on or after age 55 with 7 years of service and for our Chief Financial Officer, Mr. McMurray, "Retirement" includes termination of service on or after age 55 with 6 years of service.

Exhibit 10.17

LYONDELLBASELL INDUSTRIES
PERFORMANCE SHARE UNIT AWARD AGREEMENT

By letter (the “Grant Letter”), effective as of the date specified in the Grant Letter (the “Grant Date”), LyondellBasell Industries N.V. (the “Company”), pursuant to the LyondellBasell Industries Long-Term Incentive Plan, as amended and restated effective May 28, 2021 (the “Plan”), has granted to the Participant a number of Stock Units (as defined in the Plan) equal to the Target multiplied by the Earned Percentage certified for the Performance Cycle, subject to the vesting provisions specified herein (the “PSU Award”). The applicable Target and Performance Cycle are set forth in the Grant Letter. The Earned Percentage shall be determined after the Performance Cycle based on the Performance Goals specified in the Grant Letter. This PSU Award is subject to adjustment as provided in the Plan, and the following terms and conditions (the “Award Agreement”):

1. Relationship to Plan and Company Agreements.

This PSU Award is a Performance Award under the Plan and is subject to all applicable Plan terms, conditions, provisions and administrative interpretations, if any, adopted by the Committee. Except as defined in this Award Agreement, capitalized terms have the same meanings ascribed to them in the Plan. This Award Agreement is intended to satisfy any obligation of the Company to provide a performance share unit award to the Participant under any employment agreement between the Company and the Participant or otherwise, and the Participant agrees and acknowledges that this Award Agreement fulfills the Company’s obligations under the employment agreement, this Award Agreement shall be interpreted and construed to the fullest extent possible consistent with such employment agreement, and in the event of a conflict between the terms of such employment agreement and the terms of this Award Agreement, the terms of this Award Agreement shall control.

2. Definitions.

The following definitions apply to this Award Agreement:

- (a) “Date of Termination” means the date on which the Participant ceases to be an Employee.
- (b) “Disability” means a permanent and total disability as defined in the applicable long-term disability plan of the Participating Employer. “Disabled” has the correlative meaning.
- (c) “Earned Percentage” means the percentage of the Target that is earned during the Performance Cycle. The Earned Percentage is multiplied by the Target to determine the number of Stock Units granted under this PSU Award. The Earned Percentage shall be determined in accordance with the following:
 - (i) Following the close of the Performance Cycle, the Committee shall determine and certify the Earned Percentage for the Performance Cycle.
 - (ii) The Earned Percentage shall not exceed 200 percent.
 - (iii) In the event any action or failure to act by the Participant constitutes Cause, the Committee may reduce the Participant’s Earned Percentage to the extent the Committee deems appropriate under the circumstances.
 - (iv) In the event of a Change of Control, the Earned Percentage shall be calculated by reference to the attainment of Performance Goals as of the close of the last quarter ending on or before the Change of Control.

- (d) “Enhanced Retirement” means the Participant’s termination of service, other than termination of service for Cause, on or after age 60 with 10 years of service with the Company and/or an Affiliate.
- (e) “Misconduct” means any act or failure to act that (i) contributes to the Company having to restate all or a portion of its financial statements and materially increases the value of the compensation received by the Participant and/or (ii) caused or was intended to cause a violation of the policies of the Company or an Affiliate.
- (f) “Performance Cycle” means the three-calendar-year period set forth in the Grant Letter.
- (g) “Performance Goals” means the performance goal or goals as set forth in the Grant Letter.
- (h) “Retirement” means the Participant’s termination of service, other than termination of service for Cause, on or after the earliest of (i) age 55 with 10 years of service with the Company and/or an Affiliate, (ii) the time of retirement as defined in a written agreement between a Participant and a Participating Employer, or (iii) outside the U.S., the time when retirement is permitted and the Participant is eligible to receive a company retirement benefit under applicable law with respect to the Participant’s primary place of employment.
- (i) “Target” means the projected target number of Stock Units, as determined by the Committee and set forth in the Grant Letter, that may be payable to the Participant in satisfaction of this Award Agreement if the Committee determines that all Performance Goals for the Performance Cycle have been achieved and certifies an Earned Percentage of 100%.

3. Vesting Schedule.

- (a) The PSU Award shall fully vest upon the date following the end of the Performance Cycle upon which the Committee certifies the Earned Percentage applicable to the Performance Cycle (“Vesting Date”), provided that the Participant is in continuous employment with a Participating Employer from the Grant Date through the Vesting Date. Except as provided below, the PSU Award shall be forfeited if the Participant terminates employment prior to the Vesting Date.
- (b) Notwithstanding paragraph (a), Participant shall become vested in the PSU Award upon the Vesting Date, provided that Participant terminates employment prior to the Vesting Date due to an Enhanced Retirement.
- (c) Notwithstanding paragraph (a), the Participant shall become vested in a pro-rated portion of the PSU Award upon the earliest of (i) the date the Participant becomes Disabled while employed by a Participating Employer or (ii) the Participant’s Date of Termination due to Retirement, death or involuntary termination not for Cause. The portion of the PSU Award that shall vest under this paragraph shall be determined by multiplying the number of Stock Units granted under the PSU Award (which is equal to product of the Target and the Earned Percentage for the Performance Cycle) by a fraction, the numerator of which shall be the number of whole calendar months of the Participant’s employment in such Performance Cycle ending on the earliest of the date of Disability or Date of Termination, as applicable, and the denominator of which shall be the number of whole calendar months in the Performance Cycle; provided that for purposes of this Section 3(c), partial service in a calendar month shall be considered service for the whole calendar month. If the Participant is eligible for Enhanced Retirement, this paragraph (c) shall not apply and paragraph (b) shall control.

