

LyondellBasell Industries N.V.
Financial Report
For the Year Ended December 31, 2022

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1. About LyondellBasell

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 producer of large volume commodities, continuously strive to differentiate ourselves through safe, reliable and low-cost operations in all 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 significant positive influence on the profitability of our North American operations.

OUR VALUES

As a leader in the global chemical industry, LyondellBasell strives every day to be the safest, best operated and most valued company in our industry. The company's products, materials and technologies are advancing sustainable solutions for food safety, access to clean water, healthcare and fuel efficiency in more than 100 international markets. LyondellBasell places high priority on diversity, equity and inclusion and is Advancing Good with an emphasis on our planet, the communities where we operate and our future workforce. The company takes great pride in its world-class technology and customer focus. LyondellBasell has stepped up its circularity and climate ambitions and actions to address the global challenges of plastic waste and decarbonization.

Our *vision, mission, values* and *leadership principles* drive how we behave, how we interact and how we will consistently deliver outstanding results.

Our Vision

We work every day to be the best operated and most valued company in our industry, today and tomorrow.

Our Mission

To consistently deliver industry-leading performance by:

- Safely and reliably delivering high quality products to customers;
- Being the company of choice for employees and shareholders; and
- Being a responsible, good neighbor in the communities where we operate.

Our Values

- We strive for excellence in everything we do;
- We own decisions and reward results; and
- We believe in the power of many.

Our Leadership Principles

- A passion to be the best;
- Build rigor into decision-making;
- Demonstrate strong operational leadership;
- Embrace continuous improvement; and
- Build winning teams.

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, acetyls, ethylene oxide and ethylene glycol.
- *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, and advanced polymers, which includes *Catalloy* and polybutene-1.
- *Refining*. Our Refining segment refines heavy, high-sulfur crude oil and other crude oils of varied types and sources available on the 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 30 to the Consolidated Financial Statements.

2. Report of the Board of Directors

2.1 Operational and Financial Overview

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."). As we are a holding company incorporated in the Netherlands, we conduct substantially all of our operations through subsidiaries.

In 2022, our balanced business portfolio, consistent cash generation and strong balance sheet enabled us to successfully navigate through challenging market conditions while continuing to provide significant returns for our shareholders. During the year, petrochemical markets were pressured by high and volatile energy and feedstock costs as well as reduced global demand for our products. Our O&P-Americas and O&P-EAI segments encountered headwinds from reduced demand in Europe and Asia as well as global capacity additions. Our I&D segment benefited from improved oxyfuels margins, which were partially offset by lower margins for other products due to lower demand. Margins in our Refining segment benefited from increased global mobility and favorable markets.

During 2022 we generated \$6.4 billion in cash from operating activities. We remain committed to a disciplined approach to capital allocation. In 2022, approximately \$1.9 billion was reinvested in the business and \$3.7 billion was returned to shareholders through quarterly dividends, a special dividend and share repurchases.

In 2022, we launched a comprehensive review of our strategy. Initial strategic actions included the decision to exit the refining business and the sale of the Australian polypropylene business. We also formed a circular and low carbon solutions business within our O&P-Americas and O&P-EAI segments. This business was created to accelerate progress in capturing value from serving the rapidly growing customer demand for recycled and renewable solutions.

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

<u>Millions of U.S. Dollars (except for earnings per share amounts)</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Results of Operations Data		
Revenue	\$ 51,739	\$ 47,203
Cost of Sales	45,344	36,686
Operating profit	4,965	8,774
Finance costs	430	831
Depreciation and amortization	1,784	1,901
Impairments	69	624
Share of profit of investments accounted for using the equity method	16	397
Income tax expense	785	1,533
Profit for the year	3,798	6,819
Earnings per share:		
Basic	11.56	20.37
Diluted	11.54	20.35
Balance Sheet Data		
Total equity	12,903	12,333
Borrowings	12,108	12,502
Lease Liabilities	2,026	2,141
Cash and cash equivalents	(2,389)	(1,626)
Net debt	11,745	13,017
Trade and other receivables	4,877	5,825
Inventories	5,790	6,161
Trade and other payables	(5,994)	(6,465)
Net working capital	\$ 4,673	\$ 5,521

Revenues—Revenues increased by \$4,536 million, or 10%, in 2022 compared to 2021. Average sales prices in 2022 were higher for many of our products as sales prices generally correlate with crude oil prices, which increased relative to 2021. These higher prices led to a 13% increase in revenue. Unfavorable foreign exchange impacts resulted in a 3% decrease in revenue.

Cost of Sales—Cost of sales increased by \$8,658 million, or 24%, in 2022 compared to 2021. This increase is primarily related to higher feedstock and energy costs. Feedstock and energy related costs generally represent approximately 70% to 80% of cost of sales, other variable costs account for approximately 10% of cost of sales on an annual basis and fixed operating costs, consisting primarily of expenses associated with employee compensation, depreciation and amortization, and maintenance, range from approximately 10% to 20% in each annual period.

Impairments—During 2022 we recognized a non-cash impairment charge of \$69 million related to the sale of our Australian polypropylene manufacturing facility. During 2021 we recognized a non-cash impairment charge of \$624 million related to our Houston refinery. See Note 15 to the Consolidated Financial Statements for additional information regarding impairment charges.

Operating Profit—Operating profit decreased by \$3,809 million in 2022 compared to 2021. In 2022, Operating income decreased for our O&P-Americas, O&P-EAI, Technology and APS segments by \$2,470 million, \$1,214 million, \$140 million and \$85 million, respectively. These decreases were partially offset by increases in Operating income for our Refining and I&D segments of \$1,585 million and \$637 million, respectively. Results for each of our business segments are discussed further in the Segment Analysis section below.

Finance Costs—Finance costs decreased \$401 million in 2022 compared to 2021 primarily driven by debt extinguishment costs of \$130 million recognized in 2021 related to the redemption of certain guaranteed notes, including a cash tender offer, coupled with the decrease in the weighted average outstanding debt balance in 2022 compared to 2021. Refer to Note 11 of the Consolidated Financial Statement.

Income Taxes—Our effective income tax rates of 17.1% in 2022 and 18.4% in 2021 resulted in tax provisions of \$785 million and \$1,533 million, respectively.

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 unrecognized deferred tax assets, 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. We continue to maintain unrecognized deferred tax assets in various jurisdictions totaling to \$66 million as of 2022, which could impact our effective income tax rate in the future.

Compared to 2021, the 2022 effective income tax rate decreased primarily due to changes in the mix of income in countries with varying statutory tax rates, and fluctuations in uncertain tax positions. These decreases were partially offset by the benefit received in 2021 from return to accrual adjustments primarily associated with a step-up of certain Italian assets to fair market value and the Coronavirus Aid, Relief, and Economic Security Act, also known as the “CARES Act”.

For additional information, See Note 12 to our Consolidated Financial Statements.

2.1.1 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 (losses) and components of pension and other post-retirement benefit costs other than service cost, are included in "Other." For additional information related to our operating segments, as well as a reconciliation of EBITDA to its nearest generally accepted accounting principles measure in the United States of America ("U.S. GAAP") and to IFRS Operating profit, see Note 30 to our Consolidated Financial Statements.

Our continuing operations are managed through six reportable segments: O&P-Americas, O&P-EAI, I&D, APS, Refining and Technology.

Accounting policies for internal reporting, which are based on U.S. GAAP, are materially similar to those described in Summary of Significant Accounting Policies (see Note 2 of the Consolidated Financial Statements), except for:

- *Inventories*—The Company measures its inventories in accordance with the Last In, First Out ("LIFO") method, which is permitted under U.S. GAAP. According to International Accounting Standards ("IAS") 2, *Inventories*, the LIFO method is prohibited under IFRS. Therefore, inventories are measured using the First In, First Out ("FIFO") method for the Consolidated Financial Statements. This inventory measurement difference between the reportable segments and the consolidated information results in different cost of sales and net profit for the period.
- *Employee Benefits*—Under U.S. GAAP, ASC Topic 715, *Compensation—Retirement Benefits* ("ASC 715") requires the interest expense component of pension expense to be calculated as the product of the defined benefit liability and the discount rate. Such interest expense is netted against interest income resulting from the expected rate of return on plan assets applied to 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 discount rate, reflecting long-term market expectations, rather than current fluctuations in market conditions. Under IFRS, in accordance with IAS 19, *Employee Benefits*, the Company recognizes a net interest expense (income), which is the product of the net defined benefit liability (asset) and the discount rates, as a component of its pension expense on defined benefit plans. Under ASC 715, past service cost and actual return on plan assets in excess of expected return are initially recorded in other comprehensive income and subsequently recognized in earnings over the average remaining service period of the participants to the extent it exceeds the "corridor." The corridor is defined as the greater of 10 percent of the accumulated projected benefit obligation or the fair value of the plan assets as of the beginning of the year. Under IFRS, the Company immediately recognizes past service cost and net interest expense (income) as discussed above in the Consolidated Statement of Income. Actual return of plan assets in excess of recognized interest income is permanently recorded in other comprehensive income.
- *Joint Operations*—Both U.S. GAAP and IFRS require a reporting entity to consolidate an entity that it controls as a result of holding a majority of the voting rights. Under IFRS 11 Joint Arrangements, investments in joint arrangements are classified as either joint operations or joint ventures. For joint operations, we recognize our share of revenue that it earns from the joint operations and its share of expenses incurred. We also recognize the assets associated with the joint operations that it controls and the liabilities it incurs under the joint arrangement. For joint ventures we recognize our interest in the joint venture or associate as an investment and uses the equity method of accounting. Under U.S. GAAP, ASC 323, *Investments—Equity Method and Joint Ventures*, we account for equity investments using the equity method of accounting if we have the ability to exercise significant influence over, but not control of, 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.
- *Other*—Amongst others, there are differences between IFRS and U.S. GAAP with respect to leases, discontinued operations, the subsequent measurement of asset retirement obligations, cross-currency swaps, capitalization of development costs related to research and development and amortization of debt issuance costs. If material, these differences are separately disclosed in the Consolidated Financial Statements reconciliation.

The following tables reflect selected financial information for our reportable segments.

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues:		
O&P-Americas	\$ 13,935	\$ 15,002
O&P-EAI	12,823	13,490
I&D	12,950	10,180
APS	5,231	5,145
Refining	11,893	8,002
Technology	693	843
Other, including intersegment eliminations	(7,074)	(6,489)
Total	<u>\$ 50,451</u>	<u>\$ 46,173</u>
Share of profit/(loss) of associates and joint ventures:		
O&P-Americas	\$ 98	\$ 115
O&P-EAI	(68)	313
I&D	(25)	34
APS	—	(1)
Total	<u>\$ 5</u>	<u>\$ 461</u>
EBITDA:		
O&P-Americas	\$ 2,734	\$ 5,273
O&P-EAI	112	1,749
I&D	1,872	1,378
APS	312	409
Refining	921	(624)
Technology	366	514
Other, including intersegment eliminations	(16)	(10)
Total	<u>\$ 6,301</u>	<u>\$ 8,689</u>

Olefins and Polyolefins—Americas Segment

Overview—EBITDA decreased in 2022 relative to 2021 primarily driven by lower olefins 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:

- 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. In 2022 and 2021, approximately 70% and 60%, respectively, of the raw materials used in our North American crackers was ethane.

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.

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 13,935	\$ 15,002
Share of profit of associates and joint ventures	98	115
EBITDA	2,734	5,273

Revenues—Revenues decreased by \$1,067 million, or 7%, in 2022 compared to 2021. Lower average sales prices for all businesses resulted in the 7% decrease in revenue primarily driven by reduced demand and increased market supply.

EBITDA—EBITDA decreased by \$2,539 million, or 48%, in 2022 compared to 2021. Lower olefins results led to a 33% decrease in EBITDA primarily due to margin compression driven by lower ethylene prices coupled with higher feedstock and energy costs. Lower polyethylene and polypropylene results led to a 9% and 5% decrease in EBITDA, respectively, primarily driven by lower demand, an increase in industry capacity and higher energy costs.

Olefins and Polyolefins—Europe, Asia, International Segment

Overview—EBITDA decreased in 2022 compared to 2021 mainly as a result of lower volumes and margins across all businesses, lower income from equity investments and unfavorable impacts of foreign exchange.

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 represents approximately 70% of the raw materials used in 2022 and 2021.

The following table sets forth selected financial information for the O&P-EAI segment including Share of profit of associates and joint ventures, which is a component of EBITDA.

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 12,823	\$ 13,490
Share of profit/(loss) of associates and joint ventures	(68)	313
EBITDA	112	1,749

Revenues—Revenues decreased by \$667 million, or 5%, in 2022 compared to 2021. Unfavorable foreign exchange impacts resulted in a revenue decrease of 8%. Lower volumes resulted in a revenue decrease of 8% primarily due to lower demand along with planned and unplanned maintenance. During 2022, we had planned and unplanned maintenance resulting in ethylene cracker operating rates of approximately 67% of capacity compared to 89% of capacity during 2021. Higher average sales prices resulted in an 11% increase in revenue as sales prices generally correlate with crude oil prices, which on average, increased compared to 2021.

EBITDA—EBITDA decreased by \$1,637 million, or 94%, in 2022 compared to 2021. Lower polyolefin results led to a 39% decrease in EBITDA. Approximately 60% of the change was driven by decreased margins resulting from higher energy costs and lower spreads with the remainder due to a decrease in volumes driven by lower demand. Lower olefins results led to a 20% decrease in EBITDA, approximately half of the change was driven by lower volumes due to unplanned maintenance and reduced operating rates to manage working capital. The other half of the change was due to lower margins resulting from higher feedstock and energy costs which outpaced increased ethylene prices. Lower income from our equity investments led to a decrease in EBITDA of 22% mainly attributable to lower polyolefin spreads across all joint ventures, particularly those located in Asia and Saudi Arabia. Unfavorable foreign exchange impacts resulted in a 10% decrease in EBITDA.

In the second quarter of 2022, we recognized a \$69 million non-cash impairment charge in conjunction with the sale of our polypropylene manufacturing facility located in Australia, resulting in a 4% decrease in EBITDA for 2022 compared to 2021.

Intermediates and Derivatives Segment

Overview—EBITDA increased in 2022 compared to 2021, primarily driven by increased oxyfuels and related products margin, partially offset by decreases in margin for propylene oxide and derivatives and intermediate chemicals.

The following table sets forth selected financial information for the I&D segment including Share of profit of associates and joint ventures, which is a component of EBITDA.

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 12,950	\$ 10,180
Share of profit/(loss) of associates and joint ventures	(25)	34
EBITDA	1,872	1,378

Revenues—Revenues increased by \$2,770 million, or 27%, in 2022 compared to 2021. Higher average sales prices resulted in a 25% increase in revenue as sales prices generally correlate with crude oil prices, which, on average, increased compared to the same period in 2021, coupled with lower industry supply. Sales volumes improved resulting in an 6% increase in revenue as 2021 was impacted by unusually cold temperatures and associated electrical power outages that led to shutdowns of our manufacturing facilities in Texas. Unfavorable foreign exchange impacts resulted in a revenue decrease of 4%.

EBITDA—EBITDA increased \$494 million, or 36%, in 2022 compared to 2021. Oxyfuels and related products results increased EBITDA by 53% primarily driven by margin improvement as a result of higher gasoline prices. Propylene oxide and derivatives and intermediate chemical results each declined resulting a 5% reduction in EBITDA, these declines were driven by margin declines resulting from higher energy and feedstock costs. Unfavorable foreign exchange impacts resulted in a 4% decrease in EBITDA. Lower income from our equity investments led to a decrease in EBITDA of 4% mainly attributable to lower margins in Asia. During 2022 and 2021, we recognized LIFO inventory charges of \$26 million and \$93 million, respectively, which resulted in a 5% increase in EBITDA.

Advanced Polymer Solutions Segment

Overview—EBITDA decreased in 2022 compared to 2021, primarily due to a decline in compounding and solutions results partially offset by improved advanced polymers results. In the first quarter of 2023, our *Catalloy* and polybutene-1 products, previously reflected in our APS segment, will be transferred to and reflected in our O&P-Americas and O&P-EAI segments. Our reporting structure will be revised in the first quarter of 2023 to reflect this change.

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

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 5,231	\$ 5,145
Share of profit/(loss) of associates and joint ventures	—	(1)
EBITDA	312	409

Revenues—Revenues increased in 2022 by \$86 million, or 2%, compared to 2021. Higher average sales prices resulted in a 13% increase in revenue as sales prices generally correlate with prices for crude oil and its derivatives, which, on average, increased compared to 2021. Foreign exchange impacts resulted in a revenue decrease of 8%. Sales volumes declined resulting in a 3% decrease in revenue stemming from lower demand.

EBITDA—EBITDA decreased in 2022 by \$97 million, or 24%, compared to 2021. Compounding and solutions results led to a 29% reduction in EBITDA. Approximately 55% of the change was driven by higher raw material and energy costs with the remainder due to lower volumes as demand declined. Advanced polymers results increased by 4% driven by margin improvements for *Catalloy* due to higher sales prices. Unfavorable foreign exchange impacts resulted in a EBITDA decrease of 9%. During 2022 and 2021, we recognized \$28 million and \$55 million, respectively, of LIFO inventory charges which resulted in a 7% increase in EBITDA.

Refining Segment

Overview—EBITDA for our Refining segment increased in 2022 relative to 2021 primarily due to higher margins.

In April 2022 we announced our decision to cease operation of our Houston refinery no later than the end of 2023 after determining that exiting the refining business is our best strategic and financial path forward. Our exit of the refining business progresses our greenhouse gas (“GHG”) emission reduction goals, and the site’s prime location gives us more options for advancing our future strategic objectives, including circularity. In the interim, we will continue serving the fuels market.

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 U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 11,893	\$ 8,002
EBITDA	921	(624)
<u>Thousands of barrels per day</u>		
Heavy crude oil processing rates	238	231
<u>Market margins, dollars per barrel</u>		
Brent - 2-1-1	33.62	14.39
Brent - Maya differential	11.71	6.48
Total Maya 2-1-1	<u>\$ 45.33</u>	<u>\$ 20.87</u>

Revenues—Revenues increased by \$3,891 million, or 49%, in 2022 compared to 2021. Higher product prices led to a revenue increase of 45% as the average Brent crude oil price increased approximately \$28.11 per barrel. Sales volumes increased resulting in a 4% increase in revenue due to improved demand as refined products markets recovered from the impacts of the COVID-19 pandemic.

EBITDA—EBITDA increased by \$1,545 million or 248%, in 2022 compared to 2021. Margin improvements drove a 173% increase in EBITDA primarily due to an increase in the Maya 2-1-1 market margin driven by higher demand for transportation fuels. Additionally, during 2022 we incurred costs related to our planned exit from the refining business, which resulted in a 25% decrease in EBITDA compared to 2021. See Note 15 to the Consolidated Financial Statements for additional information regarding the planned exit. The remaining change is due to a non-cash impairment charge of \$624 million recorded in 2021 with no similar charge incurred in 2022. For additional information see Notes 15 and 30 to our Consolidated Financial Statements.

Technology Segment

Overview—The 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 2022 and 2021, our Technology segment incurred approximately 55% of all R&D costs. EBITDA decreased in 2022 compared to 2021 driven by lower licensing revenues and the unfavorable impacts of foreign exchange.

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

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues	\$ 693	\$ 843
EBITDA	366	514

Revenues—Revenues decreased by \$150 million, or 18%, in 2022 compared to 2021. Lower licensing revenues resulting from fewer contracts reaching significant milestones drove an 11% decrease in revenue. Unfavorable foreign exchange impacts resulted in a 10% decrease in revenue. Changes in average catalyst sales price resulted in a 2% increase in revenue. Higher catalyst volumes resulted in a 1% increase in revenue primarily driven by increased demand.

EBITDA—EBITDA in 2022 decreased by \$148 million, or 29%, compared to 2021. Lower licensing revenues resulting from fewer contracts reaching significant milestones drove a 16% decrease in EBITDA. Unfavorable foreign exchange impacts resulted in an EBITDA decrease of 11%.

2.1.2 Financial Condition

Operating, investing and financing activities of continuing operations, which are discussed below, are presented in the following table:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Cash provided by (used in):		
Operating activities	\$ 6,433	\$ 7,842
Investing activities	(1,722)	(1,390)
Financing activities	(3,891)	(6,664)

Operating Activities—Cash provided by operating activities of \$6,433 million in 2022 reflected earnings adjusted for non-cash items and cash used by the main components of working capital – Accounts receivable, Inventories and Accounts payable.

In 2022, the main components of working capital provided \$1,005 million of cash driven by a decrease in Accounts receivable and Inventory, partially offset by a decrease in Accounts payable. The decrease in Accounts receivable was primarily due to lower revenues across most businesses, primarily driven by lower average sales prices. The decrease in Accounts payable was driven by lower production volumes as a result of lower operating rates. The decrease in inventory was primarily related to a decline in finished goods inventory.

Cash provided by operating activities of \$7,842 million in 2021 primarily reflected earnings adjusted for non-cash items and cash provided by the main components of working capital.

In 2021, the main components of working capital used \$2,587 million of cash driven by an increase in Inventories and Accounts receivable, partially offset by an increase in Accounts payable. The increase in Inventories was primarily due to an increase in raw material costs coupled with an increase in inventory to levels required to support improved demand and in anticipation of turnarounds in 2022. The increase in Accounts receivable was driven by higher revenues across most businesses primarily driven by higher average sales prices. The increase in Accounts payable was primarily driven by increased raw material and energy costs.

Other operating activities in 2021 include a \$870 million tax refund received in the fourth quarter of 2021 and the effects of changes in income tax accruals primarily driven by increased pretax income. For additional information see Note 12 to our Consolidated Financial Statements.

Investing Activities—Capital expenditures in 2022 totaled \$1,894 million compared to \$2,203 million in 2021. Approximately 50% and 60% of our capital expenditures in 2022 and 2021, respectively, was for profit-generating growth projects, primarily our PO/TBA plant, with the remaining expenditures supporting sustaining maintenance. See Note 30 to the Consolidated Financial Statements for additional information regarding capital spending by segment.

We invest cash in investment-grade and other high-quality instruments that provide adequate flexibility to redeploy funds as needed to meet our cash flow requirements while maximizing yield.

In 2022 and 2021, we received proceeds of \$8 million and \$335 million, respectively, from the liquidation of our investment in equity securities. Additionally, in 2021 we received proceeds of \$346 million, upon the maturities of certain of our Fair value through Other comprehensive income debt securities.

In 2021, we made an equity contribution of \$104 million to form Ningbo ZRCC LyondellBasell New Material Company Limited, a 50/50 joint venture with Sinopec. For additional information related to our Joint Venture investments, see Note 17 to the Consolidated Financial Statements.

In 2022, foreign currency contracts with an aggregate notional value of €500 million expired. Upon settlement of these foreign currency contracts, we paid €500 million (\$501 million at the expiry spot rate) to our counterparties and received \$614 million from our counterparties.

In 2021, foreign currency contracts with an aggregate notional value of €300 million expired. Upon settlement of these foreign currency contracts, we paid €300 million (\$355 million at the expiry spot rate) to our counterparties and received \$358 million from our counterparties.

Financing Activities—We made dividend payments totaling \$3,246 million, which included a combination of a special dividend of \$5.20 per share and an increased quarterly dividend, and \$1,486 million in 2022 and 2021, respectively. Additionally, in 2022 and 2021, we made payments of \$420 million and \$463 million to repurchase outstanding ordinary shares, respectively. For additional information related to our share repurchases and dividend payments, see Note 21 to the Consolidated Financial Statements.

In 2022 and 2021, we made net repayments of \$4 million and \$296 million, respectively, through the issuance and repurchase of commercial paper instruments under our commercial paper program.

In 2022, we received net proceeds from forward starting interest rate swaps of \$238 million related to the positions held with our counterparties.

In 2021, we prioritized debt reduction resulting in a \$4 billion decrease in our outstanding long-term debt. For a detailed discussion of financing activities for 2021, see Note 23 to the Consolidated Financial Statements.

In November 2021, foreign currency contracts previously designated as cash flow hedges with an aggregate notional value of \$855 million expired. Upon settlement of these foreign currency contracts we paid €790 million (\$904 million at the expiry spot rate) to our counterparties and received \$855 million from our counterparties.

For additional information related to our swaps and currency contracts, see Note 4 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 our short-term investments, cash from operating activities, proceeds from the issuance of debt, or a combination thereof.

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, 2022 we had Cash and cash equivalents totaling \$2,389 million, which includes \$1,245 million in jurisdictions outside of the U.S., primarily held within the United Kingdom. There are currently no legal or economic restrictions that would materially impede our transfers of cash.

Credit Arrangements

At December 31, 2022 we had total debt, including current maturities, of \$12,108 million, and \$227 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 \$3,844 million at December 31, 2022, which included the following:

- \$3,050 million under our \$3,250 million Senior Revolving Credit Facility, which 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, 2022 we had \$200 million of outstanding commercial paper, net of discount, and no borrowings or letters of credit outstanding under this facility; and
- \$794 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, 2022 we had no borrowings or letters of credit outstanding under this facility.

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 2022, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares, through November 27, 2023, 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 2022, we purchased 4.4 million shares under our share repurchase authorization for \$406 million.

As of February 21, 2023 we had approximately 31.7 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 21 to the Consolidated Financial Statements.

Capital Budget

In 2023, we are planning to invest approximately \$1.6 billion in capital expenditures. Approximately 70% of the 2023 budget is planned for sustaining maintenance, with the remaining budget supporting profit-generating growth projects.

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 23, 16, 25 and 12 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; 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 2022. Assuming that contractual minimum volumes are purchased at contract prices as of December 31, 2022, these commitments represent approximately 20% of our annual Cost of sales with a weighted average remaining term of 7 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 primarily relate to product off-take agreements with joint ventures located in Poland. No material shortfall was paid for quantities not taken under these contracts in 2022. When valued using a contract price as of December 31, 2022, these commitments represent approximately 5% of our annual Cost of sales with a weighted average remaining term of 14 years.

2.1.3 Outlook

In early 2023, demand from consumer packaging, oxyfuels and refining markets remained stable. Moderating energy and feedstock costs are providing some offsets to tepid global demand. Nonetheless, challenging market conditions are expected to persist through the first half of 2023. We are aligning production with global demand trends and expect first quarter average utilization rates for assets operated by us to be 80% for each of our O&P-Americas, O&P-EAI and I&D segments. Start-up activities for the new PO/TBA capacity remain on track for the end of the first quarter 2023, with approximately half of the assets nameplate capacity expected to be produced and sold during the first year of operations. We expect typical spring and summer seasonal demand improvements and are prepared to leverage any increased economic activity in China as the year progresses.

During 2022, we introduced our value enhancement program that is anticipated to generate approximately \$575 million in recurring annual Net income improvement by the end of 2025, which, after adding back income taxes and depreciation and amortization of \$140 million and \$35 million, respectively, results in \$750 million of EBITDA. By the end of 2023, we anticipate that our value enhancement program will achieve annual recurring Net income of approximately \$115 million, which, after adding back income taxes and depreciation and amortization of approximately \$25 million and \$10 million, respectively, results in \$150 million of EBITDA. We anticipate incurring costs of approximately \$150 million in 2023 to achieve this milestone.

2.2 Risk Factors

The factors described below represent the principal risks to an investment in LyondellBasell. Any of these factors, taken alone or in combination, could adversely affect our business, operating results and financial condition, as well as the value of an investment in our securities and our ability to execute our strategy.

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 and refining industries. Our future operating results are expected to continue to be affected by this cyclical and volatility. The chemical and refining industries historically have 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.

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 the 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. For example during 2022, increases in costs for energy and raw materials, and the related decline in demand for our products, resulted in the reduction of operating rates or delayed restart of operations at several of our sites in Europe.

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 and refining industries 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.

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, that 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 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, 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 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 \$3,250 million revolving credit facility, which backs our commercial paper program, to meet our cash needs, to the extent available. As of December 31, 2022, we had no borrowings or letters of credit outstanding under the facility and \$200 million, net of discount, outstanding under our commercial paper program, leaving an unused and available credit capacity of \$3,050 million. We may also meet our cash needs by selling receivables under our \$900 million U.S. Receivables Facility. As of December 31, 2022, we had availability of \$794 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 and refining businesses, 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 or terrorist acts. 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, including the temporary shutdown of a portion of our Houston refinery, as a result of various hurricanes and cold weather events striking Texas and Louisiana. In addition, because the Houston refinery is our only refining operation, an outage at the refinery could have a particularly negative impact on our operating results as we do not have the ability to increase refining production elsewhere.

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. For example, higher costs arising from delaying construction of our world-scale PO/TBA plant in Houston due to COVID-19, more extensive civil construction, and unexpected tariffs on materials increased our costs and impacted our projected rate of return on the project. Delays in making the 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 or labor;
- 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 may delay decisions or actions regarding our joint ventures.

A portion of our operations are conducted through joint ventures, where control may be exercised by or shared with unaffiliated third parties. We cannot control the actions or ownership of our joint venture partners, including any nonperformance, default or bankruptcy of joint venture 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.

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, 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 that could cause impairments to our assets.

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. Any decision to permanently close facilities or exit a business would likely 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 \$170 million of expense. See Note 30 to the Consolidated Financial Statements for additional information.

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.

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.

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. For example, in April 2022 we agreed to the sale of our Australian polypropylene business that resulted in a \$69 million non-cash impairment charge, which impacted earnings. 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 reserves 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 business.

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 and refining businesses, 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, 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 and our 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 any adverse result of these examinations could also have an impact on our effective income tax rate and our results of operations. We regularly evaluate the likelihood of an adverse result of an examination, however, there is no assurance as to the ultimate outcome and impact.

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), are preparing national legislation and protection plans to implement their emission reduction commitments under the Paris Agreement. In June 2021, the European Climate Law set legally binding targets of net zero GHG emissions by 2050, and a 55% reduction in GHG emissions by 2030. In December 2022, the EU announced forthcoming regulations to support the 2030 climate target, including a revision of the EU Emissions Trading System (ETS), and the introduction of a Carbon Border Adjustment Mechanism. Our operations in Europe participate in the ETS and we meet our obligations through a combination of free and purchased emission allowances. We anticipate the forthcoming regulations 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, and/or restrictions on operations.

In the U.S., addressing climate change is a stated priority of President Biden, and in February 2021, the U.S. recommitted to the Paris Agreement after having withdrawn in August 2017. The U.S. Environmental Protection Agency as well as several state governments have promulgated regulations directed at GHG emissions reductions from certain types of facilities. Additional regulations could be forthcoming at the U.S. federal or state level that could result in increased operating costs for compliance, required acquisition or trading of emission allowances, or compliance costs associated with additional regulatory frameworks for a range of potential carbon reduction projects, including carbon capture, use, and sequestration projects. 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 May 2021, plaintiffs obtained a ruling ordering Royal Dutch Shell to reduce its Scope 1, 2 and 3 carbon emissions by 45% by 2030. 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.

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 as part of its Green Deal published the Chemicals Strategy for Sustainability Towards a Toxic-Free Environment (“CSS”). The CSS sets forth far-reaching plans for introducing significant 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.

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 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, including microplastics, and plastic waste in the environment. Additionally, plastics have recently faced increased public backlash and scrutiny, as well as governmental investigations and enforcement, and private litigation. Policy measures to address this concern are being discussed or implemented by governments at all levels. For example, on March 2, 2022, the United Nations Environment Assembly adopted a resolution to develop a new international legally binding instrument on plastic pollution with the ambition to complete the negotiations by the end of 2024. 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 a proposed Packaging and Packaging Waste Regulation in 2022. In addition, a host of single-use plastic bans and taxes 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 for 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.

In December 2022, we announced that we were increasing our GHG emissions reduction targets for 2030, while maintaining our previously announced goal to achieve net zero scope 1 and 2 GHG emissions by 2050. Our ability to achieve these goals depends on many factors, including the availability of technology, our ability to secure permits and emissions credits, evolving regulatory requirements, competitor actions, customer preferences, and our ability to reduce emissions from our operations through modernization and innovation, reduce the emissions intensity of the electricity we buy, and invest in renewables and low carbon energy. 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. 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.

In September 2020, we announced a circularity goal of 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 circular and low carbon solutions 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.

General Risk Factors

The COVID-19 pandemic could materially adversely affect our financial condition and results of operations.

In early 2020, responses to the COVID-19 pandemic caused significant economic disruption and adversely impacted the global economy, leading to reduced consumer spending and volatility in the global financial and commodities markets. The return to pre-pandemic economic activity continues to depend on the severity and transmission rate of the virus, the continued effectiveness of vaccines and treatments, and policy decisions made by governments in reaction to evolving local conditions. Any further global supply chain or economic disruption as a result of COVID-19 could have a material negative impact on our business, results of operations, access to sources of liquidity and financial condition.

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.

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. While we attempt to mitigate these risks by employing a number of measures, including security measures, employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our employees, systems, networks, products, facilities and services remain potentially vulnerable to ransomware, sophisticated espionage or cyber-assault. 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.

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 and claims that arise out of the ordinary conduct of our business. Results of legal proceedings cannot be predicted with certainty. Irrespective of its merits, litigation 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.

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 diverse, talented 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.

Nearly all of our current pension plans have projected benefit obligations that exceed the fair value of the plan assets. As of December 31, 2022, the aggregate deficit was \$662 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 25 to the Consolidated Financial Statements for additional information regarding pensions and other post-retirement benefits.

2.3 Our Strategy

We expect to accelerate growth, expand margins and improve returns through our technology leadership, sustainable solutions, and sharp focus on favorable positions in attractive global markets. We are positioning ourselves to be the company of choice for financial, environmental, social and governance minded investors, customers and brand owners. We are doing this by shaping its businesses to use plastic waste as a valuable source of carbon and creating products and sustainable solutions using circular and renewable materials to address demand.

The LyondellBasell strategy focuses on growing sustainable value and encompasses three key elements:

Growing and upgrading the core—Growth will be focused on businesses where LyondellBasell has leading positions in expanding and well-positioned markets.

Building a profitable Circular & Low Carbon Solutions (“CLCS”) business—LyondellBasell expects our CLCS business will grow over the next several years with attractive returns by leveraging the company's existing strengths of scale, market access and technology leadership.

Stepping up performance and culture—The company will drive improved results by shifting from a singular focus on cost control to a more comprehensive view of value creation and improved customer centricity.

Our strategy is enabled by a value enhancement program (“VEP”) that is expected to drive at least \$750 million of recurring annual EBITDA improvement by year-end 2025. The VEP 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 began taking action on our strategy in 2022 by;

- Acting decisively to exit the refining business and divest our Australian polypropylene business;
- Improving customer focus by forming our Customer and Commercial Excellence team;
- Establishing the CLCS leadership role and business;
- Implementing and expanding our VEP; and
- Taking significant steps forward in its journey to reduce greenhouse gas emissions.

2.4 Sustainability

LyondellBasell has established sustainability goals focusing on three key areas: ending plastic waste, taking climate action and supporting a thriving society. One of our sustainability goals is to produce and market at least two million metric tons of recycled and renewable-based polymers annually by 2030, which represents approximately 20% of our 2022 global sales of polyethylene and polypropylene. Since 2019, we have produced and marketed products with more than 175,000 metric tons of recycled and renewable content.

In December 2022 we announced more ambitious climate reduction goals, increasing our 2030 GHG emissions reduction target for scope 1 and scope 2 emissions from 30% to 42%, relative to a 2020 baseline. In addition, we established a 2030 scope 3 GHG emissions reduction target of 30%, relative to a 2020 baseline, to align with science-based guidance.

As we progress in our efforts to achieve our goal to produce and market at least two million metric tons of recycled and renewable-based products, the corresponding increases in recycling rates will positively impact scope 3 emissions. We expect the emissions reductions we will get from accomplishing this goal to be incremental to the plans we currently have to reduce our scope 3 emissions by 30% by 2030. We estimate approximately 1 million metric tons of scope 3 reductions coming from achieving our circularity ambition.

As announced in April 2022, we are planning to exit the refinery business by the end of December 2023. This is expected to reduce scope 1 and scope 2 GHG emissions by more than 3 million metric tons annually and scope 3 emissions by approximately 40 million metric tons annually.

Certain GHG emissions reduction initiatives planned for implementation by 2030 are expected to begin in the near-term as we plan to leverage existing asset turnaround schedules for our largest sites. In 2024, our Wesseling site in Germany is planning the implementation of process heat recovery projects, electrification of a large process turbine and optimization of steam demand, including phasing out the use of coal, reducing scope 1 emissions by 150 thousand metric tons annually when compared to the average for 2019 and 2020. In 2025, at our Channelview site in Texas we plan to optimize heated equipment through advanced digitization, efficiency improvements and fuel management.

Our previously announced goal to achieve net zero scope 1 and 2 GHG emissions from global operations by 2050 remains unchanged. Our ambition to achieve net zero by 2050 will need to be enabled by the development and deployment of new technology, including those related to cracker electrification, the use of hydrogen, carbon capture and storage and carbon utilization, across our manufacturing footprint.

We also aim to secure at least 50% of our global electricity from renewable sources by 2030. As of March 2023, we have executed thirteen power purchase agreements, achieving over half of our 2030 target. These agreements will generate over 2.9 million megawatt hours of renewable electricity annually and reduce our scope 2 emissions by more than 1 million metric tons of carbon emissions.

To achieve our targets, we expect capital spending in the future will include investments to support reducing emissions in our operations. We also anticipate incurring costs for environmental compliance, including compliance with potential legislation and potential regulation related to climate change. We expect capital spending to support these ambitions will represent approximately 15% of total capital expenditures over the next two years. While many of the GHG emissions reduction projects are still in the early stages of development, we will evaluate, pursue and prioritize our GHG emission investments based on a rate of return for the project.

2.5 Human Capital

Our success as a company is tied to the passion, knowledge and talent of our global team. To achieve our vision of being the best operated and most valued company in the industry, we must attract top performers and equip them with the tools needed to continuously grow and leverage their potential.

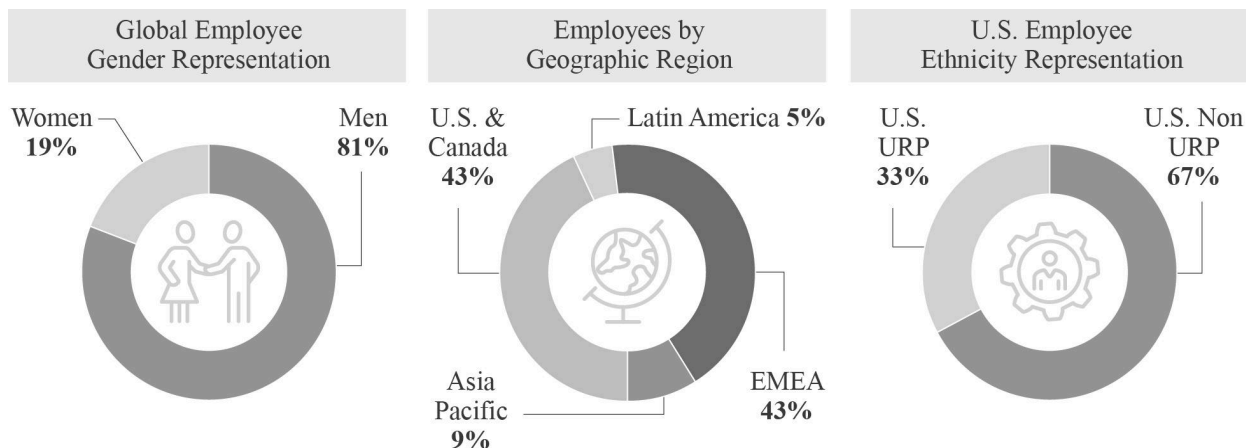
Our Code of Conduct sets out our expectations on topics such as respecting fellow employees, anti-corruption, conflicts of interest, trade compliance, anti-trust and competition law, insider trading, sanctions, misconduct and political donations. It is available in seventeen languages on our company 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.

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. GoalZERO is our commitment to operating safely and with 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.

Workplace Flexibility—We continued to support workplace flexibility in 2022 as a result of feedback we received from employees. Based in part on data from employee surveys, we enhanced our workplace flexibility initiative in early 2023 by offering up to three remote days per work week. These changes have helped to attract and retain employees. We will continue to study the effectiveness of this policy and will make changes, where necessary, to support business needs.