- (d) Notwithstanding paragraph (a), upon a Change of Control, the Earned Percentage shall be calculated by reference to the attainment of Performance Goals as of the close of the last quarter ending on or before the Change of Control in accordance with Section 2(c)(iv). Following the Change of Control, the Participant shall fully vest in the PSU Award on the last day of the Performance Cycle, if the Participant is in continuous employment with a Participating Employer from the Grant Date through such date or the Participant's Date of Termination prior to such date was due to an Enhanced Retirement and shall forfeit the PSU Award if the Participant terminates prior to vesting and without qualifying for an Enhanced Retirement. Notwithstanding the foregoing, the Participant shall become vested in a pro-rated portion of the PSU Award upon the earlier to occur of (i) a vesting event under Section 3(c) or (ii) an involuntary termination of employment of the Participant within one year following the Change of Control for any reason other than Cause (including a constructive termination of employment for good reason (as defined in Section 10 of the Plan)). The portion that shall vest shall be determined by multiplying the number of Stock Units granted under the PSU Award (which is equal to product of the Target and the Earned Percentage determined at the time of the Change of Control) by a fraction, the numerator of which shall be the number of whole calendar months of the Participant's employment in such Performance Cycle ending on the earliest vesting event and the denominator of which shall be the number of whole calendar months in the Performance Cycle. For this purpose, partial service in a calendar month shall be considered service for the whole calendar month.
- (e) Notwithstanding the foregoing, in the event a Participant: (1) takes a leave of absence from the Company for personal reasons or as a result of entry into the Armed Forces of the United States, or (2) terminates employment for reasons which, in the judgment of the Committee, are deemed to be special circumstances, the Committee may consider such circumstances and may take such action (to the extent consistent with Section 409A of the Code) as it may deem appropriate under the circumstances, including extending the rights of a Participant to continue participation in the Plan beyond his Date of Termination; provided, however, that in no event may participation be extended beyond the term of the Performance Cycle in question.
- (f) Notwithstanding the foregoing, if the entity that is deemed to be the plan sponsor with respect to this PSU Award is or becomes a "nonqualified entity" (within the meaning of Section 457A(b) of the Code and applicable guidance thereunder), the provisions of Sections 3(b), 3(c), 3(d) and 3(e) shall not apply with respect to any Participant who is a U.S. taxpayer if and to the extent such provisions would cause any amounts payable hereunder to be subject to Section 457A of the Code.
- (g) For all purposes of this PSU Award, involuntary termination not for Cause does not include the Participant's voluntary termination of employment pursuant to a voluntary separation plan of a Participating Employer.

4. Terms and Conditions.

The Participant shall not be entitled to any payment under Section 6 until the PSU Award vests under Section 3. No rights related to the PSU Award may be sold, transferred, assigned, pledged or otherwise encumbered or disposed of prior to the vesting of the PSU Award. The PSU Award shall be forfeited on the date the Participant's employment terminates except as otherwise provided in this Award Agreement.

5. Registration of Units.

The Participant's right to receive Common Stock in settlement of the PSU Award shall be evidenced by book entry (or by such other manner as the Committee may determine).

6. Settlement.

When the PSU Award, or a portion thereof, vests under Section 3, the Participant shall become entitled to receive a number of shares of Common Stock equal to the number of Stock Units granted under the PSU Award that have vested. Subject to Section 13 hereof, such shares of Common Stock shall be paid in a single lump sum payment within ninety (90) days following the end of the Performance Cycle; provided, however, that in the event a pro-rata portion of the PSU Award vests upon an involuntary termination of employment of the Participant within one year following a Change of Control pursuant to Section 3(d), the shares of Common Stock shall be paid in a single lump sum payment within sixty (60) days after the Participant's termination of employment. Any shares of Common Stock paid under this PSU Award shall remain subject to the clawback provisions as set forth in Section 15.

To the extent that the shares of Common Stock that a Participant is entitled to receive in accordance with Section 3 are delivered to such Participant by means of the issuance of new shares of Common Stock, the PSU Award shall also include the grant of the euro par value cash amount required to satisfy the obligation of the Participant to pay-up such newly issued shares of Common Stock resulting from the vesting of the PSU Award from the Company, such cash entitlement to be set-off against the payment obligation for the shares of Common Stock.

7. Dividend Equivalents.

If, prior to the date shares of Common Stock are settled on the Participant in accordance with Section 6, the Company declares a dividend on shares of Common Stock, then the Participant's Target shall be increased by the amount of the dividend the Participant would have received if he had been the actual owner on the dividend date of one share of Common Stock for each Stock Unit of the Participant's Target. The increase in the Target shall be calculated as follows:

- (a) In the event of a stock dividend, the Target shall be increased by one Stock Unit for each share of Common Stock (rounded to the nearest whole share) the Participant would have received under the dividend.
- (b) In the event of a cash dividend, after the Performance Cycle the Target shall be increased by the number of Stock Units determined by dividing the value of all cash dividends the Participant would have received during the Performance Cycle by the fair market value of one share of Common Stock as of the last day of the Performance Cycle (rounded to the nearest whole share).

Any increase in the Target granted under this Section 7 shall be subject to the same terms and conditions as the original Target and shall vest and be forfeited (if applicable) at the same time as the original Target.

8. Withholding.

The Company shall withhold from the PSU Award shares of Common Stock having a Fair Market Value equal to all taxes required to be withheld with respect to the award of the PSU Award. In the event all federal, state and other governmental withholding tax requirements imposed upon the Company with respect to the PSU Award cannot be satisfied in this manner, no shares of Common Stock shall be delivered to or for a Participant unless provision to pay required withholding has been made to the Committee's satisfaction.

9. Expatriate Participants.

Payments of Awards made to expatriate Participants will be, pursuant to the applicable expatriate assignment policy of the Participating Employer, tax normalized based on typical income taxes and social security taxes in the expatriate Participant's home country relevant to the expatriate Participant's domestic circumstances.

10. No Fractional Shares.

No fractional shares of Common Stock are permitted in connection with this Award Agreement. Any fractional number of Stock Units payable under the PSU Award shall be rounded up to the nearest whole share of Common Stock. Any shares of Common Stock withheld pursuant to Section 8 shall be rounded to whole shares in the manner determined by the Committee to be appropriate to satisfy the minimum statutory withholding requirements.

11. Successors and Assigns.

This Award Agreement shall bind and inure to the benefit of and be enforceable by the Participant, the Company and their respective permitted successors and assigns (including personal representatives, heirs and legatees), but the Participant may not assign any rights or obligations under this Award Agreement except to the extent and in the manner expressly permitted.

12. No Guaranteed Employment.

No provision of this Award Agreement shall confer any right to continued employment.

13. Section 409A.

It is intended that the provisions of this Award Agreement satisfy the requirements of Section 409A of the Code and the accompanying U.S. Treasury Regulations and pronouncements thereunder, and that the Award Agreement be operated in a manner consistent with such requirements to the extent applicable.

For purposes of Section 409A of the Code, (i) if the Participant vested pursuant to Section 3(b), 3(c) or 3(d), other than under clause (ii) of Section 3(d), the time of settlement under Section 6 constitutes a specified time within the meaning of Section 1.409A-3(a)(4) of the Treasury Regulations and (ii) if the Participant vested pursuant to Section 3(a) or 3(d)(ii), the time of settlement under Section 6 is within the short-term deferral period described in Section 1.409A-1(b)(4) of the Treasury Regulations.

If the Participant is a U.S. taxpayer and is treated as a “specified employee” within the meaning of Section 409A as of the date of the Participant’s termination, then any transfer of shares payable upon the Participant’s “separation from service” within the meaning of Section 409A which are subject to the provisions of Section 409A and are not otherwise excluded under Section 409A and would otherwise be payable during the first six-month period following such separation from service shall be paid on the fifteenth business day next following the earlier of (1) the expiration of six months from the date of the Participant’s termination or (2) the Participant’s death.

14. Restrictive Covenants.

- (a) This Section 14 shall apply if the Participant is eligible for Enhanced Retirement and the PSU Award vests under Section 3(b), or if the Participant is eligible for Retirement and the PSU Award vests under Section 3(c).

- (b) Acknowledgment of Access to Confidential Information and Trade Secrets. Participant agrees and acknowledges that during employment with the Company, Participant will be provided with, develop, and will use confidential and proprietary information and trade secrets of the Company. The confidential and proprietary information and trade secrets include, but are not limited to, the Company's business strategies, non-public financial information, identities of clients and suppliers, pricing and margin information, and any other information that Participant receives as a result of employment with the Company and that provides the Company with an economic benefit from being confidential, whether in written, tangible, electronic or any other form or media (collectively, "Confidential Information"). Confidential Information does not apply to such information which is known to the public so long as such knowledge does not result from a breach of any provision of this Award Agreement by Participant.
- (c) Protection of Company Confidential Information and Trade Secrets. Except as expressly authorized by the Company or in order to carry out the duties and responsibilities as an employee for the Company, Participant will not disclose, directly or indirectly, in any way to anyone the Company's Confidential Information or improperly make use of Confidential Information both during employment with the Company and at any time after employment with the Company terminates. Pursuant to 18 U.S.C. USC § 1833(b), and as set forth fully therein, notice is hereby given that an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, solely for the purpose of reporting or investigating a suspected violation of law; or is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court or agency proceeding. If the filing is a matter of public record (as before a court), any document containing the trade secret should be filed under seal, except pursuant to court order. Nothing in this Agreement prohibits or restricts you from initiating communication with, filing a report, charge, or complaint with, providing documents to, or cooperating in any investigation or proceeding of the Securities and Exchange Commission, the Financial Industry Regulatory Authority, or any other securities regulatory agency or authority, which you may do without notice to or approval of any member of the LyondellBasell Group or the Company.
- (d) Non-Competition. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not (i) perform any duties or responsibilities which are similar to those Participant performed on behalf of the Company in the twenty-four (24) months prior to termination of employment for any person or entity who offers services or products, or both, competitive to those offered by the Company at the time of termination of employment, or (ii) perform any duties or responsibilities for any person or entity whereby Participant uses (or may use) Confidential Information of the Company. This restriction shall apply in any geographic area in which the Company does business as of the date of termination of employment.

- (e) Non-Interference of Company Relationships. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not, directly or indirectly, influence, induce, solicit or otherwise take action intended to disrupt, limit or interfere with any customer, supplier, or vendor relationship which Participant had responsibility for or learned Confidential Information about in the twenty-four (24) months preceding the termination of employment.
- (f) Non-Solicitation of Employees. Participant agrees that for a period of twelve (12) months following the date Participant's employment with the Company ends due to Retirement, or twenty-four (24) months following the date Participant's employment with the Company ends due to Enhanced Retirement, Participant shall not, directly or indirectly, influence, induce, solicit or otherwise take action intended to disrupt, limit or interfere with the relationship of the Company and any employee with whom Participant interacted or knew about through employment at the Company in the twenty-four (24) months preceding the termination of employment.
- (g) Non-Disparagement. Participant agrees that Participant shall not at any time engage in any form of conduct, or make any statement or representation, either oral or written, that disparages, impugns or otherwise impairs the reputation, goodwill or interests of the Company, or any of its officers, directors, shareholders, representatives, and/or employees or agents in either the individual or representative capacities of any of the foregoing individuals (including, without limitation, the repetition or distribution of derogatory rumors, allegations, negative reports or comments). Nor shall Participant direct, arrange or encourage others to make any such derogatory or disparaging statements on Participant's behalf. Nothing in this paragraph, however, shall prevent Participant from providing truthful testimony or information in any proceeding or in response to any request from any governmental agency, or judicial, arbitral or self-regulatory forum, or as otherwise required by applicable law.
- (h) Cooperation. Participant agrees to cooperate with the Company by making Participant reasonably available to testify on behalf of the Company in any action, suit, or proceeding, whether civil, criminal, administrative, or investigative, and to assist the Company in any such action, suit, or proceeding, by providing information and meeting and consulting with the Company and its employees, representatives and counsel.
- (i) Irreparable Harm. Participant acknowledges that the Company has a legitimate need to protect itself from improper or unfair competition and to protect its Confidential Information, as well as the Company's relationships with its business partners and employees, and that the restrictions contained in this Award Agreement are reasonable and necessary to protect the Company's operations, legitimate competitive interests, and Confidential Information. Participant also recognizes the highly competitive nature of the Company's business and that irreparable harm would be caused by Participant's violation of the restrictions contained herein.
- (j) Remedies. Participant agrees that the Company's remedies at law for any violation of this Agreement are inadequate and that the Company has the right to seek injunctive relief in addition to any other remedies available to it. Therefore, if Participant breaches or threatens to breach this Agreement, the Company is entitled to specific performance and injunctive relief, in addition to any other remedies, including but not limited to monetary damages, without the posting of a bond. Participant further agrees to pay any and all legal fees, including without limitation, all attorneys' fees, court costs, and any other related fees and/or costs incurred by the Company in enforcing this Award Agreement. Participant further agrees that a court may extend the duration of the restrictions in Section 14 of this Award Agreement equal to any period of time in which Participant is in violation of this Award Agreement.