Global Talent Development and Engagement—To prepare our key individuals for advancement to larger roles, we tripled participation in our executive mentoring and peer learning programs. In addition, we launched a new program in partnership with external consultants to help diverse employees advance their leadership skills. Approximately 83% of our openings in leadership roles were filled by internal talent.

Demographics—As of December 31, 2022 we had approximately 19,300 employees. Our employee demographics, excluding temporary employees, consisted of the following:



U.S. Underrepresented population (“URP”) is based on reporting for the U.S. Equal Employment Opportunity Commission (“EEOC”), 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, Equity, Inclusion—DEI remained a key focus in 2022. Our efforts reflect a holistic, multi-year strategy to improve representation, ensure fairness, and increase visibility and accountability to leadership.

Diversity (Representation)—The percentage of diverse employees on our Executive Committee, which reports directly to our CEO, increased from 18% in 2021 to 33% in 2022, and as of February 2023, has increased to 40%. Of the ten members on our Executive Committee, four are women, and together, our CEO and Executive Committee represent six different nationalities. This increase brings us closer to our long-term goals of achieving gender parity in global senior leadership. We are also committed to increasing the number of underrepresented senior leaders in the U.S. to reflect the general population ratio by 2032. To meet these targets, we have set short-term goals to increase the number of female senior leaders globally and the number of underrepresented senior leaders in the U.S. by 50% by 2027, relative to a 2022 baseline. These ambitious goals demonstrate our commitment to having a diverse group of company leaders.

To achieve these goals, we focused on enhancing our hiring, promotion and retention practices. With respect to hiring, we expanded our existing senior-level hiring practices to a larger group of positions. These practices include broader recruiting efforts, diverse interview panels and candidate slates, standardized interview questions and hiring-manager training. With respect to promotions, we launched a new program to help diverse employees advance their leadership skills. We also continued to develop and improve our internal talent programs. Through these efforts, we promoted 16% more women in 2022 than in 2021. Indeed, increased promotions of women were the main reason the number of women in senior leadership globally increased by 1% to 22% in 2022.

While we are making significant efforts, our progress towards our goals in 2022 was negatively impacted by increased attrition of both women and URP leaders. Despite increased hiring and promotions of URP employees, the number of URP senior leaders in the U.S. decreased by 1% from 2021 to 18% in 2022. We continue to analyze retention issues to understand attrition drivers and to enhance our employee engagement efforts. Other factors impacting our results were the challenging external talent market and the addition of new senior leadership roles due to the Company's growth initiatives. We recognize that building talent pipelines and transforming culture takes time, and we remain committed to frequently assessing outcomes and developing programs that will advance these goals.

Equity (Fairness)—For the second consecutive year, we completed a pay equity review and performance analysis. Our pay equity review compared pay for like jobs and specifically focused on base pay for gender (globally) and ethnicity (U.S. only). Consistent with 2021 findings, the review reflected that pay is generally administered fairly with a small number of exceptions that should be remediated by the second quarter of 2023. We also confirmed that performance appraisals are generally administered fairly. Both of these annual review processes are now embedded in our HR processes.

The Company also implemented several practices to advance pay equity, including:

- Ensuring that job offers are based on the role, market competitiveness, and a candidate's level of proficiency and experience and not based on a candidate's historical compensation;
- Modifying promotion practices to ensure pay fairness is applied consistently for internal candidates compared to external hires;
- Helping line managers conduct an internal equity review for their employees and, when necessary, making compensation adjustments; and
- Establishing a consistent framework for recognizing and retaining employees.

Finally, we conducted stakeholder workshops to strengthen our approach to pay equity and provide increased transparency to employees about pay practices.

Inclusion (Belonging)—We advanced our inclusion efforts by increasing the number of global employee networks from four to six, building a global diverse network of employees championing inclusion. Executive leaders serve as active sponsors for each network, and about 15% of our global workforce has joined at least one of our employee networks. We have network members present at 92% of our global sites, with 47% of members residing outside of the U.S. and 28% joining as allies of underrepresented groups. Network programming is strongly tied to career development and business and community impact, including engagement in strategy development activities with executives in 2022.

2.6 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 2022 and 2021, our R&D expenditures were \$108 million and \$110 million, respectively. A portion of these expenses are related to technical support and customer service and are allocated to the other business segments. In both 2022 and 2021, approximately 45% of all R&D costs were allocated to business segments other than Technology.

2.7 Governance Report of the Board of Directors

Our Board of Directors is responsible for overseeing the overall course of our business and strategy. Members of the Board are annually elected by shareholders and include our CEO and independent non-executives. Our Board and its committees oversee:

- Management's identification, measurement, monitoring, and control of our Company's material risks, including operational, credit, market, liquidity, compliance, strategic, and reputational risks;
- The Company's maintenance of high ethical standards and effective policies and practices to protect our reputation, assets, and business;
- Management's development and implementation of an annual financial operating plan and a multi-year strategic business plan, and our progress meeting these financial and strategic plans;
- The assessment of operational performance, the importance of environmental health and safety programs and the Company's performance with respect to key technologies;
- The corporate audit function, our independent registered public accounting firm, and the integrity of our consolidated financial statements; and
- The establishment, maintenance, and administration of appropriately designed compensation programs and plans.

The Board is also responsible for:

- Reviewing, monitoring, and approving succession plans for the Board, our CEO and other key executives to promote senior management continuity;
- Conducting an annual self-evaluation of the Board and its committees;
- Identifying and evaluating director candidates and nominating qualified individuals for election to serve on our Board; and
- Reviewing our CEO's performance and approving the compensation for our CEO and other executive officers.

Our Board currently has twelve members. Our Articles of Association provide that the Board will consist of at least nine members, including at least one executive director who will be the CEO. The Rules for the Board provide that the Board, in its sole discretion, will determine the size of the Board in accordance with our Articles of Association, our nomination agreement with Access Industries and applicable law or regulation, including the listing standards of the New York Stock Exchange ("NYSE"), provided that the Board will have no more than twelve members. All directors are elected annually in accordance with our Articles of Association.

The members of the Board are elected by the general meeting of shareholders from a list of nominees that is selected and approved by the Board. Pursuant to our Articles of Association, the nominations are binding but may be overridden by two-thirds of the votes cast at the meeting if those two-thirds votes constitute more than one-half of the issued share capital of the Company.

Our goal is to have a Board that provides effective oversight of the Company through the appropriate balance of experience, expertise, skills, competencies, specialized knowledge, and other qualifications and attributes. Director candidates also must be willing and able to devote the time and attention necessary to engage in relevant, informed discussion and decision-making. Our Nominating and Governance Committee focuses on Board succession planning and refreshment and is responsible for recruiting and recommending nominees to the full Board for election. The Committee considers the qualifications, contributions, and outside commitments of each current director in determining whether he or she should be nominated for reelection. Many of our directors serve on the boards and board committees of other companies, and the Committee believes this service provides additional experience and knowledge that improve the functioning of our own Board. Our Board Profile, which is available on our website, provides general principles for the composition, expertise, background, diversity and independence of the Board and guides our Nominating and Governance Committee on the nomination and appointment of directors.

Our Board considers diversity a priority and seeks representation across a range of attributes, including race, gender, ethnicity, and nationality. Our Board remains committed to increasing the representation of women in its membership and targets at least one-third female directors, alongside continued focus on increasing the racial and ethnic diversity of the Board, provided that no current director is required to resign to achieve our target. While we have not yet achieved our goal of having at least one-third female directors, which was originally targeted by 2023, our current director nominees include three women. Our Nominating and Governance Committee is continuing to evaluate candidates to fill the vacancy on our Board following our 2023 annual general meeting. In accordance with our Corporate Governance Guidelines, the Committee and any outside search firms engaged to assist in identifying potential director candidates include women and minority candidates in each pool from which a director candidate is selected. These recruitment efforts are evidenced by our current Board composition and the qualities and qualifications of each of our nominees.

Below shows information for each member of our Board as of April 5, 2023.

Jacques Aigrain, French-Swiss, 68, Chair of the Board of Directors, Non-Executive Director since 2011, Chair since 2018

Mr. Aigrain is our Chair of the Board and a retired Senior Advisor and Partner of Warburg Pincus, a global private equity firm. Prior to joining Warburg Pincus in 2013, Mr. Aigrain served as Chief Executive Officer of Swiss Re, a publicly traded insurance company, and was Co-Global Head of M&A and Head of Financial Institutions at J.P. Morgan. He also has many years of experience as a director of public and multinational organizations, including The London Stock Exchange Group plc and WPP plc, a multinational advertising and public relations company, and currently, Clearwater Analytics Holdings Inc., a maker of financial software products, and TradeWeb Markets Inc., an international financial services company. Mr. Aigrain's more than 30 years of financial services and management experience provide him with expertise in all areas of strategy, mergers and acquisitions, finance, and capital markets. Additionally, he brings substantial knowledge of board- and governance-related matters.

Lincoln Benet, American-British, 59, Non-Executive Director since 2015

Mr. Benet has served as Chief Executive Officer of Access Industries, a privately held industrial group with world-wide holdings, since 2006. Prior to joining Access, he spent 17 years at Morgan Stanley, including as Managing Director. Mr. Benet also has experience serving on the boards of several privately held and publicly traded companies, including those in the investment, music and publishing, oil and gas pipes and tubing, cement, sports media, and petrochemicals industries. As a result of this background, he brings to our board a working knowledge of global markets, mergers and acquisitions, executive management, strategic planning, and corporate strategy, as well as experience with international finance, including corporate finance matters such as treasury, insurance, and tax. Mr. Benet also serves as a director of Warner Music Group Corp.

Jagjeet Bindra, American, 75, Non-Executive Director since 2011

Mr. Bindra is a retired executive of Chevron, a multinational energy corporation, where he spent 32 years in senior leadership positions and retired as President of the company's worldwide manufacturing operations. Mr. Bindra holds a master's degree in chemical engineering, as well as business administration, and started his career at Chevron as a research engineer before progressing to increasingly senior positions, including the roles of Manager of Strategic Planning and Group Manager of Projects & Engineering Technology. His education and background provide him with extensive knowledge of global manufacturing, capital project management, engineering technology, strategic business planning, and health, safety, and environmental and operations matters. Mr. Bindra has served as a director of multiple private and publicly traded companies, including Edison International and its subsidiary, Southern California Edison, WorleyParsons, and Transocean Ltd., and he has broad knowledge of board and governance matters. Mr. Bindra currently serves as a member of the board of HPCL-Mittal Energy Limited (India).

Robin Buchanan, British, 71, Non-Executive Director since 2011

Mr. Buchanan has previously served as Dean and President of London Business School, the Chairman of PageGroup plc, a global specialist recruitment company, a director of Schroders plc, a global asset management firm, a director of Cicap Ltd, a global private equity firm, and a director of Bain & Company Inc., a global business consulting firm. As the former UK Senior Partner, he continues to serve in an advisory role to Bain. Mr. Buchanan also serves as an advisor to Access Industries and Non-Executive Chairman of its Advisory Board, which advises on portfolio strategy. Mr. Buchanan's experience as a board member of publicly traded, private, and charitable companies, Dean of a leading Business School, and long tenure with Bain provide him with deep experience in strategy, leadership, board effectiveness, business development, and acquisitions across most industry sectors, including considerable involvement with chemicals and energy in Europe. He also brings a wealth of experience in board and governance matters, particularly as related to multi-national companies. Mr. Buchanan is a Chartered Accountant and a published author on strategy, acquisitions, leadership, board effectiveness, corporate governance, and compensation.

Anthony (Tony) Chase, American, 68, Non-Executive Director since 2021

Mr. Chase is the Chairman and Chief Executive Officer of ChaseSource, L.P., a staffing, facilities management, and real estate development firm founded by him in 2006 and recognized as one of the nation's largest minority-owned businesses by Black Enterprise Magazine. Prior to ChaseSource, Mr. Chase founded and sold three successful ventures: Chase Radio Partners, Cricket Wireless and ChaseCom. He is also a principal owner of the Marriott Hotel at George Bush Intercontinental Airport in Houston and the Principle Toyota dealership in greater Memphis. He currently serves as a director of Cullen/Frost Bankers, a financial holding company, Nabors Industries, an operator of drilling rig fleets and provider of offshore platform rigs, and Par Pacific Holdings, Inc., an oil and gas exploration and production company. Mr. Chase chairs the City of Houston/Harris County COVID-19 Relief Fund and co-chaired the City of Houston/Harris County Hurricane Harvey Relief Fund. He is also a Professor of Law Emeritus at the University of Houston Law Center, a member of the Council on Foreign Relations, and serves on the board of numerous Houston-based non-profits including the Houston Endowment, the Greater Houston Partnership, the Greater Houston Community Foundation, the M.D. Anderson Board of Visitors, and the Texas Medical Center. He previously served as Deputy Chairman of the Federal Reserve Bank of Dallas. Mr. Chase is an honors graduate of Harvard College, Harvard Law School and Harvard Business School. He has received many awards, including the American Jewish Committee's 2016 Human Relations Award, Houston Technology Center's 2015 Entrepreneur of the Year, NAACP 2013 Mickey Leland Humanitarian Award, GHP 2013 Bob Onstead Leadership Award, the 2012 Whitney M. Young Jr. Service Award, Ernst & Young's Entrepreneur of the Year Award, Bank of America's Pinnacle Award and UH Law Center's Baker Faculty Award. He is also an Eagle Scout. Mr. Chase has deep entrepreneurial experience as the founder of four successful ventures, as well as extensive experience serving on public company boards and in corporate governance.

Nance Dicciani, American, 75, Non-Executive Director since 2013

Ms. Dicciani is a retired senior executive and chemical engineer. She spent her early career in research and development at Air Products and Chemicals, and then joined Rohm and Haas, a specialty chemicals manufacturer, as business director for the Petroleum Chemicals Division. After 10 years with Rohm and Haas in which she rose to the level of Senior Vice President, Ms. Dicciani became President and Chief Executive Officer of Honeywell Specialty Materials, also a chemicals manufacturer. Ms. Dicciani served on the Executive Committees of the American Chemistry Council and the Society of Chemical Industry and was appointed by George W. Bush to the President's Council of Advisors on Science and Technology. Her background provides her with specific industry knowledge and an understanding of manufacturing, health, safety, and environmental matters; insight into the competitive landscape relevant to our industry; and a wealth of experience in all areas of executive management. Ms. Dicciani also has extensive experience in board and governance matters and has served as a director of several public companies, including Linde, an industrial gases company, and AgroFresh Solutions, an agricultural technology company.

Robert (Bob) Dudley, American-British, 67, Non-Executive Director since 2021

Mr. Dudley is Chairman of the international industry-led Oil and Gas Climate Initiative and Chair of the Accenture Global Energy Board, and has dedicated his career to the service of the international energy industry. He served as the Group Chief Executive of BP plc, a global energy provider, from 2010 until his retirement in March 2020. He was appointed to the board of BP in 2009 with accountability for the Americas and Asia, and previous executive roles with BP include Alternative and Renewable Energy activities and responsibility for BP's upstream business in Russia, the Caspian region, and Africa. Mr. Dudley is a chemical engineer and a Fellow of the Royal Academy of Engineering. As the former CEO of a multinational oil and gas company, he has acquired extensive executive management experience and knowledge of the energy industry. He also has significant experience in strategic planning, risk management (including risks related to climate), international operations, and health, safety, and environmental and operations matters. Mr. Dudley currently serves as a director of Freeport-McMoRan Inc.

Claire Farley, American, 64, Non-Executive Director since 2014

Ms. Farley is a former advisor to KKR Energy Group and a retired executive in the oil and gas exploration and production industry. Ms. Farley served in several roles with KKR Energy Group from 2011 to 2021, including as Vice Chair from 2016 to 2017 and as a member of KKR Management LLC, the general partner of a global investment firm, from 2013 to 2015. Prior to joining KKR, Ms. Farley served as Chief Executive Officer of Randall & Dewey, an oil and gas asset transaction advisory firm. She became Co-President and then Senior Advisor at Jeffries & Company after Randall & Dewey became its oil and gas investment banking group, and then co-founded RPM Energy, a privately-owned oil and natural gas exploration and development company. Ms. Farley brings to the Board experience in business development, mergers, acquisitions, and divestitures, as well as knowledge of the chemical industry's feedstocks and their markets. She also has experience in all matters of executive management and a deep understanding of public company and governance matters due to her current and prior service on the boards of companies including Anadarko Petroleum Corporation, Crescent Energy Company, and TechnipFMC.

Michael Hanley, Canadian, 57, Non-Executive Director since 2018

Mr. Hanley has more than 25 years of experience in senior management and finance roles, including as Chief Financial Officer of Alcan, a Canadian mining company and aluminum manufacturer, President and CEO of Alcan's Global Bauxite and Alumina business group, and Senior Vice President, Operations & Strategy of the National Bank of Canada. He brings strong financial and operational experience, deep knowledge of capital-intensive and process industries, experience with U.S. and international accounting standards, and a broad understanding of international markets. Mr. Hanley also has significant experience on public company boards and in the role of audit committee chair, and an appreciation for corporate governance matters and the board's role in financial oversight. He is currently a member of the Quebec Order of Chartered Professional Accountants. Mr. Hanley serves as a director for EQB Inc. and Nuvei Corporation.

Virginia Kamsky, American, 69, Non-Executive Director since 2022

Ms. Kamsky is the Chair and Chief Executive Officer of Kamsky Associates, Inc., a firm she founded in 1980 as the first U.S. advisory firm approved to provide strategic advisory services in China. Ms. Kamsky began her career at Chase Manhattan Bank (now JPMorgan Chase Bank) and served in various capacities of increasing seniority, including as Second Vice President of Chase and head of Chase's Corporate China Division. She has also served as a member of the US Secretary of the Navy Advisory Panel from 2009 to 2017 and as Chairman and CEO of China Institute in America from 2003 to 2013. She has been awarded the Navy Distinguished Civilian Service Award, the highest honorary award the Secretary of the Navy can confer on a civilian employee, selected as one of America's 25 Top Asia Hands by Newsweek Magazine, and recognized as an Outstanding Public Company Director by the Financial Times. Ms. Kamsky brings with her a strong background in strategy and deep knowledge of the Asia-Pacific market. She also has extensive public company board experience, including at W.R. Grace & Co., Sealed Air Corporation, Olin Corporation, Tecumseh Products Company, Foamex International, Tate & Lyle PLC, Shorewood Packaging, Spectrum Brands, Kadem Sustainable Impact Corp. and, currently, at Dana Incorporated.

Albert Manifold, Irish, 60, Non-Executive Director since 2019

Mr. Manifold has been the Group Chief Executive and a director of CRH plc, an international group of diversified building materials businesses supplying the construction industry, since 2014. Mr. Manifold joined CRH in 1998 and advanced to increasingly senior roles, including Finance Director of the Europe Materials Division, Group Development Director, Managing Director of Europe Materials, and Chief Operating Officer (2009 to 2014). Prior to joining CRH, Mr. Manifold was Chief Operating Officer of Allen McGuire & Partners, a private equity group. As a sitting CEO with a background in other senior management roles, Mr. Manifold has acquired extensive leadership experience in competitive industries. In addition, he has significant knowledge of corporate finance, capital markets, strategic planning, and international operations. Mr. Manifold is also a Fellow of the Institute of Certified Public Accountants in Ireland.

Peter Vanacker, Belgian-German, 57, Executive Director since 2022

Mr. Vanacker has served as our Chief Executive Officer since May 2022. Mr. Vanacker previously served as the President, CEO and Chair of the Executive Committee of Neste Corporation, a renewable products company, a position he held since 2018. Prior to his role at Neste, he served as CEO and Managing Director of CABB Group GmbH, a fine chemicals producer, from 2015 to 2018 and as CEO and Managing Director of Treofan Group, a manufacturer of polypropylene films, from 2012 to 2015. He previously served as Executive Vice President and Member of the Executive Board of Bayer Material Science (now, Covestro AG), a polymers and plastics producer, with responsibility for the global polyurethanes business and as Chief Marketing and Innovation Officer. Mr. Vanacker's extensive experience in the oil and gas and chemicals industries, including CEO and senior leadership experience, provide him with a deep understanding of the Company's industry, operations, and feedstocks. He also brings a strong understanding of circularity and sustainability issues. Mr. Vanacker also serves as a member of the Supervisory Board of Symrise AG.

Independence of Board Members

Our Board annually reviews the independence of its members. In February 2023, the Board affirmatively determined that all of our non-executive directors and director nominees are independent under the rules of the NYSE.