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- (b) If the Committee determines that the Participant has violated any of the obligations set forth in Section 14 of this Award Agreement, upon notice from the Company, the Participant shall reimburse to the Company all or a portion of any amounts (whether in cash or shares) received under this Award Agreement (or forfeit all or any portion of this PSU Award to the extent it has not yet been received) as the Committee deems appropriate under the circumstances. Such notice shall be provided within the earlier to occur of one year after discovery of the alleged violation or the second anniversary of the Participant's Date of Termination.
- (c) To the extent required by (i) applicable law, including, without limitation, the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, any Securities and Exchange Commission rule or any applicable securities exchange listing standards; (ii) any policy that has been or may be adopted by the Board or committee thereof, including the Clawback Policy effective May 19, 2023, and amended on February 21, 2024, or as it may be amended from time to time; or (iii) the provisions of any agreement executed by the Participant, the Participant shall reimburse to the Company all or a portion of the compensation received, including under this Award Agreement (or an amount equal thereto), to the extent necessary to comply with such law(s), policy, and/or agreement, or as the Committee deems appropriate under the circumstances, which clawback may include forfeiture and/or recoupment of such amounts or benefits.

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18. Savings Clause.

It is expressly understood and agreed that although the Company and Participant consider the restrictions contained in Section 14 of this Award Agreement to be reasonable for the purpose of preserving the Company's Confidential Information, as well as the Company's relationships with its business partners and employees, if any restrictive covenant set forth in Section 14 of this Award Agreement is found by any court having jurisdiction to be invalid or unreasonable, the restrictive covenant shall be limited and reduced so as to contain the maximum restrictions permitted by applicable law. The restrictive covenants set forth in Section 14 of this Award Agreement shall be interpreted consistent with, and limited to the extent necessary to comply with, applicable rules of professional conduct. All remaining provisions of this Award Agreement, and/or portions thereof, shall remain in full force and effect.

19. Waiver.

The Company's failure to enforce any provision(s) of this Award Agreement shall not in any way be construed as a waiver of any such provision(s) or prevent the Company thereafter from enforcing each and every other provision of this Award Agreement.

LYONDELLBASELL INDUSTRIES N.V.

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TITLE: Policy Prohibiting Insider Trading			
TYPE: Corporate Policy			
APPROVER: Board of Directors of LyondellBasell Industries N.V.			
SPONSOR: Chief Legal Officer			
HISTORY	EFF. DATE 08/03/2010	REV. NO. 10	REV. DATE 2/22/2024

1. PURPOSE:

- 1.1 To promote compliance with the federal securities laws and to protect LyondellBasell, its subsidiaries and you from the serious criminal and civil liabilities and penalties that can result from violations of these laws. You are responsible for ensuring that you do not violate federal or state securities laws or this Policy.

2. SUMMARY:

- 2.1. United States federal and state laws generally prohibit the buying or selling of securities of a company on the basis of material, nonpublic information. These laws also generally prohibit people with material nonpublic information from disclosing this information to others who may trade on the basis of such information. These prohibitions also apply outside the United States. It is important that you understand the scope of activities that constitute illegal insider trading and the activities that are prohibited by this Policy.
- 2.2. Except for transactions pursuant to an approved Rule 10b5-1 Trading Plan, you may not trade in securities of LyondellBasell, its subsidiaries, or any other Covered Company when you possess material nonpublic information about that company.

3. APPLICABILITY:

- 3.1 This Policy applies to all Directors, Officers, and employees located inside or outside of the United States.
- 3.2 The restrictions may also apply to any member of your immediate family or anyone acting on your behalf, and you are responsible for compliance with these policies by those people.

4. DEFINITIONS:

- 4.1. **Business Day.** A business day is a day on which national stock exchanges, including the New York Stock Exchange, are open for trading in the United States. A business day begins at the time trading begins on such day.
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- 4.2. **Covered Company.** LyondellBasell, its subsidiaries and any other company that you have obtained material nonpublic information about in the course of your employment with, or the performance of services on behalf of, LyondellBasell, including customers, suppliers, competitors, joint venture partners or firms with which we may be negotiating a major transaction.
- 4.3. **Director.** A member of the Board of Directors of LyondellBasell.
- 4.4. **Insider.** Insiders include all Board members, all executive officers of LyondellBasell, and other employees of LyondellBasell that are notified from time to time by the Legal Department that they have been designated as an Insider for purposes of this Policy, either on a permanent or temporary basis, as a result of their position with us or because of their involvement with a project that results in knowledge of material nonpublic information.
- 4.5. **Material Information.** Information is material if there is a substantial likelihood that a reasonable investor would consider it important in deciding whether to buy, hold or sell a security. Remember that even if the information is not material to us, it may nevertheless be material to another company, and our policies apply to your trading in other Covered Companies' stock. Any information that you could expect to affect the price of the security is material.

Common examples of information that may be material include, but are not limited to:

- Unpublished financial or operational results;
- News of a pending or proposed company transaction;
- Significant changes in corporate objectives or strategy;
- Financial projections, forecasts or budgets;
- Mergers, joint ventures, acquisitions, dispositions, acquisitions or sales of a business segment or unit, or other significant changes in assets;
- New products or discoveries or significant developments regarding customers or suppliers;
- Changes in senior management or other major personnel changes;
- Changes in dividend policy or the offering of additional debt or equity securities;
- Financial liquidity or cash flow problems;
- A cyber attack incident; and
- Major litigation, including pending or threatened litigation.

If you have questions regarding specific information, please contact the Legal Department.

- 4.6. **Nonpublic Information.** Nonpublic information is information that is not generally known or available to the public. We consider information to be generally available to the public only when:

- It has been disclosed through appropriate channels, such as by means of a filing with the SEC, a press release or a webcast or telephone conference to which the public is allowed to listen and that has been announced in advance via a press release; and

- Enough time has elapsed to permit the investment market to absorb and evaluate the information. As a general rule, you should consider information to be nonpublic until two business days after public disclosure.
- 4.7. **Officer.** Includes the Chief Executive Officer, Chief Financial Officer, principal accounting officer, and other persons designated by the LyondellBasell Board of Directors as executive officers.
- 4.8. **Optimal Trading Period.** The period beginning two business days after the release of our year-end or quarterly earnings announcements and ending on the day that is fifteen (15) days prior to the last month of the succeeding fiscal quarter.
- 4.9. **Related Person.** Related Person includes your spouse, minor children and anyone else living in your household; partnerships in which you are a general partner; trusts of which you are a trustee; estates of which you are an executor; and other equivalent legal entities that you control.
- 4.10. **Rule 10b5-1 Trading Plans.** Any trading plan or arrangement satisfying the requirements of Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, and the requirements of this Policy.
- 4.11. **Securities.** Securities include common shares, preferred shares, warrants, convertible notes or debentures, derivative securities (such as put and call options), and debt securities (such as bonds and notes).
- 4.12. **Trading or Transactions.** For purposes of this Policy, references to “trading” and to “transactions” include purchases and sales of stocks, bonds, options, puts, calls and other securities and also include gifts and sales of stock you acquire by any means (including stock option exercises), but do not include trades or transactions that you are advised by the Legal Department would not violate the insider trading laws.

5. POLICY PROVISIONS:

- 5.1. Material, nonpublic information about a Covered Company must not be disclosed to anyone, except the persons within LyondellBasell or our consultants and agents (such as investment banking advisors or outside legal counsel) whose positions require them to know it, until such information has been publicly released by LyondellBasell or the applicable Covered Company. No person may place a purchase or sell order or recommend that another person place a purchase or sell order or otherwise transact in securities of a Covered Company when he or she has knowledge of material information that has not been disclosed to the public. Loans, pledges, gifts, charitable donations and other contributions of securities are also subject to this Policy.
- 5.2. Insiders (as defined in Section 4) are subject to additional restrictions and must pre-clear all transactions in our securities with the Legal Department. Approved pre-clearance requests are effective for up to five consecutive business days beginning on the date of approval from the Legal Department.
- 5.2.1 Investing in our securities provides an opportunity to share in the future growth of the Company. Investment in the Company and sharing in its growth does not mean short-range speculation based on fluctuations in the market. Such activities may put the personal gain of the Director, Officer or employee in conflict with the best interests of LyondellBasell and its securityholders. Therefore, Insiders and their Related Persons are prohibited from engaging in hedging transactions through purchasing, selling or writing options on LyondellBasell securities or engaging in transactions in other third-party derivative securities with respect to LyondellBasell securities, including puts, calls, short

sales, collars, forward sale contracts, and any other derivatives or other short-term purchase or sale transactions. Transactions involving both the purchase and sale of LyondellBasell securities within a one week period are presumed to be prohibited “short-term purchase or sale transactions” unless you are specifically advised otherwise by the Legal Department. This Section 5.2.1 does not prohibit the exercise, in accordance with this Policy, of any options or derivative securities granted as equity compensation by the Company.

5.2.2 Pledging of securities of the Company as collateral for a loan or holding such securities in a margin account may result in a Director, Officer or employee having interests that are no longer aligned with the long-term interests of the Company’s other securityholders. Therefore, Insiders and their Related Persons are prohibited from pledging any securities of LyondellBasell as security for a loan, including holding such securities in a brokerage margin account.

5.2.3 Insiders and Related Persons may only initiate transactions during the quarterly Optimal Trading Period. We consider the Optimal Trading Period to be an appropriate time for considering the possibility of making purchases or sales of our securities, subject to earlier or later closing of the Optimal Trading Period in accordance with the procedures discussed below. However, even during the quarterly Optimal Trading Period, you may not initiate a trade in our securities if you are aware of material nonpublic information about us. Outside of the quarterly Optimal Trading Period there is a greater likelihood that you will be in possession of material nonpublic information, or that we will know of such information that could be attributed to you, and the Legal Department will not clear proposed transactions by you during such time.

5.3. From time to time we, through the Legal Department, may close trading to certain individuals due to material nonpublic developments involving LyondellBasell. In such events, the Legal Department will notify those impacted that they may not engage in any transactions involving our securities until they receive notice from the Legal Department that the restriction is lifted. You should not disclose to others the fact that trading has been closed.

5.4. Rule 10b5-1 of the Securities Exchange Act of 1934, as amended, provides an affirmative defense to insider trading liability for transactions made pursuant to a previously established plan or arrangement established in good faith that satisfies the requirements of Rule 10b5-1. You may purchase, sell or otherwise transfer LyondellBasell securities pursuant to a Rule 10b5-1 Trading Plan. LyondellBasell requires that all Rule 10b5-1 Trading Plans or similar trading arrangements (1) receive prior approval from the Legal Department, (2) be written and (3) specify the amount of, date(s) on, and price(s) at which the securities are to be traded or establish a formula for determining such items; provided, that no transactions may be effected under any plan or arrangement until thirty (30) days after the adoption of such plan.

5.4.1 Rule 10b5-1 Trading Plans may not be adopted when you are in possession of material, nonpublic information about LyondellBasell. Furthermore, LyondellBasell requires that any amendment or replacement of your Rule 10b5-1 Trading Plan (1) receive prior approval from the Legal Department and (2) be made during periods when trading is permitted in accordance with this policy. The Legal Department must be promptly notified when a 10b5-1 Trading Plan has been terminated (other than by expiration or the execution of all contemplated trades).