The Board has adopted categorical standards of independence that meet, and in some instances exceed, the requirements of the NYSE. In order to qualify as independent under our categorical standards, a director must be determined to have no material relationship with LyondellBasell other than as a director. The categorical standards include strict guidelines for non-executive directors and their immediate families regarding employment or affiliation with LyondellBasell and its independent registered public accounting firm. Our categorical independence standards are included in our Corporate Governance Guidelines and can be found on our website at www.LyondellBasell.com.

The Board has determined that there are no relationships or transactions that prohibit any of our non-executive directors or nominees from being deemed independent under the categorical standards and that each of our non-executive directors and nominees is independent. In addition to the relationships and transactions that would bar an independence finding under the categorical standards, the Board considered all other known relationships and transactions in making its determination. In determining that no known transactions or relationships affect the independence of any of the non-executive directors, the Board considered that all of the identified transactions are ordinary course and none of the dollar amounts involved were material to the Company or the relevant counterparty.

The Board was also made aware of, and considered the fairness of, certain transactions and relationships between the Company and other organizations where our directors have relationships. These transactions and relationships were also considered in evaluating the independence of our directors and director nominees.

In particular, Messrs. Bindra, Buchanan and Chase and Ms. Dicciani and Ms. Kamsky each served as directors or advisors of companies with which LyondellBasell had commercial transactions in 2022. Each of these transactions was entered into on an arm's-length basis in the ordinary course of business, and no director initiated or participated in negotiation of the relevant purchases or sales or had any material interest in, or received any compensation in connection with, these transactions. In each case, the payments made or received by LyondellBasell fell below the greater of \$1 million or 2% of the other company's annual gross revenue.

Additionally, the Board determined that notwithstanding the relationships between certain directors and the Company's largest shareholder, Access Industries, these directors are independent for purposes of NYSE listing standards and the Company's categorical standards. However, under the Dutch Corporate Governance Code, a director is not considered to be independent if he is a representative in some way of an entity which holds at least 10% of the Company's shares. The Dutch Corporate Governance Code further provides that there should be no more than one director at any time who can be considered to be affiliated with or representing such a 10% shareholder. Although our Board has determined that each of Messrs. Benet and Buchanan and Ms. Kamsky is independent for the purposes of the NYSE listing standards and the Company's categorical standards, their nomination by Access Industries renders them not independent under the Dutch Corporate Governance Code, and the Company does not meet the requirement that there be no more than one director representing Access Industries as described above. Our Board believes that application of the NYSE independence standards is more appropriate for LyondellBasell, which is listed only on the NYSE and not on any exchange in the Netherlands. Our Board further believes that the service of Access nominees on the Company's key independent committees provides those committees with shareholder perspective and the significant skills, experience and qualifications of these directors, to the benefit of the Board, the Company, and our stakeholders more generally. In the opinion of the Board, each of the other independence requirements set forth in sections 2.1.7 through 2.1.9 of the Dutch Corporate Governance Code has been fulfilled.

Meetings and Board Committees

The Board currently has six standing committees, each consisting entirely of independent directors: (1) Audit Committee, (2) Compensation and Talent Development (“C&TD”) Committee, (3) Nominating and Governance Committee, (4) Health, Safety, Environmental, and Sustainability (“HSE&S”) Committee, (5) Finance Committee, and (6) Executive Committee.

Our C&TD Committee, Nominating and Governance Committee and HSE&S Committee meet in connection with each regularly scheduled Board meeting (other than the Board's strategy session held in July) and hold additional meetings as needed, while other committees meet independently as the matters under their respective responsibilities require. Committees regularly receive reports from LyondellBasell management, report on committee actions to the Board, and may retain outside advisors.

In 2022, the Board held six regularly scheduled meetings. Our directors' average attendance rate at Board and committee meetings was 98%, and each of our directors attended at least 90% of the meetings of the Board and committees of which he or she was a member. Our Chair is a member of the Nominating and Governance Committee, Finance Committee and Executive Committee and regularly attends meetings of the Audit Committee and the C&TD Committee. Although the Company does not maintain a policy regarding directors' attendance at its general meetings of shareholders, both our Chair and CEO attend the Company's annual general meeting each year and will attend the 2023 annual general meeting of shareholders.

The table below provides membership and meeting information for each of the Board’s standing committees as of 5 April 2023. During 2022, the Board also formed a special committee to review our Company’s strategy with Mr. Vanacker, including the organizational and leadership changes implemented in October 2022. This committee was chaired by Mr. Aigrain and comprised five independent directors and Mr. Vanacker and met four times in 2022.

Name	Audit	Compensation & Talent Development	Nominating & Governance	HSE&S	Finance	Executive
Jacques Aigrain			●		●	Chair
Lincoln Benet			●		Chair	●
Jeet Bindra ⁽¹⁾	●			Chair		●
Robin Buchanan			●	●		
Tony Chase	●	●				
Nance Dicciani ⁽¹⁾		Chair			●	●
Bob Dudley				●	●	
Claire Farley	●		Chair			●
Michael Hanley	Chair	●				●
Virginia Kamsky		●		●		
Albert Manifold		●		●		
Peter Vanacker						
2022 Meetings	5	6	4	5	5	0 ⁽²⁾

(1) Mr. Bindra and Ms. Dicciani have reached our mandatory retirement age and are not standing for re-election to the Board.

(2) The Executive Committee meets on an as-needed basis to discuss coordination among the Board and its committees, collaborate on meeting agendas, and discuss ad-hoc issues. The Committee did not hold any meetings in 2022.

Each of our committees has a written charter, approved by the Board. The charters can be found on our website at www.LyondellBasell.com by clicking on “Investors,” then “Corporate Governance,” then “Board of Directors.” Each committee annually reviews and recommends any changes to its charter and conducts an evaluation of committee performance with respect to delegated duties and responsibilities.

Audit Committee

The Audit Committee is responsible for overseeing all matters relating to our financial statements and reporting, our internal audit function and independent auditors, and our compliance function. Listed below are the general responsibilities of the Audit Committee.

- *Independent Auditor*—Engage external auditor, review performance and approve compensation; review independence and establish policies relating to the hiring of auditor employees; and pre-approve audit and non-audit services;
- *Internal Audit*—Review plans, staffing and activities of the internal audit function and its effectiveness;
- *Financial Statements*—Review financial statements and earnings releases; discuss and review accounting policies and practices and external auditor reviews; and discuss and review the effectiveness of internal controls;
- *Risk Management*—Monitor the Company’s major financial and other risk exposures, including oversight of the Company’s policies and guidelines with respect to risk assessment and management, information technology and cybersecurity risks; and
- *Compliance*—Review plans, staffing and activities of the compliance function and its effectiveness; establish and review procedures for complaints, including anonymous complaints regarding accounting, controls and auditing; and review the Company’s Code of Conduct and system for monitoring compliance therewith.

Our Board has determined that all Audit Committee members are independent under the NYSE listing standards, our categorical standards, and the heightened independence requirements applicable to audit committee members under U.S. Securities and Exchange Commission (“SEC”) rules. Our Board has also determined that all Audit Committee members are financially literate in accordance with the NYSE listing standards and that Mr. Hanley and Mr. Chase qualify as audit committee financial experts under SEC rules.

Compensation and Talent Development Committee

The C&TD Committee is responsible for overseeing our executive compensation, talent management and diversity, equity and inclusion (“DEI”) programs and developing the Company's compensation philosophy.

In fulfilling its responsibility for the oversight of compensation matters, the C&TD Committee may delegate authority for day-to-day administration and interpretation of the Company's compensation plans to Company employees, including responsibility for the selection of participants, determination of award levels within plan parameters, and approval of award documents. The C&TD Committee may not, however, delegate authority for matters affecting the compensation and benefits of the Company's executive officers.

The C&TD Committee's responsibilities include the following:

- *Executive Compensation*—Approve the compensation and benefits of executive officers; review executive compensation practices to ensure consistency with corporate objectives; review and approve CEO goals and objectives and evaluate CEO performance; and make recommendations to the Board regarding CEO and other executive officer compensation;
- *Company Compensation and Benefits*—Review the Company's compensation philosophy, programs and practices; review and approve pension and benefit arrangements as well as funding of pension and benefit plans; review pay equity for the Company; and make recommendations to the Board on these subjects; and
- *Talent Management*—Review the Company's organizational leadership structure and oversee leadership development, talent management, DEI initiatives, and succession and continuity planning for the CEO and other executive officers.

Our Board has determined that all C&TD Committee members are independent under the NYSE listing standards, our categorical standards and independence requirements applicable to compensation committee members under NYSE rules.

Compensation Committee Interlocks and Insider Participation—No member of the C&TD Committee serves or has served as an officer or employee of the Company or any of our subsidiaries and, during 2022, no executive officer served on the compensation committee or board of any entity that employed any member of our C&TD Committee or Board.

Nominating and Governance Committee

The Nominating and Governance Committee is primarily responsible for identifying nominees for election to the Board and overseeing matters regarding corporate governance.

To fulfill those duties, the Nominating and Governance Committee has the responsibilities summarized below:

- *Directors and Director Nominees*—Identify and recommend candidates for membership on the Board and recommend committee memberships;
- *Director Compensation*—Evaluate and recommend director compensation;

- *ESG & Corporate Governance*—Review the Company's environmental, social and governance (“ESG”) profile and make necessary recommendations; review and propose modifications to the Company's governance documents and policies; review ESG strategy and ratings; and review and comment on shareholder proposals; and
- *Administrative*—Coordinate evaluations by committees and the full Board.

Health, Safety, Environmental & Sustainability Committee

The HSE&S Committee assists the Board in its oversight responsibilities by assessing the effectiveness of health, safety, environmental, and sustainability programs and initiatives that support Company policies.

The specific responsibilities of the HSE&S Committee are summarized below:

- *HSE*—Review and monitor the Company's health, safety and environmental policies and performance results, including processes to ensure compliance with applicable laws and regulations; review with management environment, health, safety, and product stewardship issues that can have a material impact on the Company; and review the status of related policies, programs and practices;
- *Sustainability*—Provide oversight of the Company’s sustainability programs, initiatives, and activities; review with management relevant sustainability risks and trends; and monitor the Company’s progress on sustainability targets, ambitions, and reporting; and
- *Audit*—Review and approve the scope of the Company's health, safety and environmental audit program; regularly monitor audit program results; and review and approve the annual budget for the health, safety and environmental audit program.

Finance Committee

The Finance Committee is responsible for monitoring and assessing such matters as the Company's capital structure and allocation, strategic transactions, debt portfolio, and tax and derivative strategies. In fulfilling its duties, the Finance Committee has the responsibilities summarized below:

- *Strategy*—Review analyses and provide guidance and advice regarding acquisitions and divestments and discuss and review the Company's tax strategies, planning and related structures;
- *Capital*—Review the Company's capital structure and capital allocation, including organic and inorganic investments; review and discuss the Company's dividend policy; and review and discuss share repurchase activities and plans; and
- *Securities and Financing*—Review and discuss the Company's debt portfolio, credit facilities, compliance with financial covenants, commodity, interest rate and currency derivative strategies, and proposed securities offerings.

Executive Committee

The Executive Committee consists of the Board Chair and chairs of each of the other Board committees. The role of the Executive Committee is to facilitate and improve communication and coordination among members of the Board and its committees. It does so by, among other things, collaborating on agenda setting and discussing ad-hoc issues.

2.7.1 Evaluation of the Board of Directors and its Individual Members

Our Board and its committees evaluate their own effectiveness by participating in a robust annual self-assessment process overseen by the Nominating and Governance Committee. Each year, directors respond to survey questions soliciting information used to improve the effectiveness of the Board and its committees and individual directors. The Nominating and Governance Committee periodically engages independent outside consultants, including most recently in 2020, to conduct interviews with the Board and facilitate the evaluation process. The Nominating and Governance Committee intends to continue engaging third parties periodically in order to refresh and bring an outside perspective to the evaluation process.

For 2022, the Board conducted its evaluation process as described below.

Development and Approval of Evaluation Process and Topics

In September 2022, the Nominating and Governance Committee discussed and approved the overall process and timeline for the 2022 evaluation cycle. The Nominating and Governance Committee approved the topics and questions for distribution to the individual Board members. Questions were largely consistent with those used in prior cycles, with the addition of questions to cover topical matters and deletion of questions related to the pandemic and CEO selection process. As in prior cycles, the Committee approved an individual evaluation process for the Chair, to be facilitated through survey questions specific to his role.

Distribution of Surveys

In late 2022 and early 2023, Board members provided responses to the surveys anonymously. In parallel, senior executives provided their views of Board effectiveness and interactions with management through confidential survey responses provided to the Corporate Secretary.

Key areas covered in the Board and committee surveys include membership; responsibilities; functionality; meetings; strategy; senior management (including succession planning); focus on performance; ensuring financial robustness; building corporate reputation; and matching risk with return. Committee members are also asked to consider whether each committee is functioning in compliance with its charter and keeping the Board adequately informed, and to review the committee's member skill sets and leadership. Survey questions for the individual Chair assessment focused on effective management of meetings and facilitation of constructive relationships and communication among Board members and with management.

Reporting and Board Review of Results

The Corporate Secretary compiled feedback from the self-evaluation process, including feedback from senior executives, which was discussed during the February 2023 Committee and Board meetings in executive sessions.

Response to Director Assessment

Policies and practices were evaluated based on the self-assessment results to consider potential enhancements to Board processes and identify the most effective existing practices. The Nominating and Governance Committee also considered director feedback in recommending the nomination of continuing directors for reelection.

Feedback from the process will also be used to refresh the evaluation process and adjust areas of focus for surveys used in 2023 and future assessments.

2.7.2 Compensation of the Board of Directors

Non-Executive Members of the Board

Our Nominating and Governance Committee reviews director compensation on an annual basis and recommends any changes in compensation determined advisable. The Board seeks to award compensation that fairly compensates directors for the work required by membership on our Board and aligns director interests with those of our shareholders. The Nominating and Governance Committee periodically receives advice from Pearl Meyer & Partners, LLC, the Board's independent compensation consultant, on director compensation practices and gives consideration to the qualifications and caliber of the Company's directors and significant commitment required for service on our Board, including the additional time and effort required by overseas travel for many of our Board meetings.

Following its annual review in November 2022, the Nominating and Governance Committee recommended no changes to director compensation and approved the continuation of the existing director compensation policy as further described below. No increases to director pay have been approved since 2014, apart from an increase in the annual retainer for the Board Chair in connection with the election of Mr. Aigrain to the role in 2018 and the expansion of Chair duties and time commitment and travel required for the role.

Our non-executive directors receive cash compensation and equity compensation, in the form of restricted stock units ("RSUs"), for their service on the Board and its committees. Members of the Board have the option to elect to receive all or a portion of the cash component of their compensation in Company shares. Our CEO does not receive any additional compensation for his service as a director.

Board Retainer	Cash	\$115,000 (\$325,000 for Chair)
	RSUs	Valued at \$170,000 (\$325,000 for Chair)
Committee Retainers (excluding Executive Committee)	Members	\$10,000 (\$15,000 for Audit Committee)
	Chairs	\$20,000 (\$27,500 for Audit and C&TD Committee Chairs)

In addition to the retainers shown above, we provide members of the Board with a cash payment of \$5,000 for each intercontinental trip taken in performing board service.

Share Ownership Guidelines

Members of our Board are subject to Share Ownership Guidelines. Under the Share Ownership Guidelines, non-executive directors are prohibited from selling any shares of the Company until they own shares that are valued at no less than six times their annual cash retainer for Board service. Under the guidelines, only shares beneficially owned and RSUs (net of the anticipated tax obligation on vesting, estimated for these purposes at 50%) count towards meeting the ownership thresholds. Once a director has reached his or her required ownership level, he or she may not sell shares that would bring ownership below the threshold level.

Prohibition on Hedging and Pledging Shares

Pursuant to our Policy Prohibiting Insider Trading, directors are prohibited from purchasing, selling, or writing options on the Company's shares, engaging in short sales, participating in other derivative or short-term purchase or sale transactions, or otherwise engaging in transactions that would enable them to hedge against any decrease in our share price. Directors are also prohibited from pledging Company shares as collateral for personal loans or other obligations, including holding shares in a brokerage margin account. These restrictions extend to directors' immediate family members and certain related entities and are intended to keep the interests of our directors aligned with the long-term interests of the Company and our shareholders.

Executive Director

The compensation that was paid to our executive director, Mr. Vanacker, during 2022 was based on his duties as CEO of the Company and determined in accordance with the compensation program for the Company's executive officers.

Our executive compensation program is designed to:

- Take into account the realities of a cyclical, commodity industry and reward differential performance;
- Align the interests of management with those of our shareholders;
- Encourage both short-term and long-term results;
- Attract, retain, and incentivize the highest caliber team possible;
- Enable us to pay high achievers above-market median compensation based on individual performance, potential, and impact to the Company's results;
- Recognize and maintain the Company's market-leading position in HSE performance, costs, and business performance; and
- Emphasize the Company's deep commitment to sustainability and increased focus on value creation.

Our compensation program for our executive officers, including our executive director, is structured to incorporate the following compensation components:

Component	Objective	Key Features	Performance-Based
Base Salaries	Provide a regular fixed income in recognition of job responsibilities	Determined when executives are hired or promoted into their position and reviewed annually	Individual performance is a key driver of any annual base salary adjustment. Increases are not guaranteed and must be approved by the Compensation and Talent
Short-Term Incentives	Incentivize executives by aligning their compensation with key annual objectives and the results that are achieved	Target value of annual bonus is determined as a percentage of base salary. Executives earn from 0 to 200% of target based on Company results and (for executives other than CEO) individual performance.	Payout is determined by the Compensation and Talent Development Committee based on corporate performance and achievement of individual goals
Long-Term Incentives	Encourage executives to increase shareholder value over the long term and support talent retention	<p>Target value of LTI awards at grant is determined as a percentage of base salary</p> <p>PSUs – three-year performance period, vest from 0 to 200% of target</p> <p>RSUs – generally cliff vest after three years</p> <p>Options – vest ratably over three years; expire ten years from grant; exercise price is fair market value at date of grant</p>	<p>Value of all LTI awards varies in relationship to changes in share price</p> <p>PSUs pay out based on Company performance, as determined by the C&TD Committee.</p>

Perquisites and Other Benefits: Our executive director receives the same benefits generally provided to all of our employees, which include vacation allowances, Company matching under our 401(k) plan, Company contributions to our defined benefit pension plan, and health and welfare benefits. The perquisites received by our executive director that are not offered to all employees include:

- Annual executive physical;
- Financial, tax, and estate planning—the Company will reimburse up to \$15,000 of expenses; and
- Matching under the U.S. Deferral Plan—the Company makes contributions to the U.S. Deferral Plan for amounts that exceed the IRS base salary limits on matching under our 401(k) plan and contributions to our defined benefit pension plan. The value of the matching contributions is 11% for all base salary compensation in excess of the IRS limits.

From time to time, the Company provides other benefits to our executive director that are intended for business purposes, including tax equalization payments, limited personal use of private aircraft or payment for accompanying spouse travel, relocation benefits, and the payment of business club memberships or dues.

Tax equalization payments are designed to make the executive director whole if he incurs income tax in jurisdictions other than his country and/or state of residence. For example, executives may travel to other jurisdictions on Company business and may be taxed based on days worked in those jurisdictions. If, and only to the extent, those additional taxes cannot be offset against the executive's regular income tax liability (such as in the form of credits), the Company will reimburse an amount sufficient to make the executive's tax liability equal to the full income tax for his jurisdiction of residence only.

The Company has agreements with Flexjet LLC for a fractional ownership interest in and use of private aircraft. The primary use of the Flexjet aircraft is for business purposes, with limited personal use when adjacent to business purposes. From time to time the executive director's spouse, family members or personal guests may accompany our executive officers on Flexjet aircraft. The Company may also pay or reimburse the cost of occasional spouse travel related to business trips. When approved travel of a family member or guest is imputed as income to the executive director, we reimburse the additional income tax incurred. During 2022, Mr. Vanacker had flights that were considered taxable. The imputed income will be reported and taxed in 2023 with no tax reimbursements for these specific flights.