5.4.2 Concurrent overlapping 10b5-1 Trading Plans are not permitted. You may not enter into more than one 10b5-1 Trading Plans designed to be executed in a single trade more than once per 12-month period.

5.4.3 Any modification of the terms of a Rule 10b5-1 Trading Plan or similar arrangement requires the prior approval of the Legal Department. Modification of the amount, price, or timing requires a cooling off period of the same duration as for the adoption of a plan by such individual.

5.5. Directors and Officers are subject to additional limitations and requirements due to regulatory obligations, share ownership reporting, and other reporting requirements.

5.5.1 No transactions may be effected under a 10b5-1 Trading Plan adopted by a Director or Officer of LyondellBasell until the later of (1) ninety (90) days after the adoption or modification of the Rule 10b5-1 plan or (2) two business days following the disclosure of the our financial results in a Form 10-Q or Form 10-K for the fiscal quarter in which the plan was adopted or, but, in any event, no longer than 120 days.

5.5.2 A Director or Officer must represent that he or she does not possess material nonpublic information and that the plan is being adopted in good faith at the time a Rule 10b5-1 Trading Plan is adopted or modified.

5.5.3 Officers and Directors must receive pre-clearance to make a gift of equity securities of LyondellBasell, and promptly notify the Legal Department once a gift has been made.

5.6. You should remember that you bear the ultimate responsibility for adhering to this policy and avoiding improper trading. If you violate this policy, we may take disciplinary action against you, including dismissal for cause. If you have any questions about this policy or the application of this policy to your particular case, you should seek additional guidance from the Legal Department.

LIST OF SUBSIDIARIES OF THE REGISTRANT

As of December 31, 2024

Entity Name	Jurisdiction of Formation
LyondellBasell Industries N.V.	Netherlands
LYB Export Holdings Limited	United Kingdom
LYB Exports Inc.	United States
LYB Exports LLC	United States
LYB International Finance B.V.	Netherlands
LyondellBasell Finance Company	United States
Basell North America Inc.	United States
Lyondell Chemical Company	United States
LYB (Barbados) Holdings SRL	Barbados
LYB (Barbados) SRL	Barbados
LYB Capital Holdings Ltd.	Malta
LYB Capital Ltd.	Malta
LYB Equistar Holdings LLC	United States
Equistar LP, LLC	United States
Equistar GP, LLC	United States
Equistar Chemicals, LP	United States
Equistar Bayport, LLC	United States
Equistar Mont Belvieu Corporation	United States
LyondellBasell LC Offtake LLC	United States
LYB Finance Holdings LLC	United States
LYB Americas Finance Company LLC	United States
Lyondell Chemical Properties, L.P.	United States
LYB Houston Hub Holdings LLC	United States
LYB International Finance III, LLC	United States
LYB International Investments LLC	United States
LYB Funding Holdings Ltd.	Malta
LYB Funding Ltd.	Malta
LYB US Holdings Ltd	United Kingdom
LYB Bayport Ethers LLC	United States
LYB Channelview POTBA LLC	United States
LYB Receivables LLC	United States
LYB Recycling CA LLC	United States
Lyondell Chemical Europe, Inc.	United States
Lyondell Chemical Overseas Services, Inc.	United States
Lyondell Chemical Technology 1 Inc.	United States
Lyondell Chemical Technology, L.P.	United States

Entity Name	Jurisdiction of Formation
Lyondell POTechLP, Inc.	United States
Lyondell Chemical Technology Management, Inc.	United States
Lyondell POTechGP, Inc.	United States
Lyondell POJVGP, LLC	United States
Lyondell POJVLP, LLC	United States
PO Offtake, LP	United States
Lyondell Refining Company LLC	United States
Lyondell Refining I LLC	United States
Houston Refining LP	United States
LyondellBasell Acetyls Holdco, LLC	United States
LyondellBasell Acetyls, LLC	United States
LyondellBasell Investment LLC	United States
LyondellBasell Transportation Company, LLC	United States
LyondellBasell Advanced Polymers Inc.	United States
A. Schulman International Inc.	United States
AS Mex Hold S.A. de C.V.	Mexico
A. Schulman de Mexico S.A. de C.V.	Mexico
LyondellBasell SCS UK Ltd	United Kingdom
LYB Treasury Services Ltd.	United Kingdom
ASI Investments Holding Co.	United States
HGGC Citadel Plastics Holdings, Inc.	United States
Bulk Molding Compounds, Inc.	United States
BMC Deutschland GmbH	Germany
tetra-DUR Kunststoff-Produktion GmbH	Germany
BMC TetraDURTurkey Plastik Hammadde Kompozit Üretim Sanayi ve Ticaret Limited Şirketi	Turkey
LYB Composites Holding LLC	United States
LyondellBasell Composites LLC	United States
Quantum Composites, Inc.	United States
LYB Matrixx Holdings Inc.	United States
LYB Brazil Holdings LLC	United States
A. Schulman Plásticos do Brasil Ltda.	Brazil
LYB International Limited	Cayman
LyondellBasell Subholdings B.V.	Netherlands
Basell International Holdings B.V.	Netherlands
Basell (Thailand) Holdings B.V.	Netherlands
Basell Advanced Polyolefins (Thailand) Company Ltd.	Thailand
Basell Advanced Polyolefins (Dalian) Co., Ltd.	China
Basell Arabie Investissements SAS	France