Competitive Positioning and our Peer Group

Annually, the C&TD Committee reviews the total target direct compensation for each of our executive officers, including our executive director, which includes base salaries, target bonuses, and the grant date value of long-term incentive awards. The Committee strives to set total target direct compensation and each individual component of compensation near the median compensation levels of our peer group companies, while considering other factors described below. A large portion of the total target direct compensation opportunity is directly tied to the achievement of financial and operational metrics that measure our performance in both absolute terms and relative to peers.

The Committee reviews publicly available financial and compensation information reported by our peer group companies and general survey data. The survey data used to inform the Committee's 2022 compensation decisions was collected from the 2021 Willis Towers Watson Executive Compensation Database. This survey data reflects a combination of general industry and chemical industry compensation for executives with responsibilities similar to those of our executives.

The Committee reviews the peer group and survey data to determine the median compensation for each executive's position and then sets each executive's base salary and compensation targets for the current year. This generally involves establishing an annual bonus target and the target value of long-term incentive awards as a percentage of base salary. Median compensation is used as a reference point for pay recommendations. Actual pay and targets vary from median based on the executive's industry experience; experience and performance in his or her role and at the Company; value of the role to the Company; internal pay parity among our executives; and any other factors the Committee deems relevant.

The compensation peer group is also used more generally when the Committee reviews our compensation program design, including the types of compensation awarded and the terms and conditions of compensation components.

CEO Pay Ratio

Pursuant to the rules established by the SEC, we were required to undertake an analysis of the ratio of the compensation paid to our Chief Executive Officer to total annual compensation of the global median employee in 2022:

- The annual total compensation of the global median employee of our company (other than Mr. Vanacker, our CEO), was \$93,846.
- The annualized total compensation of Mr. Vanacker, our CEO, was \$17,557,450.
- Based on this information, the ratio of the annual total compensation of our CEO to the annual total compensation of the global median employee is 187 to 1.

For purposes of determining our CEO's annual total compensation, we elected to use the annualized compensation of Mr. Vanacker, who has served as our CEO since May 23, 2022.

We understand that the CEO pay ratio is intended to provide greater transparency to annual CEO pay and how it compares to the pay of the median employee. As such, we are providing a supplemental ratio that compares the CEO's total target pay of \$13,386,554, which includes Mr. Vanacker's annualized base salary, annual bonus and annual equity grant target, but excludes the special one-time cash signing bonus and equity signing bonus, which were inducements to join the Company, to the pay of the median associate. We believe this supplemental ratio reflects a more representative comparison. The resulting supplemental CEO pay ratio is 143 to 1.

Per SEC rules, for 2022, we identified a new global median employee based on 2022 compensation and the employee population. The global median employee for fiscal year 2022 was identified by examining the 2022 total compensation for all regular full- and part-time employees who were actively employed by the Company on December 31, 2022 and students and interns who were hired for partial periods during 2022. For these employees, annual compensation was calculated using methodology and guidelines consistent with the approach used to determine our median employee for 2018 and 2019.

- To find the annual total compensation of all of our employees (other than our CEO), we considered all gross and net components of compensation (including short- and long-term incentives) received by each employee and documented in the year-end payroll records for 2022.
- Compensation for full- and part-time employees hired during 2022 and still active as of December 31, 2022 was annualized. Compensation for all students and interns hired for partial periods during 2022 was not annualized.
- Annual compensation for expatriate employees and employees involved in permanent cross-border transfers during 2022 was calculated using all relevant country payroll records.

After identifying the global median employee, we calculated 2022 total compensation for the selected employee using the same methodology used for our CEO.

2.8 Corporate Governance and Risk Management

2.8.1 Corporate Governance Statement

We monitor and assess applicable Dutch, U.S., and other relevant corporate governance codes, rules, and regulations. We are subject to the Dutch Corporate Governance Code (the "Code"), as we are a listed company with its statutory seat in the Netherlands. As a NYSE-listed company, we also are required to comply with the U.S. Sarbanes-Oxley Act of 2002, as well as NYSE listing rules, and the rules and regulations promulgated by the SEC. As an overseas company, with executive offices in the United Kingdom, we are also required to comply with certain requirements of U.K. company law, including the Companies Act 2006.

Our corporate governance structure is based on the requirements of the Dutch Civil Code, the company's Articles of Association and the rules and regulations applicable to companies listed on the NYSE, complemented by several internal procedures including the Rules for the Board, Board Profile, and Corporate Governance Guidelines, which are available on our website at www.LyondellBasell.com by clicking "Investors," then "Corporate Governance" and also by further clicking "Board of Directors." These procedures include a risk management and control system, as well as a system of assurance of compliance with laws and regulations.

For the full text of the Code, please refer to the website at www.mccg.nl/english. For the full text of the U.S. Sarbanes-Oxley Act of 2002, as well as NYSE listing rules and the rules and regulations promulgated by the SEC, see www.sec.gov/about/laws/soa2002.pdf, <http://nyse.com/>, and www.sec.gov/about.shtml respectively.

The Code contains principles and best practices for Dutch companies with listed shares. We agree with both the general approach and the vast majority of its principles and best practice provisions. Any deviations from the Code are explained, in accordance with the Code's "comply or explain" principle.

The Board is of the opinion that the company's corporate governance structure, as described here, is the most appropriate for LyondellBasell. With the exception of those aspects of our governance structure which can only be amended with the approval of shareholders, the Board may make adjustments to the way the Code is applied, if this is considered to be in the interest of the Company. If adjustments are made, they will be published and reported in the Financial Report for the relevant year.

2.8.2 Code of Conduct

Part of LyondellBasell's risk management and control system is the Company's Code of Conduct. The Code of Conduct covers such topics as fair and accurate business dealings, corruption, health and safety, discrimination, and environmental protection.

LyondellBasell upholds high ethical standards and is committed to complying with applicable laws and regulations. In addition to a Code of Conduct for all employees and directors, the Company has a Financial Code of Ethics specifically for our CEO, CFO, Chief Accounting Officer and persons performing similar functions. Copies of these codes can be found on our website at www.LyondellBasell.com by clicking on "Investors," then "Corporate Governance." Any waivers of the codes must be approved, in advance, by our Board, and 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.

Our Compliance Department is governed by a written charter and led by our Chief Compliance Officer ("CCO"), who has a direct reporting relationship to the LyondellBasell Audit Committee, the CEO, and the General Counsel. The CCO discusses the compliance program with the Audit Committee at each of its quarterly meetings, including details on training, metrics and risk assessments. We conduct global anti-corruption, antitrust/competition law and trade sanctions compliance risk assessments at least once every three years with the most recent concluded in 2022. Our Audit Committee oversees periodic audits of the Compliance function and its effectiveness, which have been conducted by external law firms as well as the Company's internal audit function. The most recent third-party audit conducted by an external law firm took place in 2022.

Our Code of Conduct sets out our expectations on topics such as respecting fellow employees, anti-corruption, conflicts of interest, trade compliance, antitrust and competition law, insider trading, sanctions, misconduct and political donations. Our Code of Conduct can be found on our website in 17 languages. We take steps to ensure it is fully explained through annual trainings and other internal communications. Our Supplier Code of Conduct outlines our health, safety, environmental, social, governance and ethical expectations for those with whom we do business. We utilize the globally recognized EcoVadis platform to better understand our suppliers' sustainability performance.

All employees are required to complete training on the Code of Conduct each year and must acknowledge they have read and understand the Code. In 2022, 100% of employees received, and 99.76% completed the training. In past years, approximately 2,200 select contractors received training based on their location, job function, and access to sensitive company information.

The company has established additional compliance policies, forms and procedures related to anti-bribery and corruption, antitrust/competition law and international trade/sanctions. These policies and procedures are continuously reviewed and updated as necessary and made available to all employees in multiple languages. Excluding Code of Conduct training, in 2022, approximately 30% of the employees received and completed web-based, virtual, or in-person training on targeted ethics and compliance issues including anti-corruption, conflicts of interest, trade compliance, and antitrust.

Our Human Rights Policy is guided by common principles found within the United Nations Universal Declaration on Human Rights and Guiding Principles for Business and Human Rights, and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, among others, and it sets forth our commitment to respecting human rights throughout our global operations. Each year we issue a Human Trafficking and Anti-Slavery Statement. In accordance with the requirements of the United Kingdom's Modern Slavery Act of 2015 and The California Transparency in Supply Chains Act of 2010, LyondellBasell makes information publicly available with respect to our efforts to ensure that slavery and human trafficking is not taking place in any of our supply chains in any part of our business.

We comply with conflict minerals laws and regulations and our Conflict Minerals Policy outlines our approach to sourcing responsibly. We outline the risks and report due diligence actions taken to manage risks with our suppliers in our annual Conflict Minerals Report filed with the SEC.

We encourage employees to speak up if they have concerns about violations of Company policies or the law by reporting the issue to their supervisor or manager, human resources representative, or any member of the Legal or Compliance Department. We also offer an independent whistleblower telephone helpline and website, which is available 24-hours a day and in multiple languages. It is operated by EthicsPoint, a company providing third-party reporting for many global companies. LyondellBasell prohibits retaliation against people raising concerns and investigates any allegation that such retaliation has occurred.

In 2022, we received a total of 140 reports through EthicsPoint, a 4% increase over the prior year. Of these reports, 88% came through the EthicsPoint Helpline in the form of both phone and internet submissions. We received the remainder through internal channels, including direct communication with legal and/or the compliance team. Of the EthicsPoint reports received, 66% were anonymous. Each report which alleges behavior that, if true, would constitute a violation of law or company policy is fully investigated and documented with a written report of the investigation, conclusion, and remedial action if any is warranted. Of the allegations received in 2022 and closed as of February 1, 2023, 25% were substantiated, 50% were unsubstantiated, 15% were unresolved, and 10% were not investigated due to insufficient information.

An overview of all investigated matters is presented to the company's Audit Committee at its quarterly meetings. Reports involving the CEO or his direct reports, the General Auditor, or the CCO must be reported immediately to the Audit Committee for review and appropriate action. The Compliance Department also meets quarterly with the Human Resources, Internal Audit, and Global Security departments to discuss ongoing investigations and trends.

2.8.3 Conflicts of Interest

The Company has a Related Party Transaction Approval Policy, described, below, which requires disinterested members of the Audit Committee to review and approve certain transactions we may enter into with related parties, including members of the Board, executive officers, and certain shareholders. During 2022, all transactions requiring approval under the Policy were reviewed and approved by the Committee consistent with the Policy requirements. The Company also has a Conflicts of Interest Policy that governs the approval process for relationships of officers, directors and employees, that might conflict, or appear to conflict with the best interests of the Company. Best practice provisions 2.7.3 through 2.7.5 of the Dutch Corporate Governance Code have been complied with.

In 2022, approximately 1,800 employees were required to complete the 2022 Annual Code of Conduct Certification, which included questions about compliance with the Conflicts of Interest Policy. The responses to the Conflicts of Interest questions were reviewed on a case-by-case basis, and investigations were conducted into any alleged conflicts of interest that potentially violated the Code. No violations were identified.

2.8.4 Related Party Transactions

We have adopted a written Related Party Transaction Approval Policy, which requires the disinterested members of the Audit Committee to review and approve certain transactions that we may enter into with related parties, including members of the Board, executive officers, and certain shareholders. The policy applies to any transaction:

- In the ordinary course of business with an aggregate value of \$25 million or more,
- Not in the ordinary course of business, regardless of value, or
- With a value of \$120,000 or more and in which an executive officer or non-executive director has a direct or indirect material interest.

Related party relationships are identified and disclosed on an ongoing basis, as well as through responses to annual questionnaires completed by all directors, director nominees, and executive officers.

We also indemnify members of our Board to the fullest extent permitted by law so that they will be free from undue concern about personal liability in connection with their service to the Company. Our Articles of Association establish this indemnification right, and we have also entered into agreements with each of our directors contractually obligating us to indemnify them.

The Audit Committee reviews all the relevant facts of each related party transaction, including the nature of the related person's interest in the transaction, and determines whether to approve the transaction by considering, among other factors, (i) whether the terms of the transaction are fair to the Company and on the same basis as those which could be obtained from non-related parties, (ii) the business reasons for the Company to enter into the transaction, (iii) whether the related party transaction would impair the independence of any independent Board member, and (iv) whether the transaction would present an improper conflict of interest for any director or executive officer of the Company. No director votes on approval or, unless requested by the Audit Committee, participates in the discussion of a related party transaction in which he or she has an interest. The Audit Committee also conducts an annual review of all transactions with related parties, including those that do not meet the thresholds for related party transactions described above.

The following is a description of related party transactions in existence since the beginning of fiscal year 2022.

Access Industries

In 2010, we entered into certain agreements with affiliates of Access Industries, including a registration rights agreement, which obligates us to register and bear the costs for the resale of equity securities owned by Access Industries or its affiliates, and a nomination agreement. Pursuant to the nomination agreement, Access Industries has the right to nominate individuals for appointment to the Board if certain ownership thresholds are met. Access Industries currently owns more than 18% of our outstanding shares and has nominated Mr. Benet, Mr. Buchanan and Ms. Kamsky pursuant to the nomination agreement. The Company entered into these agreements with Access Industries before it became publicly traded and the Related Party Transaction Approval Policy was adopted. Amendments to the nomination agreement are approved by disinterested directors.

Calpine Corporation

Calpine Corporation, the owner and operator of power plants across the United States and Canada, supplies power and steam to the Company's Houston refinery and is owned by a group of investors including a minority investment by Access Industries. The Audit Committee has approved, most recently in October 2020, the Company's contracts with Calpine, which were determined to be on terms fair to the Company and more advantageous than those offered by other parties. In 2022, the Company purchased approximately \$140 million of power, steam, and water from Calpine and sold approximately \$37 million of excess gas and raw water to Calpine.

Plasto-Cargal Group

From time to time, the Company's Advanced Polymer Solutions segment sells certain additives to Plasto-Cargal Group, a manufacturer of plastic container and film products, in which Access Industries holds an indirect minority investment. Sales are conducted in the ordinary course and no approval is required under the Company's Related Party Transaction Approval Policy; however, the Audit Committee has reviewed and approved the continuation of such transactions, which totaled less than \$0.5 million for 2022.

2.8.5 Dutch Corporate Governance Code

As a Dutch company, our governance practices are governed by the Code, a copy of which is available at www.mccg.nl/english. The Code contains a number of principles and best practices. The Code, in contrast to U.S. laws, rules and regulations, contains a "comply or explain" principle, offering the possibility to deviate from the Code and still be in compliance as long as any such deviations are explained. In certain cases, we have not applied the Code's practices and provisions and in those instances explain the non-application.

We conduct our operations in accordance with internationally accepted principles of good governance and best practice, while ensuring compliance with the corporate governance requirements applicable in the countries in which we operate. There is considerable overlap between the requirements we must meet under U.S. rules and regulations and the provisions of the Code and we comply with almost all of the provisions of the Code. For clarity purposes, we have listed below deviations from the Code and our reasons for deviating.

Code Section 2.1.6

Our goal is to have a Board that provides effective oversight of the Company through the appropriate balance of experience, expertise, skills, competencies, specialized knowledge, and other qualifications and attributes. Director candidates also must be willing and able to devote the time and attention necessary to engage in relevant, informed discussion and decision-making. Our Nominating and Governance Committee focuses on Board succession planning and refreshment and is responsible for recruiting and recommending nominees to the full Board for election. The Committee considers the qualifications, contributions, and outside commitments of each current director in determining whether he or she should be nominated for reelection. Many of our directors serve on the boards and board committees of other companies, and the Committee believes this service provides additional experience and knowledge that improve the functioning of our own Board. Our Board Profile provides general principles for the composition, expertise, background, diversity and independence of the Board and guides our Nominating and Governance Committee on the nomination and appointment of directors.

Our Board considers diversity a priority and seeks representation across a range of attributes, including race, gender, ethnicity, and nationality. Our Board remains committed to increasing the representation of women in its membership and targets at least one-third female directors and one-third-male directors, alongside continued focus on increasing the racial and ethnic diversity of the Board and provided no current director is required to resign to achieve these targets. In 2022, three of our twelve directors were female. While we did not achieve our goal of at least one-third female directors during 2022, in 2023 we nominated Ms. Rita Griffin to fill a vacancy and be elected as director at our annual general meeting of shareholders. Thus three of our eleven director nominees are female. Our Nominating and Governance Committee is continuing to evaluate candidates to fill the remaining vacancy on our Board. In accordance with our Corporate Governance Guidelines, the Committee and any outside search firms engaged to assist in identifying potential director candidates include women and minority candidates in each pool from which a director candidate is selected.

The percentage of diverse employees on our Executive Committee, comprised of senior executives who lead LyondellBasell's businesses and functions and report directly to our CEO, increased from 18% in 2021 to 33% in 2022, and as of February 2023, has increased to 40%. Of the ten members on our Executive Committee, four are women, and together, our CEO and Executive Committee represent six different nationalities. This increase brings us closer to our long-term goals of achieving gender parity (approximately 50% women and 50% men) in global senior leadership. In addition, our Board remains committed to increasing the representation of women in its membership and targets at least one-third female directors and one-third male directors. We are also committed to increasing the number of underrepresented senior leaders ("URP") in the U.S. to reflect the general population ratio by 2032. To meet these targets, we have set short-term goals to increase the number of female senior leaders globally and the number of underrepresented senior leaders in the U.S. by 50% by 2027, relative to a 2022 baseline, to at least 30% women and 30% URP. These ambitious goals demonstrate our commitment to having a diverse group of company leaders. Senior leaders, for the purposes of our diversity goals, refers to the approximately 400 employees that represent the top six job bands/categories of our employees and executives, excluding our CEO.

To achieve these goals, we focused on enhancing our hiring, promotion and retention practices. With respect to hiring, we expanded our existing senior-level hiring practices to a larger group of positions. These practices include broader recruiting efforts, diverse interview panels and candidate slates, standardized interview questions and hiring-manager training. With respect to promotions, we launched a new program to help diverse employees advance their leadership skills. We also continued to develop and improve our internal talent programs. Through these efforts, we promoted 16% more women in 2022 than in 2021. Indeed, increased promotions of women were the main reason the number of women in senior leadership globally increased by 1% to 22% in 2022.

While we are making significant efforts, our progress towards our goals in 2022 was negatively impacted by increased attrition of both women and URP leaders. Despite increased hiring and promotions of URP employees, the number of URP senior leaders in the U.S. decreased by 1% from 19% in 2021 to 18% in 2022. We continue to analyze retention issues to understand attrition drivers and to enhance our employee engagement efforts. Other factors impacting our results were the challenging external talent market and the addition of new senior leadership roles due to the Company's growth initiatives. We recognize that building talent pipelines and transforming culture takes time, and we remain committed to frequently assessing outcomes and developing programs that will advance these goals.

Code Section 2.1.7

Our Board currently consists of twelve directors, three of whom (Mr. Benet, Mr. Buchanan, and Ms. Kamsky) were nominated by a shareholder pursuant to a nomination agreement. Under the provisions of the Code, but not under the NYSE listing standards, those three directors are not considered independent as a result of their affiliation with the shareholder that nominated them, which owns more than 10% of our shares. Under the Code, for each shareholder holding 10% or more of the Company's shares at most one director may be on the Board. This deviation from the Code is a result of our obligation under the nomination agreement with an affiliate of Access Industries to nominate individuals to our Board. The Company entered into the nomination agreement before it became publicly traded; however, subsequent amendments to the nomination agreement have been approved by our disinterested Board members. The Board believes that each of the Access-nominated directors brings with him or her a level of skill, experience and qualifications that benefit the workings of the Board and therefore the Company's stakeholders generally. Please refer to our discussion of "Independence of Board Members" contained in Section 2.7 of this report.

Code Section 2.2.2

Members of the Board are elected for one-year terms; however, there is no limit on the number of terms a Board member may serve.

Currently, the Board does not believe there is a driving interest in limiting members to the “maximum of two four-year terms plus two two-year terms” provision of the Code. In 2022, Messrs. Aigrain, Bindra, Buchanan, as well as Ms. Dicciani and Ms. Farley, were nominated and elected to serve on the Board, each having served as director for eight years or more as of the end of their elected term. The Board believes that a depth of history and knowledge of the Company, which can be developed through long-term service, continues to be key to an effective oversight of the Company, and that the Company's mandatory retirement age (as described below) and annual evaluation process for re-nominations are currently more effective means of ensuring Board refreshment and renewal, while also allowing for continuity of service. The Board revisits the provisions in its governing documents on at least an annual basis and may determine that limitations of the number of terms for Board members is appropriate. Notwithstanding any such determinations, under the nomination rights described above, as long as certain shareholders maintain their share ownership at required levels, they will be able to nominate individuals of their choosing; the result of which may be for individuals nominated by them to serve for longer than any Board-determined terms.

Code Section 2.2.4

We do not maintain a schedule of retirement for our directors, however. our Corporate Governance Guidelines, which are available on our website at www.LyondellBasell.com by clicking on “Investors,” then “Corporate Governance,” and our Rules for the Board of Directors, and Board Profile, which are available which are available by clicking further through “Board of Directors,” provide that directors will not be re-nominated for election to the Board after they reach the age of 75, which acts effectively as a retirement schedule. While the Board does not believe there is a specific age after which directors should no longer serve on boards, it does believe mandatory retirement ages are useful for promoting board refreshment. No waivers or exceptions to the rules have been granted and, since 2019, the Board has nominated four new directors to fill vacancies created by director retirements after reaching our mandatory retirement age. In 2022, Ms. Kamsky joined our Board, replacing a retired director, and Mr. Vanacker was elected to fill a vacancy on our Board due to the retirement of our executive director. In 2023, two additional directors, Mr. Bindra and Ms. Dicciani, will retire. The Board believes that the mandatory retirement age and an annual evaluation process for deciding whether to re-nominate individuals for election are currently more effective means of ensuring board refreshment and renewal, while also allowing for continuity of service.

Code Section 3.1.2.v

The number of options and restricted stock units that we grant to our executives are determined based on an overall target of equity-based compensation, calculated as a percentage of base salary, rather than on the achievement of specified targets as is considered best practice under the Code. The targeted values of options and restricted stock units granted are determined based on peer group analyses to ensure competitive compensation for attracting and retaining our executives.

Code Section 3.1.2.vi

In contrast to best practices under provisions of the Code, we do not require all shares granted as compensation to be held for five years or until the end of employment. Instead, our C&TD Committee implemented share ownership requirements that restrict selling of shares by executives unless certain levels of equity are held. We believe that the share ownership guidelines appropriately ensure executives retain substantial equity to make certain their interests are aligned with shareholders while also allowing flexibility for diversification of personal wealth.

Code Section 3.1.2.vii

The stock options we grant to our executive officers are exercisable before the third anniversary of the date of grant, as they vest ratably over three years, which is contrary to best practices provisions of the Code. We believe our vesting schedules are in line with the practices of our peer group used for executive compensation purposes and necessary to attract and retain the best people.

Code Sections 3.2.3

Mr. Vanacker, our CEO and executive director, is a party to an employment agreement that provides for severance payments that are in excess of one year's base salary. Additional executives are participants in our Executive Severance Plan. The severance plan provides for severance payments in an amount equal to the executive's base salary plus target annual bonus (or, in the case of Mr. Vanacker, 1.5 times such amount (or 2.5 times such amount in the event of certain termination circumstances within one year of a change in control)). We believe that these severance arrangements are consistent with market practices and our peer group severance arrangements and are necessary to attract and retain qualified leaders.

Code Sections 3.3.2 and 3.3.3

Members of the Board have been granted restricted stock units as a portion of their annual remuneration. The restricted stock units entitle the recipient to an equal number of the Company's shares after certain time-based vesting requirements have been met. Additionally, Board members are allowed to receive shares of our common stock in lieu of their cash retainers. This is a deviation from the Code, which states that board members shall not be granted shares and/or rights to shares by remuneration.

The Company believes that granting shares and rights to acquire shares aligns the Board members' interests with those of shareholders, thereby increasing the incentives to make decisions that create long-term value for the Company.

Additionally, as part of their review of director compensation, the Nominating & Governance Committee and the Board consider, among other factors, the practices at a comparative group of public companies, based on market comparison studies. The companies in the comparative group offer some form of equity compensation. For that reason, among others, the Company believes that equity awards are reflective of the market and are necessary to attract and retain highly skilled individuals with relevant experience and to reflect the time and talent required to serve on the board of directors of a complex, multinational corporation.

Code Section 4.2.2

We do not maintain a policy on bilateral contacts with our shareholders. We engage with shareholders through a number of different forums, including investor conferences, our bi-annual investor day presentation, last held in March 2023, individual meetings and calls, our annual general meeting of shareholders, and by responding to shareholder inquiries and correspondence. We maintain a flexible approach to shareholder engagement and prioritize our ability to respond to each communication received from shareholders on a case-by-case basis to accommodate both shareholder preferences as well as Company objectives. A formal policy on bilateral contacts is not customary for NYSE-listed issuers.

2.8.6 Shareholders and General Meeting of Shareholders

Powers

A general meeting of shareholders will be held at least once a year in the Netherlands. In this meeting, the following items are expected to be discussed and/or approved:

- The written report of the Board containing the course of affairs in LyondellBasell and the conduct of the management during the past financial year as disclosed in this Financial Report;
- The adoption of the annual accounts;
- The Company's reserves and dividend policy and justification thereof;
- The discharge of the members of the Board in respect of their duties during the previous financial year;
- Each material change in the Company's corporate governance structure (if any occurred); and
- Any other item the Board determines to place on the agenda.

The approval of the general meeting of shareholders and the Board is also required for resolutions regarding a significant change in the identity or character of LyondellBasell or its business, including in any event:

- A transfer of the business or virtually all of the business to a third party;
- Entry into or termination of long-term cooperation by the Company or a subsidiary with another legal entity or partnership or as a general partner with full liability in a limited or general partnership if such cooperation or the termination thereof is of far-reaching significance for the Company; and
- An acquisition or disposal by the Company or a subsidiary of a participation in the capital of another company, the value of which equals at least one-third of the amount of the assets according to the consolidated statement of financial position with explanatory notes attached to the annual accounts as most recently adopted.

Proposals placed on the agenda by the Board, or at the request of shareholders, provided that they have submitted the proposals in accordance with the provisions of LyondellBasell's Articles of Association, will be discussed and decided. Shareholders are entitled to request items for the annual general meeting agenda no less than sixty days before the meeting, and provided that they represent at least one percent of LyondellBasell's issued share capital.

The Board may convene extraordinary general meetings as often as it deems necessary. Such meetings must be held if one or more shareholders and others entitled to attend the meetings jointly representing at least one-tenth of the issued share capital make a written request to that effect to the Board, specifying in detail the items to be discussed.

Information to shareholders

To ensure fair disclosure, LyondellBasell distributes Company information that may influence the share price to shareholders and other parties in the financial markets simultaneously and through means that are public to all interested parties.

When LyondellBasell's annual and quarterly results are published by means of a press release, interested parties, including shareholders, can participate through conference calls and view the presentation of the results on LyondellBasell's website. The schedule for communicating the annual financial results is in general published through a press release and is posted on LyondellBasell's website.

It is LyondellBasell's practice to post the presentations given to analysts and investors at investor conferences on its website. Information regarding presentations to investors and analysts and conference calls are announced in advance on LyondellBasell's website. Meetings and discussions with investors and analysts shall, in principle, not take place shortly before publication of regular financial information. LyondellBasell does not assess, comment upon, or correct analysts' reports and valuations in advance, other than to comment on factual errors. LyondellBasell does not pay any fees to parties carrying out research for analysts' reports, or for the production or publication of analysts' reports, and takes no responsibility for the content of such reports.

At the annual general meetings of shareholders, shareholders will be provided with all requested information, unless this is contrary to an overriding interest of the Company. If this should be the case, the Board will provide its reasons for not providing the requested information.

Furthermore, the Investor Relations section on LyondellBasell's website provides links to information about LyondellBasell published or filed by LyondellBasell in accordance with applicable rules and regulations.

Relationship with Institutional Investors

LyondellBasell finds it important that its institutional investors participate in LyondellBasell's general meetings of shareholders. The Company believes that providing internet proxy voting achieves high levels of participation at the meeting.

2.8.6 Takeover Directive; Anti-Takeover Provisions and Control

General

The EU Takeover Directive requires that certain listed companies publish information providing insight into defensive structures and mechanisms which they apply. The relevant provision has been implemented into Dutch law by means of a decree of April 5, 2006. Pursuant to this decree, Dutch companies whose securities have been admitted to trading on an EU regulated market have to include information in their Financial Report which could be of importance for persons who are considering taking an interest in the company. The Company's shares are admitted to trading on the NYSE and not on any EU regulated markets.

According to provision 4.2.6 of the Code, we are required to provide a survey of our actual or potential anti-takeover measures, and to indicate in what circumstances it is expected that they may be used.

Accordingly, we have set out below a number of provisions in the Articles of Association that in a Dutch context technically are not necessarily considered to be anti-takeover measures, but which could restrict the ability of a controlling shareholder to effectively exercise control over the Company:

- As per article 12.3 of the Articles of Association, and subject to article 12.4, the appointment of a member of the Board shall take place by way of a binding nomination prepared by the Board. The general meeting of shareholders may render such nomination non-binding by means of a resolution adopted by at least two-thirds (2/3) of the valid votes cast, such two-third (2/3) majority representing more than one-half (1/2) of the issued capital. In case of such a vote, the general meeting of shareholders will be free in its selection and appointment of a Board member to fill the vacancy by means of a resolution adopted by at least two-thirds (2/3) of the valid votes cast, such two-third (2/3) majority representing more than one-half (1/2) of the issued capital. If the proportion of the share capital of at least one-half (1/2) as referred to in the preceding sentence is not represented at the meeting, then no new meeting may be convened without such proportion of the share capital being represented; and
- As per article 22.1 of the Articles of Association, the Articles of Association may only be amended by the general meeting of shareholders on the proposal of the Board.

In the event of a hostile takeover bid, in general the Board reserves the right to use all powers available to it in the interests of the Company and its affiliated enterprise, taking into consideration the relevant interests of the Company's stakeholders.

2.8.8 Risk Management

A certain degree of risk is inherent in our business (see Section 2.2, "Risk Factors," generally, as well as Section 2.1.3 "Outlook" with respect to risks to our business). Additionally, pursuing business strategies and objectives inevitably leads to taking risks. Risks can jeopardize strategies and objectives in various ways. Each type of risk we encounter is addressed in a manner and with the intensity that matches the nature and size of the risk in relation to the Company's risk appetite. The risk appetite is the total residual impact of risks that we are willing to accept in the pursuit of our objectives.

Effective risk management is a key factor for the Company in realizing its business and strategic objectives. Risk areas where we have low-risk appetite and thus accept a low residual risk require strong risk management and strong internal controls. The risk areas where we have a low-risk appetite include those relating to the safety of our employees, our assets, the environment and the communities in which we operate and those relating to legal and regulatory compliance.

The management of the Company and the Board are responsible for ensuring that LyondellBasell complies with applicable legislation and regulations. They are also responsible for the financing of LyondellBasell and for managing the internal and external risks related to its business activities.

The establishment of our internal risk management and control system is based on the identification of external and internal risk factors that could influence the operational and financial objectives of the Company, and contains a system of monitoring, reporting, and operational reviews.

To help identify risks, LyondellBasell uses a formal enterprise risk management approach, consisting of a set of risks categories which are discussed amongst senior management of LyondellBasell at least annually, as described below. Based on this risk assessment, actions are initiated to further enhance the Company's risk mitigation.

The disclosure of the risks that potentially could have a significant impact on the Company's strategy execution, operations or financial position is derived in part from LyondellBasell's internal risk assessment, comprising elements of the risk assessment model as mentioned in the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") report.

The Company publishes two Financial Reports in respect of the financial year ("2022 Financial Reports"): (i) a Statutory Financial Report in accordance with Dutch legal requirements in accordance with IFRS and International Financial Reporting Interpretation Committee ("IFRIC") interpretations as adopted by the European Union and (ii) an Financial Report on Form 10-K in accordance with U.S. securities laws, based on the United States of America Generally Accepted Accounting Principles ("U.S. GAAP"). Both 2022 Financial Reports include risk factors that are specific to the petrochemical industry, LyondellBasell, and ownership of its shares. LyondellBasell also provides sensitivity analyses by including:

- A narrative explanation of its financial statements;
- The context within which financial information should be analyzed; and
- Information about the quality, and potential variability, of LyondellBasell's earnings and cash flow.

In the "Statements of the Board of Directors" (included in Section 2.8.10), the Board addresses the Company's internal risk management and control systems.

We are required to conduct an evaluation, under the supervision and with the participation of our CEO and CFO, of the effectiveness of the Company's internal control over financial reporting and, based on that evaluation, conclude whether the Company's internal control over financial reporting was effective as of December 31, 2022, providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. PricewaterhouseCoopers LLP, the Company's independent registered accounting firm under U.S. securities rules and regulations, also reports on the effectiveness of the Company's internal control over financial reporting in its Consent of Independent Registered Public Accounting Firm as included in our 2022 Financial Report on Form 10-K for the year ended December 31, 2022.

For the Statutory Financial Report, the Company follows the requirements of Dutch law and regulations, including preparation of the consolidated financial statements in accordance with IFRS and IFRIC interpretations as adopted by the European Union. For the Financial Report on Form 10-K, the Company applies the requirements of the U.S. Securities and Exchange Act of 1934, and prepares the financial statements included therein in accordance with U.S. GAAP.

LyondellBasell currently has a Disclosure Committee, consisting of various members of management from different business and functional areas within the Company. The Disclosure Committee reports to and assists the CEO and CFO in the maintenance, review and evaluation of disclosure controls and procedures. The Disclosure Committee's main responsibilities are to ensure compliance with applicable disclosure requirements arising under United States and applicable stock exchange rules.

Board's Role in Risk Oversight

While the Company's CEO is responsible for assessing and managing the Company's day-to-day risks and related control systems, the Board has broad oversight of the Company's risk profile and risk management. In this oversight role, the Board is responsible for satisfying itself that the risk management processes designed and implemented by management are functioning and that necessary steps are taken to foster a culture of risk-adjusted decision-making throughout the organization. These processes and structures include the Company's Enterprise Risk Management (ERM) organization, Code of Conduct and related compliance program, internal controls function and disclosure committee meetings and controls, and a robust internal audit function. The Company believes that this division of responsibilities achieves sound risk management and that the Board's involvement ensures effective oversight.

The primary means by which our Board oversees the Company's short-, intermediate-, and long-term risks is through regular communication with management. At each Board meeting, members of management are asked to report to the Board and, when appropriate, specific committees. These presentations provide members of the Board with direct communication with management and the information necessary for a full understanding of the Company's risk profile, including information regarding the Company's specific risk environment, climate scenarios, exposures potentially affecting our operations, and the Company's plans to address such risks. In addition to providing general updates on the Company's operational and financial condition, members of management report to the Board about the Company's outlook, forecasts, and any impediments to meeting them or to successfully pursuing the Company's strategies more generally.

Our Board leads our commitment to sustainability and maintains oversight of the Company's ESG profile. Management reports on key sustainability topics and initiatives at each regularly scheduled Board meeting, and directors participate in a deep dive on sustainability strategy and actions at least annually. During the Board's annual strategy meeting in July 2022, the Board focused on the Company's strategy, progress, and programs related to its goals on climate and the circular economy. The Board's Committees provide guidance regarding specific ESG issues in accordance with their charters and responsibilities, as also described below.

DEI—Our Board recognizes the importance of diversity at all levels of our organization, and provides oversight of our DEI strategy, initiatives, and progress. To improve transparency, we track our progress on our DEI goals and share updates with our Board and management regularly to increase visibility and improve outcomes.

In 2022, the Board reviewed succession planning, talent development and progress towards DEI goals at two of its regularly-scheduled meetings. In addition, the Board conducted a deep dive on DEI as part of its annual strategy session, reviewing details on initiatives to accelerate the attraction and development of diverse talent, close experience gaps, advance high potential and diverse leaders, and identify weaknesses in the talent pipeline.

Cybersecurity—We recognize the risk posed by global cybersecurity threats, and our Board is regularly updated on emerging risks and maintains oversight of the Company's cybersecurity program implemented to address them.

In 2022, the Board conducted a deep dive of specific cybersecurity and process control topics at its September meeting, and the Audit Committee reviewed updates to the Company's cybersecurity dashboard, which summarizes key security metrics and activities, at two of its regularly-scheduled meetings

In response to cybersecurity concerns, the Company is 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.

In carrying out its oversight responsibility, the Board has delegated to individual Board committees certain elements of its oversight function.

Audit Committee

- Oversees the Company's financial statements; independent accountants; internal audit function; monitoring, control, and reporting of significant corporate risk exposure, including information technology and cybersecurity risks; related party transactions; and system of disclosure and internal controls
- Monitors the Company's compliance programs and EthicsPoint reporting helpline complaints, and receives quarterly updates from the Company's Chief Compliance Officer, who has a direct reporting line to the Audit Committee

HSE&S Committee

- Reviews and monitors health, safety, and environmental standards, compliance, programs, incidents and statistics, and plans initiatives to continually improve results
- Reviews sustainability risks, trends and impacts
- Oversees climate initiatives and risk, and monitors the Company's progress on sustainability targets, ambitions and reporting, including the review and approval of the Company's sustainability report each year

Finance Committee

- Oversees strategic transactions, including those that may impact our capital position
- Reviews our tax strategy and planning
- Reviews our capital structure, capital allocation, dividend policy, share repurchase programs, debt profile, and hedging strategies

C&TD Committee

- Oversees the Company's executive compensation programs, and evaluates whether such programs and practices create excessive risk or any changes to those programs or practices are warranted
- Oversees our DEI initiatives
- Monitors talent management and reviews management retention, recruitment, and succession planning

Nominating & Governance Committee

- Oversees the Company's overall ESG profile and strategy
- Reviews corporate governance practices and develops, reviews, and recommends corporate governance guidelines and policies

Management Oversight of ESG

At the management level, our CEO oversees the Company's ESG profile through regular reporting and discussion on key topics and initiatives among members of his Executive Committee, comprised of senior executives that lead LyondellBasell's businesses and functions. ESG matters impact, and are impacted by, all of our operations, with each function playing a role in identifying relevant opportunities, managing associated risks, and contributing to our overall sustainability program.

The Executive Committee includes, among others, our Executive Vice President, Sustainability and Corporate Affairs, with responsibility for sustainability strategy and ESG reporting, our Executive Vice President, Circular and Low Carbon Solutions, who is building and leading a scalable, circular and low-carbon solutions business, and our Executive Vice President, People and Culture, who is responsible for the Company's vision and culture to enhance the employee experience, talent management, employee relations, reward and compensation, and diversity, equity and inclusion. Our Executive Committee meets regularly to review strategies, policies and risks related to sustainability and ESG topics.

In 2022, we promoted our Director, Global Sustainability to the role of Vice President and Chief Sustainability Officer ("CSO"). The CSO is responsible for the management of sustainability programs, strategy, and reporting, and is supported by a global group of dedicated employees. This group collaborates with leaders across the organization, including the members of the Executive Committee and the team that leads our GHG emissions reduction efforts, to bring together the functional expertise and skills needed to achieve our sustainability and ESG objectives.

Enterprise Risk Management Function

The Company has an enterprise risk management ("ERM") organization, with a group of employees dedicated to deploying the enterprise-wide risk management framework. The CEO and General Counsel are responsible for overseeing these risk management programs, including assessing risk tolerances, evaluating whether such tolerances are aligned with the Company's strategic goals, and defining our overall risk profile. Each year, ERM leads a risk workshop with the CEO and his senior leaders to refresh the Company's risk profile. Together, the participants validate existing enterprise risks (both opportunities and threats), select new and emerging risks to add to the risk register, and ensure risk ownership is assigned to the appropriate leadership team executives and the Board and Board committees.

Examples of the Company's enterprise risks include major health, safety, environment, and security events, cybersecurity, climate change, DEI, and global talent management.

The CEO has delegated to an internal Risk Management Committee the authority to review and approve transactions, including hedging strategies, that are in accordance with the Company's approved risk management policies and procedures. The standing members of the Risk Management Committee include the CEO, the Chief Financial Officer, and the Chief Legal Officer. Under the Committee's oversight, the Company's Financial Risk Management Group manages foreign exchange, interest rate, and other financial risks, across the Company's global operations. Through a variety of policies and procedures, senior management and their leadership teams identify, monitor, mitigate, and report on risks and develop risk management plans aligned with the Company's enterprise risk management framework.