Entity Name	Jurisdiction of Formation
Basell Asia Pacific Limited	China
Basell Trading (Shanghai) Co. Ltd.	China
LyondellBasell Malaysia Sdn. Bhd.	Malaysia
LyondellBasell Polyolefin (Shanghai) Co., Ltd.	China
Basell Holdings Middle East GmbH	Germany
Basell International Trading FZE	United Arab Emirates
Basell Moyen Orient Investissements SAS	France
Basell Poliolefinas Ltda.	Brazil
Colortech Da Amazonia Ltda.	Brazil
Basell Poliolefinas, S. de R.L. de C.V.	Mexico
Basell Polyolefin Istanbul Ticaret Limited Sirketi	Turkey
Basell Polyolefins India Private Limited	India
Basell Polyolefins Korea Ltd.	Korea, Republic Of
Bulk Molding Compounds do Brasil Industria de Plásticos Reforçados Ltda.	Brazil
Citadel Plastics Mexico Holdings, LLC	United States
Bulk Molding Compounds Mexico, S. de R.L. de C.V.	Mexico
Lyondell Asia Holdings Limited	China
Lyondell Basell Arabian Limited	Saudi Arabia
Lyondell China Holdings Limited	China
Lyondell Greater China Holdings Limited	China
Lyondell Greater China Trading Limited	China
Lyondell Japan, Inc.	Japan
Lyondell South Asia Pte Ltd	Singapore
LyondellBasell Advanced Polymers (Malaysia) Sdn. Bhd.	Malaysia
LyondellBasell Advanced Polyolefins (Malaysia) Sdn. Bhd.	Malaysia
LyondellBasell Brasil Ltda.	Brazil
LyondellBasell Canada Inc.	Canada
LyondellBasell Egypt LLC	Egypt
LyondellBasell Polymers (Malaysia) Sdn. Bhd.	Malaysia
LyondellBasell Singapore Pte. Ltd.	Singapore
LyondellBasell Taiwan Co., Ltd.	Taiwan
LyondellBasell Vietnam Company Limited	Vietnam
OE Insurance Ltd	Bermuda
LYB International Finance II B.V.	Netherlands
LyondellBasell Industries Holdings B.V.	Netherlands
A. Schulman Castellon S.L.	Spain
A. Schulman International Services BV	Belgium
A.Schulman Poznan Sp. Z o.o.	Poland

Entity Name	Jurisdiction of Formation
A. Schulman Plastics BV	Belgium
A. Schulman Belgium BV	Belgium
A. Schulman Europe International B.V.	Netherlands
A. Schulman 's-Gravendeel B.V.	Netherlands
A. Schulman Europe GmbH & Co. KG	Germany
A. Schulman Gainsborough Ltd	United Kingdom
A. Schulman Thermoplastic Compounds Limited	United Kingdom
A. Schulman Nordic AB	Sweden
A. Schulman Plastics S.r.l.	Italy
A. Schulman Plastik Sanayi ve Ticaret Anonim Sirketi	Turkey
A. Schulman Polska Sp. z o.o.	Poland
Basell Benelux B.V.	Netherlands
Basell Poliolefinas Iberica S.L.	Spain
Basell Poliolefine Italia S.r.l.	Italy
Basell Sales & Marketing Company B.V.	Netherlands
Basell UK Holdings Limited	United Kingdom
Basell Polyolefins UK Limited	United Kingdom
LYB Finance Company B.V.	Netherlands
LYB Luxembourg S.à r.l.	Luxembourg
Basell Germany Holdings GmbH	Germany
LYB Solvent Recycling GmbH	Germany
APK IP Management GmbH	Germany
APK Newcycling GmbH	Germany
LYB Circular R&D GmbH	Germany
LYB Recycling DE GmbH	Germany
Basell Polyolefine GmbH	Germany
Basell Bayreuth Chemie GmbH	Germany
A. Schulman GmbH	Germany
A. Schulman Real Estate GmbH & Co. KG	Germany
LYB Europe Funding Limited	Hong Kong
LyondellBasell Holdings France SAS	France
A. Schulman Europe Verwaltungs GmbH	Germany
A. Schulman Inc. Limited	United Kingdom
A. Schulman Plastics SAS	France
A. Schulman S.A.S.	France
Elia S.A.S.	France
Basell Polyolefines France S.A.S.	France
Compagnie de Distribution des Hydrocarbures SAS	France

Entity Name	Jurisdiction of Formation
Compagnie Petrochimique de Berre SAS	France
Lyondell Chimie France SAS	France
LyondellBasell Services France S.A.S.	France
LYB Advanced Polymer Solutions Ireland Limited	Ireland
LYB Ireland Limited	Ireland
LYB Trading Company B.V.	Netherlands
Lyondell Chemie Nederland B.V.	Netherlands
Lyondell Chemie (PO-11) B.V.	Netherlands
Lyondell Chemie (POSM) B.V.	Netherlands
Lyondell PO-11 C.V.	Netherlands
LyondellBasell China Holdings B.V.	Netherlands
Basell Advanced Polyolefins (Suzhou) Co. Ltd.	China
Guangzhou Basell Advanced Polyolefins Co., Ltd.	China
LyondellBasell Advanced Polymer (Changshu) Co., Ltd.	China
LyondellBasell Advanced Polymer (Dongguan) Co. Ltd.	China
Mepol S.r.l.	Italy
Industrial Technology Investments Poland Sp. Z.o.o.	Poland
Polar S.r.l.	Italy
QCP Holding B.V.	Netherlands
LYB CLCS Sales BE BV	Belgium
LYB CLCS Sales FR S.A.S.	France
LYB CLCS Sales IT S.r.l.	Italy
LYB CLCS Sales UK LTD	United Kingdom
LYB Recycling NL B.V.	Netherlands
Tivaco S.A.	Belgium

* Where a subsidiary is owned by two or more entities, it is only listed once.