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

During 2022, members of the Board were surveyed by the Company's ERM organization regarding their assessment of the Company's primary risks. In September 2022, the Board and ERM team reviewed the survey results together and identified and evaluated key enterprise risks, including feedstock advantages, safety incidents, cybersecurity and global talent development.

The direct line of communication between the Board and members of management facilitated at Board meetings and through these workshops allows the Board to further evaluate and assess the management of the Company's day-to-day risks.

Risk Management and Control Systems

The management of the Company is primarily responsible for the design, implementation and integration of the Company's internal risk management and control systems. The purpose of these systems is to effectively respond to and manage the significant risks to which the Company is exposed. Such systems can never provide absolute assurance regarding achievement of corporate objectives, nor can they provide an absolute assurance that material errors, losses, fraud and the violation of laws or regulations will not occur.

To adhere to our duties in the area of internal risk management and control systems, the Company has designed and implemented an enterprise risk management process.

Enterprise risks are threats and opportunities identified by our management which may have significant consequences or benefits impacting key objectives and the ability to deliver the strategy. The identification and assessment of enterprise risks is conducted in accordance with the LyondellBasell ERM framework which is based on the COSO Enterprise Risk Management model and ISO 31000 International Standard for Risk Management.

Updates concerning the significant business risks identified during the annual enterprise risk assessment are reported to the Board for review. A profile of our enterprise risks is provided to the Board at least annually, with some risks incorporated into key decision-making processes outside of the formal enterprise risk management process.

The Company's enterprise risks, as identified in accordance with the described process, are each assigned to a member of the senior management team as a risk owner. The identified owner is responsible for utilizing the ERM framework to assess the impact and develop actions to effectively manage his or her assigned risks. In addition, the Audit Committee of the Board is responsible for ensuring that an effective risk assessment process is in place, and reports are made regularly to the Audit Committee on financial and compliance risks in accordance with requirements of the NYSE.

In addition, department risks, that are not reportable to the Board are assessed and managed at the business/functional level with executive leadership. These department-focused enterprise risk assessments utilize the ERM framework and are an evergreen process conducted on a regular cadence incorporating the business segments, manufacturing operations and the critical business support functions.

We use various other measures to ensure adherence to our duties in the area of internal risk management and control systems, including:

- Operational review meetings of the Board with LyondellBasell's senior management on financial performance and realization of operational objectives and responses to emerging issues;
- Monthly meetings with LyondellBasell's CEO, CFO and senior finance management focusing on monthly financial figures and internal control evaluations;
- Monthly and quarterly financial reporting, primarily to LyondellBasell's senior management;
- Letters of representation that are signed by LyondellBasell's key personnel on a quarterly basis in which they confirm that for their responsible area and based upon their knowledge (i) an effective system of internal controls and procedures is maintained and (ii) the financial reports fairly present the financial position, results of operations and cash flows;
- Assessments by LyondellBasell's Disclosure Committee with respect to the timely review, disclosure, and evaluation of periodic (financial) reports;

- Discussions on process safety, product safety, environmental and security matters within the HSE&S Committee of the Board;
- Discussions on management letters and audit reports provided by the Company's internal and external auditors to the Audit Committee of the Board;
- Corporate policies assigning responsibility for identification and management of risks;
- LyondellBasell's Code of Conduct;
- LyondellBasell's Financial Code of Ethics applicable to the CEO, CFO and Chief Accounting Officer;
- LyondellBasell's Ethics Hotline and whistleblower procedures; and
- LyondellBasell's Compliance programs and training, which facilitate the development of controls which will aid in prevention, deterrence and detection of fraud against LyondellBasell.

2.8.9 Audit of Financial Reporting

Financial Reporting

LyondellBasell has comprehensive internal procedures in place for the preparation and publication of Financial Reports, annual accounts, quarterly figures, and all other financial information. These internal procedures are frequently discussed in the Audit Committee and the Board of Directors. The Company's Disclosure Committee assists the Company's management in overseeing LyondellBasell's disclosure activities and ensures compliance with applicable disclosure requirements arising under U.S. and Dutch law and regulatory requirements.

The Audit Committee reviews and approves the external auditor's audit plan for the audits planned during the financial year. The audit plan also includes the activities of the external auditor with respect to their reviews of the quarterly results other than the annual accounts. These reviews are based on agreed upon procedures and are approved by the Audit Committee. The external auditor regularly updates the Audit Committee on the progress of the audits and other activities.

Appointment, Role, Assessment of the Functioning of the External Auditor, and the Auditor's Fee

In accordance with Dutch law, LyondellBasell's external auditor is appointed by the general meeting of shareholders and is nominated for appointment by the Board upon advice from the Audit Committee. LyondellBasell's current external auditor for its Dutch statutory accounts is PricewaterhouseCoopers Accountants N.V. ("PwC"), and the Board, on the recommendation of the Audit Committee, is proposing shareholders appoint PwC as its auditor to audit the 2023 Dutch statutory accounts at the 2023 annual general meeting.

The Audit Committee reports annually to the Board on the functioning of, and the developments in, the relationship with of the external auditor as required by the Dutch Corporate Governance Code.

The external auditor has functioned to the satisfaction of the Audit Committee.

Annually, the Audit Committee provides the Board with a report on the relationship with the external auditor, including the required auditor independence. To determine the external auditor's independence, the relationship between the audit services and the non-audit services provided by the external auditor is important, as well as the rotation of the responsible lead audit partner every five years. Non-audit services (including tax fees and non-audit-related fees) performed by the external auditor comprised less than ten percent of the external auditor's services in 2022. Based on the proportion audit fees versus non-audit related fees, it was concluded and confirmed by the external auditor that the external auditor acts independently.

The external auditor will be present at the 2023 annual general meeting to respond to questions, if any, from the shareholders about the auditor's report on the financial statements.

The Audit Committee, on behalf of the Board, approves the remuneration of the external auditor as well as the non-audit services to be performed, after consultation with the CFO. It has been agreed among the members of the Board that the Audit Committee has the most relevant insight and experience to be able to approve both items, and therefore the Board has delegated these responsibilities to the Audit Committee.

The external auditor attends all meetings of the Audit Committee, unless this is deemed not necessary by the Audit Committee. The findings of the external auditor are discussed at these meetings.

The Audit Committee reports on all issues discussed with the external auditor to the Board, including the external auditor's report with regard to the audit of the annual accounts as well as the content of the annual accounts. In the audit report, the external auditor refers to the financial reporting risks and issues that were identified during the audit, internal control matters, and any other matters requiring communication under the auditing standards generally accepted in the Netherlands and in the United States.

Internal Audit Function

The internal audit function of LyondellBasell forms one of the key elements to address the topics of risk management and internal control over financial reporting as required under the Code and the Sarbanes-Oxley Act, respectively. To ensure the independence of this function, the Company's head of internal audit reports to the Audit Committee and the Chief Financial Officer. The external auditor and the Audit Committee are involved in formulating the work schedule and audit scope of the audit department. The head of internal audit regularly provides updates on their findings to the Audit Committee.

2.8.10 Statements of the Board of Directors

The management of the Company is responsible for the preparation of the Annual Accounts and the Financial Report of LyondellBasell Industries N.V. ("LyondellBasell N.V.") for the year ended December 31, 2022 in accordance with applicable Dutch law and IFRS as adopted by the European Union and with Part 9 of Book 2 of the Dutch Civil Code. As required by Section 5:25C(2)(c) of the Dutch Financial Markets Supervision Act ("Wet op het financieel toezicht") and on the basis of the foregoing and the explanations contained in Section 2.8.8 "Risk Management," the Board confirms that to the best of its knowledge:

- The LyondellBasell N.V. 2022 Annual Accounts give a true and fair view of the assets, liabilities, financial position and profit or loss of LyondellBasell N.V. and the entities included in the consolidation taken as a whole; and
- The LyondellBasell N.V. 2022 Financial Report gives a true and fair view of the development and performance of LyondellBasell N.V. and the entities included in the consolidation taken as a whole as at December 31, 2022 and the state of the affairs during the financial year to which the report relates and describes the principal risks facing LyondellBasell N.V. and a discussion of the principal risks and uncertainties.

Based on the outcome of the measures described under Section 2.8.8, "Risk Management" and to the best of its knowledge and belief, the Board states that:

Risk Management and Control Systems, Reporting on Going-concern Basis

Based on the current state of affairs, it is justified that the financial reporting is prepared on a going concern basis, and the Financial Report disclose all material risks and uncertainties that are relevant regarding the expectation as to the continuity of LyondellBasell N.V. for the 12-month period after the date of issue of this Financial Report. The Financial Report provides sufficient insights into any important deficiencies in the effectiveness of the internal risk management and control systems that were detected during the 2022 fiscal year. The aforementioned systems provide reasonable assurance that the Annual Accounts do not contain any material errors.

Evaluation of Disclosure Controls and Procedures

Employees within the Company, with the participation of our CEO and our CFO have evaluated the effectiveness of our disclosure controls and procedures in ensuring that the information required to be disclosed in reports in accordance with International Financial Reporting Standards as adopted by the European Union that we file or submit to the Chamber of Commerce in The Netherlands, as amended, is recorded, processed, summarized and reported within the time periods specified in the Dutch Law, including ensuring that such information is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosure. Based on such evaluation, our CEO and CFO have concluded that such disclosure controls and procedures were effective as of December 31, 2022, the end of the period covered by this Financial report.

Internal Control over Financial Reporting

The establishment of LyondellBasell's internal control and risk management systems is based on the identification of external and internal risk factors that could influence the operational and financial objectives of the Company and contains a system of monitoring, reporting and operational reviews. All material risk management activities have been discussed with the Audit Committee and the Board.

Financial Statements

The Report of the Independent Auditor, PricewaterhouseCoopers Accountants N.V., is included in the "Other Information". The financial statements are being presented for adoption by shareholders at the 2023 annual general meeting. The Board recommends that shareholders adopt these financial statements.

April 5, 2023

The Board of Directors

/s/ Peter Vanacker

Peter Vanacker

/s/ Jacques Aigrain

Jacques Aigrain

/s/ Lincoln Benet

Lincoln Benet

/s/ Jagjeet S. Bindra

Jagjeet S. Bindra

/s/ Robin W.T. Buchanan

Robin W.T. Buchanan

/s/ Anthony R. Chase

Anthony R. Chase

/s/ Nance K. Dicciani

Nance K. Dicciani

/s/ Robert W. Dudley

Robert W. Dudley

/s/ Claire S. Farley

Claire S. Farley

/s/ Michael S. Hanley

Michael S. Hanley

/s/ Virginia A. Kamsky

Virginia A. Kamsky

/s/ Albert J. Manifold

Albert J. Manifold

CONSOLIDATED FINANCIAL STATEMENTS

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF INCOME

Millions of U.S. Dollars, except per share data	Note	Year Ended December 31,	
		2022	2021
Revenue	5	\$ 51,739	\$ 47,203
Cost of sales	6	45,344	36,686
Gross profit		6,395	10,517
Selling costs	6	421	392
Administrative expenses	6	1,005	951
Impairments	15	69	624
Other (Income)/ expense, net	10	(65)	(224)
Operating profit		4,965	8,774
Finance income		32	12
Finance costs	11	(430)	(831)
Share of profit of investments accounted for using the equity method	17	16	397
Profit before income tax		4,583	8,352
Income tax benefit/(expense)	12	(785)	(1,533)
Profit for the year		3,798	6,819
Attributable to:			
Profit attributable to			
Owners of the Company		3,798	6,819
Non-controlling interests		—	—
		<u>\$ 3,798</u>	<u>\$ 6,819</u>
Earnings per share:			
Basic	13	\$ 11.56	\$ 20.37
Diluted	13	11.54	20.35

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Year Ended December 31,</u>	
		<u>2022</u>	<u>2021</u>
Profit for the year		\$ 3,798	\$ 6,819
Other comprehensive Income/ (loss), net of tax—			
<i>Items that will not be reclassified subsequently to profit or loss:</i>			
Remeasurements of post-employment benefits obligations	25	386	269
Tax benefit/(expense) from re-measurements of post-employment benefits obligations	12	(107)	(59)
		279	210
<i>Items that may be reclassified subsequently to profit or loss:</i>			
Unrealized gains on financial instruments at fair value through other comprehensive income		—	1
Income tax (expense) benefit on financial assets at fair value through other comprehensive income	12	—	—
		—	1
Net movement on cash flow hedges	4	307	126
Amount reclassified out of OCI to net income		(53)	(33)
Income tax benefit/ (expense) on cash flow hedges	12	(55)	(18)
		199	75
Cost of net investment hedges		(4)	(3)
Income tax (expense) benefit on net investment hedges	12	1	—
		(3)	(3)
Currency translation of foreign operations		(321)	(292)
Net movement in net investment hedges		237	197
Income tax benefit (expense) on net investment hedges	12	(60)	(46)
		(144)	(141)
Other comprehensive Income/ (loss), net of tax		331	142
Total comprehensive income		\$ 4,129	\$ 6,961
Attributable to:			
Owners of the Company		4,129	6,961
Non-Controlling interest		—	—
		\$ 4,129	\$ 6,961

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF FINANCIAL POSITION

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>December 31,</u>	
		<u>2022</u>	<u>2021</u>
ASSETS			
Non-current assets:			
Intangible assets	14	\$ 2,342	\$ 2,414
Property, plant and equipment	15	19,160	18,533
Right-of-use assets	16	1,867	2,089
Investments in associates and joint ventures	17	1,138	1,344
Deferred income tax assets	24	235	192
Derivative financial instruments	4	179	284
Trade and other receivables	19	223	151
Total non-current assets		25,144	25,007
Current assets:			
Inventories	18	5,790	6,161
Trade and other receivables	19	4,877	5,825
Financial assets at fair value through profit or loss		—	9
Derivative financial instruments	4	153	123
Income tax receivable		296	273
Cash and cash equivalents	20	2,389	1,626
Total current assets		13,505	14,017
Total assets		\$ 38,649	\$ 39,024

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF FINANCIAL POSITION

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>December 31,</u>	
		<u>2022</u>	<u>2021</u>
EQUITY AND LIABILITIES			
Equity attributable to the owners of the Company:	21		
Share capital		\$ 19	\$ 19
Share premium		169	94
Other reserves		(1,247)	(1,578)
Retained earnings		15,294	14,749
Treasury shares		(1,346)	(965)
Total Company share of shareholders' equity		12,889	12,319
Non-controlling interests	22	14	14
Total equity		12,903	12,333
Non-current liabilities:			
Borrowings	23	11,190	12,007
Lease liabilities	16	1,654	1,738
Deferred income tax liability	24	3,005	2,582
Retirement benefit obligations	25	1,025	1,473
Derivative financial instruments	4	252	386
Provisions	27	494	215
Accruals and deferred income		381	272
Total non-current liabilities		18,001	18,673
Current liabilities:			
Trade and other payables	26	5,994	6,465
Income tax payable		367	590
Borrowings	23	918	495
Lease liabilities	16	372	403
Derivative financial instruments	4	68	18
Provisions	27	26	47
Total current liabilities		7,745	8,018
Total liabilities		25,746	26,691
Total equity and liabilities		<u>\$ 38,649</u>	<u>\$ 39,024</u>

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Share Capital</u>	<u>Share Premium</u>	<u>Treasury Shares</u>	<u>Other Reserves</u>	<u>Retained Earnings</u>	<u>Equity attributable to the owners of the Company</u>	<u>Non- Controlling Interest</u>	<u>Total Equity</u>
Balance at January 1, 2021		\$ 19	\$ 35	\$ (531)	\$ (1,720)	\$ 9,421	\$ 7,224	\$ 17	\$ 7,241
<i>Transactions with owners:</i>									
Shares purchased	21	—	—	(477)	—	—	(477)	—	(477)
Common Stock dividends paid relating to 2021	21	—	—	—	—	(1,486)	(1,486)	—	(1,486)
Preferred stock dividends paid		—	—	—	—	(7)	(7)	—	(7)
Employees share-based payments:									
Issuance of shares		—	59	43	—	2	104	—	104
Distribution to Non-Controlling interest		—	—	—	—	—	—	(3)	(3)
		19	94	(965)	(1,720)	7,930	5,358	14	5,372
<i>Comprehensive income for the period:</i>									
Profit for the year		—	—	—	—	6,819	6,819	—	6,819
Other comprehensive income/ (loss):									
Financial derivatives		—	—	—	73	—	73	—	73
Remeasurements of post employment benefit obligation	12/ 25	—	—	—	210	—	210	—	210
Currency translation differences		—	—	—	(141)	—	(141)	—	(141)
Total Comprehensive income/ (loss) for the period		—	—	—	142	6,819	6,961	—	6,961
Balance at December 31, 2021		<u>\$ 19</u>	<u>\$ 94</u>	<u>\$ (965)</u>	<u>\$ (1,578)</u>	<u>\$ 14,749</u>	<u>\$ 12,319</u>	<u>\$ 14</u>	<u>\$ 12,333</u>

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Millions of U.S. Dollars	Note	Share Capital	Share Premium	Treasury Shares	Other Reserves	Retained Earnings	Equity attributable to the owners of the Company	Non- Controlling Interest	Total Equity
Balance at January 1, 2022		\$ 19	\$ 94	\$ (965)	\$ (1,578)	\$ 14,749	\$ 12,319	\$ 14	\$ 12,333
<i>Transactions with owners:</i>									
Shares purchased	21	—	—	—	—	—	—	—	—
Common Stock dividends paid relating to 2022	21	—	—	—	—	(3,246)	(3,246)	—	(3,246)
Preferred stock dividends paid		—	—	—	—	(7)	(7)	—	(7)
Employees share-based payments:									
Issuance of shares		—	75	25	—	(4)	96	—	96
Excess deferred tax on shares		—	—	—	—	4	4	—	4
Purchase of Ordinary Company Shares		—	—	(406)	—	—	(406)	—	(406)
		19	169	(1,346)	(1,578)	11,496	8,760	14	8,774
<i>Comprehensive income for the period:</i>									
Profit for the year		—	—	—	—	3,798	3,798	—	3,798
Other comprehensive income/ (loss):									
Financial derivatives		—	—	—	196	—	196	—	196
Remeasurements of post employment benefit obligation	12/ 25	—	—	—	279	—	279	—	279
Currency translation differences		—	—	—	(144)	—	(144)	—	(144)
Total Comprehensive income/ (loss) for the period		—	—	—	331	3,798	4,129	—	4,129
Balance at December 31, 2022		\$ 19	\$ 169	\$ (1,346)	\$ (1,247)	\$ 15,294	\$ 12,889	\$ 14	\$ 12,903

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF CASH FLOWS

Millions of U.S. Dollars	Note	Year Ended December 31,	
		2022	2021
Cash flows from operating activities:			
Profit before income tax		\$ 4,583	\$ 8,352
Adjustments for:			
Depreciation and amortization	6	1,784	1,901
Impairment of long lived assets	15	69	624
Share-based compensation	8	70	66
Finance cost, net		430	831
Other expense, net	10	(65)	—
Share of profit of investments accounted for using the equity method	17	(16)	(384)
Changes in working capital relating to:			
(Increase)/decrease in trade receivables		940	(1,634)
(Increase)/decrease in inventories		142	(2,467)
Increase/(decrease) in trade payables		(77)	1,514
Other, net		(353)	(163)
Cash generated from operations		7,507	8,640
Interest paid		(328)	(488)
Net income taxes paid		(746)	(310)
Net cash from operating activities		6,433	7,842
Cash flows from investing activities:			
Purchase of property, plant and equipment		(1,894)	(2,203)
Proceeds from the sale of equity securities at fair value through profit and loss (FVTPL)		8	335
Proceeds from sale and maturities of marketable securities held at fair value through other comprehensive income (FVOCI)	4	—	346
Purchases of business, associates and joint ventures	17	(19)	—
Net proceeds from sale of business, associates and joint ventures		15	8
Proceeds from settlement of net investment hedges		614	358
Payments for settlement of net investment hedges		(501)	(355)
Interest received		32	9
Dividends received from associates and joint ventures	17	258	253
Other, net		(235)	(141)
Net cash used in investing activities		(1,722)	(1,390)

See Notes to the Consolidated Financial Statements.