Joint Ventures	
Entity Name	Jurisdiction of Formation
Bora LyondellBasell Petrochemical Co., Ltd. ¹	China
Genox LyondellBasell New Material Co., Ltd. ²	China
Ningbo ZRCC Lyondell Chemical Co. Ltd. ³	China
Ningbo ZRCC LyondellBasell New Material Company Limited ⁴	China
EPS Ethylen-Pipeline-Süd GmbH & Co. KG ⁵	Germany
Source One GmbH ⁶	Germany
Source One Plastics GmbH ⁷	Germany
PT LyondellBasell Advanced Polyolefins ⁸	Indonesia
PT LyondellBasell Advanced Polyolefins Commercial ⁹	Indonesia
PolyMirae Co., Ltd. ¹⁰	Korea, Republic Of
Indelpro, S.A. de C.V. ¹¹	Mexico
Circular Cleveland B.V. ¹²	Netherlands
Circular Rotterdam B.V. ¹³	Netherlands
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F. ¹⁴	Netherlands
Rodepa Vastgoed B.V. ¹⁵	Netherlands
Stiphout Industries B.V. ¹⁶	Netherlands
Basell Orlen Polyolefins Sp. Z.o.o. ¹⁷	Poland
Al Waha Petrochemical Company ¹⁸	Saudi Arabia
National Petrochemical Industrial Company ¹⁹	Saudi Arabia
Natpet Schulman Specialty Plastic Compounds ²⁰	Saudi Arabia
Saudi Ethylene & Polyethylene Company ²¹	Saudi Arabia
Saudi Polyolefins Company ²²	Saudi Arabia
HMC Polymers Company Limited ²³	Thailand
SCGC ICO Polymers Co., Ltd. ²⁴	Thailand
Cyclyx International LLC ²⁵	United States
Louisiana Integrated PolyEthylene JV LLC ²⁶	United States
PD Glycol LP ²⁷	United States
PO JV, LP ²⁸	United States
Technology JV, LP ²⁹	United States

¹ Basell International Holdings B.V. owns a 50% interest in Bora LyondellBasell Petrochemical Co., Ltd.

² Basell International Holdings B.V. owns a 50% interest in Genox LyondellBasell New Material Co., Ltd.

³ Lyondell China Holdings Limited owns a 26.65% interest in Ningbo ZRCC Lyondell Chemical Co. Ltd.

⁴ Lyondell China Holdings Limited owns a 50% interest in Ningbo ZRCC LyondellBasell New Material Company Limited.

⁵ Basell Polyolefine GmbH owns a 19.07% interest in EPS Ethylen-Pipeline-Süd GmbH & Co. KG.

⁶ LyondellBasell Industries Holdings B.V. owns a 24.9% interest in Source One GmbH.

- ⁷ LyondellBasell Industries Holdings B.V. owns a 49% interest in Source One Plastics GmbH.
- ⁸ A. Schulman International Inc. owns a 65% interest in PT LyondellBasell Advanced Polyolefins.
- ⁹ A. Schulman International Inc. owns a 65% interest in PT LyondellBasell Advanced Polyolefins Commercial.
- ¹⁰ Basell International Holdings B.V. owns a 50% interest in PolyMirae Co., Ltd.
- ¹¹ Basell International Holdings B.V. owns a 49% interest in Indelpro, S.A. de C.V.
- ¹² LyondellBasell Industries Holdings B.V. owns 19% interest in Circular Cleveland B.V.
- ¹³ LyondellBasell Industries Holdings B.V. owns a 22.65% interest in Circular Rotterdam B.V.
- ¹⁴ Lyondell PO-11 C.V. owns a 50% interest in LyondellBasell Covestro Manufacturing Maasvlakte V.O.F.
- ¹⁵ LyondellBasell Industries Holdings B.V. owns 50% interest in Rodepa Vastgoed B.V.
- ¹⁶ LyondellBasell Industries Holdings B.V. owns 50% interest in Stiphout Industries B.V.
- ¹⁷ LyondellBasell Industries Holdings B.V. owns a 50% interest in Basell Orlen Polyolefins Sp. Z.o.o.
- ¹⁸ Basell Arabie Investissements SAS owns a 25% interest in Al Waha Petrochemical Company.
- ¹⁹ Basell International Holdings B.V. owns a 35% interest in National Petrochemical Industrial Company.
- ²⁰ A. Schulman Europe International B.V. owns a 50% interest in Natpet Schulman Specialty Plastic Compounds.
- ²¹ Basell Moyen Orient Investissements SAS owns a 25% interest in Saudi Ethylene & Polyethylene Company.
- ²² Basell Holdings Middle East GmbH owns a 25% interest in Saudi Polyolefins Company.
- ²³ Basell (Thailand) Holdings B.V. owns a 28.56% interest in HMC Polymers Company Limited.
- ²⁴ LyondellBasell Advanced Polyolefins (Malaysia) Sdn. Bhd. owns a 13% interest in SCGC ICO Polymers Co., Ltd.
- ²⁵ Equistar Chemicals, LP owns a 25% interest in Cyclyx International LLC.
- ²⁶ LyondellBasell LC Offtake LLC owns a 50% interest in Louisiana Integrated PolyEthylene JV LLC.
- ²⁷ Equistar Chemicals, LP owns a 50% interest in PD Glycol LP.
- ²⁸ PO Offtake, LP owns a 50% interest in PO JV, LP.
- ²⁹ Lyondell POTechLP, Inc. owns a 49% partnership interest in Technology JV, LP. Lyondell POTechGP, Inc. owns a 1% partnership interest in Technology JV, LP.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-183500, 333-183501, and 333-256676) and Form S-3 (No. 333-283755) of LyondellBasell Industries N.V. of our report dated February 27, 2025 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Houston, Texas
February 27, 2025

CERTIFICATION

I, Peter Vanacker, certify that:

- (1) I have reviewed this annual report on Form 10-K of LyondellBasell Industries N.V.;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- (4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Peter Vanacker

Peter Vanacker
Chief Executive Officer

Date: February 27, 2025

CERTIFICATION

I, Michael McMurray, certify that:

- (1) I have reviewed this annual report on Form 10-K of LyondellBasell Industries N.V.;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- (4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Michael McMurray

Michael McMurray

Executive Vice President and Chief Financial Officer

Date: February 27, 2025

CERTIFICATIONS PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report of LyondellBasell Industries N.V. (the company) on Form 10-K for the period ended December 31, 2024, as furnished to the U.S. Securities and Exchange Commission on the date hereof (the Report), each of the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to their knowledge:

- (1) The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the company.

Date: February 27, 2025

/s/ Peter Vanacker

Peter Vanacker

Chief Executive Officer

/s/ Michael McMurray

Michael McMurray

Executive Vice President and Chief Financial Officer