LYONDELLBASELL INDUSTRIES N.V.
CONSOLIDATED STATEMENT OF CASH FLOWS

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Year Ended December 31,</u>	
		<u>2022</u>	<u>2021</u>
Cash flows from financing activities:			
Repurchase of Company ordinary shares	21	\$ (420)	(463)
Repayments of borrowings	23	(103)	(3,925)
Proceeds from borrowings	23	—	141
Repayments of short-term debt		—	(68)
Costs Related to Repayment of long-term debt		—	(150)
Net repayments from commercial paper	23	(4)	(296)
Dividends paid	21	(3,246)	(1,486)
Preferred stock dividend paid		(7)	(7)
Purchase of non-controlling interest		—	—
Principal elements of lease payments		(382)	(352)
Payments on forward starting interest rate swaps that include financing elements		(48)	(112)
Proceeds from forward starting interest rate swaps		286	112
Settlement of cross currency swaps		—	—
Proceeds from settlement of hedge derivative contract		—	855
Payments for settlement of hedge derivative contract		—	(904)
Other, net		33	(9)
Net cash used in financing activities		(3,891)	(6,664)
Net (decrease)/ increase in cash and cash equivalents		\$ 820	\$ (212)
Cash and cash equivalents at beginning of period		1,626	1,933
Exchange rate differences		(57)	(95)
Cash and cash equivalents at end of the period	20	<u>\$ 2,389</u>	<u>\$ 1,626</u>

See Notes to the Consolidated Financial Statements.

1. General

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 production of polymers. LyondellBasell Industries N.V.'s shares are listed on the New York Stock Exchange ("NYSE"). The address of our principal executive offices is 4th Floor, One Vine Street, London, W1J0AH, The United Kingdom. Our registered office address is Delftseplein 27E, 3013 AA Rotterdam, The Netherlands and is registered at the chamber of commerce under number 24473890. Our other principal office is 1221 McKinney St., Suite 300 Houston, Texas, USA 77010.

The Consolidated Financial Statements for the year ended December 31, 2022 of LyondellBasell N.V. were approved for issue by the Board of Directors on April 5, 2023.

The Consolidated Financial Statements are subject to adoption by the Annual General Meeting of Shareholders on May 19, 2023.

2. Summary of Significant Accounting Policies

Basis of Preparation and Consolidation

The Consolidated Financial Statements of LyondellBasell N.V. and its subsidiaries have been prepared in accordance with International Financial Reporting Standards ("IFRS") and International Financial Reporting Interpretation Committee ("IFRIC") interpretations as issued by the International Accounting Standards Board ("IASB") and as adopted by the European Union.

Subsidiaries are entities over which the Company has control. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases. All intercompany transactions and balances have been eliminated in consolidation.

As the corporate financial information of LyondellBasell Industries N.V. is included in the Consolidated Financial Statements, the Corporate Statement of Income is presented in abbreviated format in accordance with Section 402, Book 2 of Dutch Civil Code.

The Consolidated Financial Statements have been prepared under the historical cost convention, except as noted for the use of fair value. Accounting policies of subsidiaries, associates and joint arrangements have been changed as needed to ensure consistency with the accounting policies adopted by the Company.

New and Amended Standards Adopted

We applied the following new and amended standards for the first time during the year:

Amendments to IAS 16, Proceeds before intended use—The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment, any proceeds of the sale of items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss. The Company applied the amendments retrospectively to items of property, plant and equipment made available for use on or after January 1, 2021. These amendments did not have a material impact on the Consolidated Financial Statements of the Company.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Reference to the Conceptual Framework – Amendments to IFRS 3—The amendments add an exception to the recognition principle of IFRS 3 Business Combinations to avoid the issue of potential ‘day 2’ gains or losses arising for liabilities and contingent liabilities that would be within the scope of IAS 37 Provisions, Contingent Liabilities and Contingent Assets or IFRIC 21 Levies, if incurred separately. The exception requires entities to apply the criteria in IAS 37 or IFRIC 21, respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date. The amendments also add a new paragraph to IFRS 3 to clarify that contingent assets do not qualify for recognition at the acquisition date.

The Company applied the amendments prospectively from January 1, 2022. These amendments had no impact on the Consolidated Financial Statements of the Company as there were no contingent assets, liabilities or contingent liabilities within the scope of these amendments that arose during the period.

Accounting Guidance Issued But Not Adopted as of December 31, 2022

Amendments to IAS 1, Classification of Liabilities as Current or Non-current — The amendments clarify that liabilities should be classified as either current or non-current, depending on the rights and obligations that exist at the end of the reporting period and should be unaffected by the expectations of the entity or events after the reporting date. The amendments are effective from January 1, 2023 and must be applied retrospectively. Early adoption is permitted. We are currently assessing the impact of the guidance on our Consolidated Financial Statements.

Amendments to IAS 8, Definition of Accounting Estimates — The amendment clarifies how companies should distinguish changes in accounting policies from changes in accounting estimates. The distinction is important, because changes in accounting estimates are applied prospectively to future transactions and other future events, but changes in accounting policies are generally applied retrospectively to past transactions and other past events as well as the current period. The amendments are effective from annual period beginning after January 1, 2023. We are currently assessing the impact of the guidance on our Consolidated Financial Statements.

Amendments to IAS 1 and IFRS Practice Statement 2 — The amendments require entities to disclose their material rather than their significant accounting policies. The amendments define what is ‘material accounting policy information’ and explain how to identify when accounting policy information is material. We are currently assessing the impact of the guidance on our Consolidated Financial Statements.

Investments in Associates and Joint Arrangements

Investments in entities over which we have the right to exercise significant influence but not control are classified as associates. Significant influence generally exists if we have an ownership interest representing between 20% and 50% of the voting rights. Arrangements under which we have contractually agreed to share control with another party or parties are joint arrangements, and classified either as, joint operations or joint ventures, depending on the contractual rights and obligations that each investor has, rather than the legal structure of the joint arrangement. The Company has assessed the nature of its joint arrangements and determined that it has both joint operations and joint ventures.

The Company recognizes its share of the assets, liabilities, revenue and expenses of joint operations on a line by line basis in the Consolidated Financial Statements. Interests in associates and joint ventures are accounted for using the equity method, are initially recognized at cost and subsequently adjusted for our share of profit or loss, other comprehensive income ("OCI") and distributed dividends. Where our share of the losses in an equity method investment equals or exceeds our interest in the entity, including any other unsecured long-term receivables, we do not recognize further losses unless we have incurred legal or constructive obligations on behalf of the other entity. Unrealized gains and losses on other transactions with the associates and joint arrangements are eliminated to the extent of our interest in them.

At each reporting date, we determine whether there is any objective evidence of impairment of our investments in associates or joint ventures. If an impairment is indicated, we calculate the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value and recognize the amount as a component of our Share of profit/(loss) of investments accounted for using the equity method in the Consolidated Statement of Income.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Foreign Currency Translation and Remeasurement

Functional and reporting currency—The consolidated financial statements are presented in U.S. dollar which is the functional currency of LyondellBasell N.V. Items included in the financial statements of each of LyondellBasell N.V.'s entities are measured using its respective functional currency which is the currency used in the primary economic environment in which it operates and then translated to the U.S. dollar reporting currency through OCI as follows:

- Assets and liabilities are translated at the closing rate at the reporting date;
- Income and expenses are translated at average exchange rates for the period presented; and
- All resulting exchange differences are recognized as a separate component within OCI (currency translation of foreign operations).

Transactions and Balances—Foreign currency transactions are recorded in the entity's functional currency using exchange rates prevailing at the transaction date. Foreign exchange gains and losses resulting from the settlement of such transactions and from the remeasurement of monetary assets and liabilities denominated in foreign currencies at year-end exchange rates are recognized in our Consolidated Statements of Income.

Foreign exchange gains and losses that relate to borrowings and cash and cash equivalents are presented in the Consolidated Statement of Income within Finance costs. All other foreign exchange gains and losses are presented in the Consolidated Statement of Income within Other expense, net.

Segment Reporting

Our operations are managed through six operating segments 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. Our chief operating decision maker uses 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 results is used by our chief operating decision maker to assess the performance of, and allocate resources to, our operating segments.

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 expense when incurred if the amortization period of the asset that we otherwise would have recognized is one year or less. In almost all of our contracts with the customers, shipping and handling costs are not determined to be a separate performance obligation.

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 and fulfillment of the performance obligation occurs within a short time frame. We apply the practical expedient which permits us not to adjust the promised amount of consideration for the effects of a significant financing component when, at contract inception, we expect that payment will occur in 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 Trade and other payables, consist primarily of customer payments for products or services received before the transfer of control to the customer occurs.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Share-Based Compensation

We grant restricted stock units (“RSUs”), stock option awards (“Stock options”), performance share units (“PSUs”), and other cash and stock awards to employees as a form of compensation. 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. 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 trade and other payables on the Consolidated statement of financial position. Dividend equivalents for PSUs are also recorded in Retained earnings. See Note 8 to the Consolidated Financial Statements for additional information.

Leases

The Company leases storage tanks, terminal facilities, land, office facilities, railcars, pipelines, barges, plant equipment and other equipment. Substantially all of our leases have remaining lease terms of 21 years or less and have a weighted-average remaining lease term of 9 years. While extension clauses included in our leases do not materially impact our right-of-use asset or lease liability, certain leases include options to extend the lease for up to 20 years. Contracts may contain both lease and non-lease components. We elected the practical expedient to account for lease and associated non-lease components as a single component for all asset classes with the exception of utilities and pipeline assets within major manufacturing equipment.

Assets and liabilities arising from leases are initially measured on the present value of the lease payments over the lease terms discounted using our incremental borrowing rate, unless an implicit rate is readily determined. Lease payments include fixed payments, variable payments which are derived from usage or market-based indices such as the consumer price index, and the exercise price of options to extend or terminate the lease, when it is reasonably certain that we will exercise those options. Right-of-use assets are measured at cost comprising of the amount of initial measurement of lease liability, initial direct costs, and restoration costs. The lease liability is remeasured with a corresponding adjustment to the related right-of-use asset whenever the lease payments change due to changes in an index or rate. The lease liability is remeasured by discounting the revised lease payments using an unchanged discount rate.

Leases that have an initial term of 12 months or less and do not contain a purchase option are not recorded on the Consolidated Statement of Financial Position.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. Right-of-use assets are generally depreciated over the shorter of the asset’s useful life and the lease term on a straight-line basis.

Intangible Assets

Intangible Assets—Intangible assets primarily consist of customer relationships, trade names, know-how, emission allowances, various contracts (favorable utility contracts and licensing contracts), research and development costs and software costs. These assets are amortized using the straight-line method over the shorter of their estimated useful lives or the expected term of the contractual agreement and generally as follows:

- 5 years for technology patents and licenses
- 15-25 for emission allowances
- 15 years for customer relationships
- 1-16 years for various contracts
- 3-10 years for software

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Research and development—Costs incurred on development projects are recognized as intangible assets when it is probable that we will achieve economic benefits in the future, considering its commercial and technological feasibility, and costs can be measured reliably. Research expenditure and development expenditure that do not meet the aforementioned criteria are recognized as expense as incurred. Amortization starts when development is complete and the asset is available for use. It is amortized over the period of expected future benefit.

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 when it is probable that there is an associated future economic benefit, and committed decommissioning costs. Routine maintenance and repair costs are expensed as incurred. Land is not depreciated.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets to their residual values, generally as follows:

- 25 years for major manufacturing equipment
- 30 years for buildings
- 5 to 20 years for light equipment and instrumentation
- 15 years for office furniture
- 2 to 7 years for turnarounds of major units, and
- 3 to 5 years for information system equipment.

The residual values and useful lives of assets are reviewed, and adjusted if appropriate, whenever events or circumstances indicate that a revision is warranted.

Business Combination

We recognize and measure the assets acquired and liabilities assumed in a business combination based on their estimated fair values at the acquisition date, with any remaining difference versus the purchase consideration recorded as goodwill or gain from a bargain purchase. Subsequent to the acquisition, and no later than one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill or gain from a bargain purchase on a retrospective basis and comparative information is restated. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings. Acquisition-related costs are expensed as incurred.

Goodwill

Goodwill is allocated to the operating group of cash-generating units which represents the lowest level at which the goodwill is monitored for internal management purposes which for us is at the operating segment level. The cash generating units to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro-rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognized for goodwill is not reversed in a subsequent period.

Impairments of Non-Financial Assets

Non-financial assets are reviewed for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the carrying amount of the asset exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows (cash-generating units) which for the Company 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). Non-financial assets other than goodwill that have been impaired are reviewed for possible reversal of the impairment at each reporting date.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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 Statement of Financial Position. Gains and losses related to changes in the fair value of derivative instruments not designated as hedges are recorded in the Consolidated Statement of Income.

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.

At the inception of the transaction, all relationships between hedging instruments and hedged items are documented, as well as risk management objectives and strategies for undertaking hedge transactions. The effectiveness of hedges is also assessed at inception and periodically thereafter and hedge accounting is discontinued when there is a change in the risk management objective.

(a) 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 re-designation and re-designation of the hedge to remove such over-hedged condition.

(b) 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 forward starting interest rate swaps, and commodity futures, options, and swaps. For derivatives designated as cash flow hedges, the effective portion of the change in the fair value of a derivative contract is recognized 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; any ineffective portion is recognized in income.

We use the critical terms and the quantitative long-haul methods to assess hedge effectiveness and monitor, at least quarterly, any change in effectiveness. We use the dollar offset method under the hypothetical derivative method to measure ineffectiveness.

We enter into forward-starting interest rate contracts to mitigate the risk of 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.

(c) 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.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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. We use the dollar offset method to measure ineffectiveness.

Classification and Measurement of Financial Assets

All financial instruments are initially recognized at fair value on the date of initial recognition and subsequently remeasured depending on its classification.

Financial instruments are carried at amortized cost using the effective interest rate method, unless they are required to be measured at fair value or where the Company has opted to measure them at FVTPL.

Offsetting Financial Instruments

When there is a legally enforceable right to offset and the intention to net settle, the financial assets and financial liabilities are reported on a net basis in the Consolidated Statement of Financial Position.

Fair Value Measurement

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 in active markets for identical assets or liabilities. Level 2 inputs are observable inputs other than quoted prices included within Level 1 for the asset or liability, either directly or indirectly through market corroborated inputs. Level 3 inputs are unobservable inputs for the asset or liability reflecting significant modifications to observable related market data or our assumptions about pricing by market participants.

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 annually at year end. 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 4 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 from public exchanges and from third-party broker quotes and pricing providers.

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.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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

Financial Assets at FVOCI/FVTPL—The fair value of our investments in debt securities is calculated using observable market data for similar securities and broker quotes from recognized purveyors of market data. The fair value of our equity interest in limited partnership investments is based on the net asset value provided by the fund administrator and are classified as Level 2 in the fair value hierarchy on the basis of their redemption features.

Short-Term Debt—The fair value of short-term borrowings related to precious metal financing arrangements accounted for as embedded derivatives are determined based on the forward market 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. The fair value of our term loan was determined based on a discounted cash flow model using observable inputs such as benchmark interest rates and public information regarding our credit risk.

Impairment of Financial Assets

We measure the allowance for trade receivables losses at an amount equal to lifetime expected credit loss ("ECL") using historical loss rates for the respective risk categories and incorporating forward-looking estimates. The allowance is recorded in Selling costs in the Consolidated Statement of Income.

We measure the allowance for debt security instruments losses at an amount equal to the lifetime ECL if the credit risk on that financial instrument has increased significantly since initial recognition. However, if the credit risk on a financial instrument has not increased significantly since initial recognition, we measure the loss allowance for that financial instrument at an amount equal to 12-month ECL. The change in the allowance for credit losses is recorded in the Consolidated Statement of Income and is updated at each reporting date to reflect the changes in credit risk.

Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the first in, first out ("FIFO") method and comprises direct purchase costs and other directly attributable costs including related production overheads (based on normal operating capacity). Net realizable value is the estimated selling price in the ordinary course of business, less the estimated cost of completion and the estimated costs necessary to make the sale.

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.

Cash Equivalents

Cash equivalents consist of highly liquid debt instruments such as certificates of deposit, commercial paper and money market accounts placed with major international banks and financial institutions. Cash equivalents include instruments with maturities of three months or less when acquired. Bank overdrafts are shown within Borrowings in current liabilities on the consolidated statement of financial position. Cash and cash equivalents exclude restricted cash.

Income Taxes

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

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the Consolidated statement of financial position, and any adjustment to tax payable in respect to previous years. Management evaluates positions with respect to applicable tax regulation which is subject to interpretation. The Company establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities. Where it is not considered probable that a particular tax treatment will be accepted, the effect of the uncertainty is reflected in the tax provision by estimating the tax payable (or receivable) using either the most likely amount method or the expected value method.

Deferred income taxes reflect the tax net effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the net tax effects of net operating loss carryforwards, using the liability method. Deferred income taxes are measured at the tax rates and under the tax laws that have been enacted or substantially enacted at the Consolidated statement of financial position and are expected to apply when the related deferred tax assets are realized or the deferred tax liabilities are settled. The carrying amount of deferred tax assets is reviewed at each consolidated statements of financial position date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to enable all or part of the asset to be recovered.

Employee Benefits

Pension Plans—We have both funded and unfunded defined benefit plans and defined contribution plans. For the defined benefit plans, a defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. When the calculation results in a potential asset, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan.

Pension costs primarily represent the increase in the actuarial present value of the obligation for pension benefits based on employee service during the year. Pension costs also include the net interest expense (income) that is calculated as the product of the net defined benefit liability (asset) and the discount rate determined at the end of the year and employees past-service costs.

Remeasurement gains and losses arising from experience adjustments, changes in actuarial assumptions and the return on plan assets (excluding interest) are charged or credited to Equity and are reflected in OCI in the period in which they arise. Remeasurements recognized in OCI are not reclassified.

For defined contribution plans, we pay contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The contributions are recognized as employee benefit expense when they are due.

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 using the same accounting methodology as used for defined benefit plans.

Termination Benefits—Termination benefits are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary termination benefits. We recognize termination benefits when we are committed to terminating the employment of employees according to a detailed formal plan without possibility of withdrawal. In the case of an offer for voluntary termination benefits, the termination benefits are measured based on the number of employees expected to accept the offer. Benefits due more than 12 months after the end of the reporting period are discounted to present value.

Trade and Other Payables

Trade and other payables are presented as current liabilities unless payment is not due within 12 months after the reporting period. Trade and other payables are initially recognized at fair value and subsequently measured at amortized cost.

Other Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and the amount can be reliably estimated. Provisions are not recognized for future operating losses.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Asset Retirement Obligation—At some sites, we are contractually obligated to decommission our plants upon site exit. The asset retirement obligation is generally recognized when the construction of the asset is complete. Upon initial recognition, the present value of the estimated costs is capitalized to the cost of the related long-lived asset and depreciated on a straight-line basis over the useful life of the asset. Accretion expense relating to the liability is recognized over the useful life of the related asset and included in Finance costs.

Share capital

Ordinary shares are classified as equity. The consideration paid, including any directly attributable incremental costs (net of income taxes) for the shares repurchased by the Company (treasury shares), is deducted from equity attributable to the Company's equity holders until the shares are cancelled or reissued. Where such ordinary shares are subsequently reissued, any consideration received, net of any directly attributable incremental transaction cost and the related income tax effects, is included in equity attributable to the Company's equity holders.

3. Critical Accounting Estimates and Judgments

The preparation of financial statements in conformity with IFRS requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and the reported amounts of revenue and expenses during the period as well as the information disclosed.

Critical Accounting Estimates and Assumptions

For our critical accounting estimates and assumptions, reference is made to the notes to these Consolidated Financial Statements, including the determination of deferred tax assets for loss carry forwards and the provision for tax contingencies (see Notes 12 and 24), the determination of the value in use of cash-generating units for use in goodwill impairment testing (see Note 14), the depreciation rates for property, plant and equipment (see Note 15) and intangible assets (see Note 14), the discount rate used to determine the provision for retirement benefit obligations and periodic pension cost (see Note 25) and the more likely than not assessment required to determine if a provision should be recognized and measured (see Notes 27 and 28).

Also, reference is made to Note 4 Financial Risk Management, which discusses our exposure to credit risk and financial market risks.

Actual results in the future may differ from these estimates. Management estimates and judgments are continually evaluated based on historic experience and other factors, including expectations of future events believed to be reasonable under the circumstances.

Critical Accounting Estimates or Judgments in Applying LyondellBasell N.V.'s Accounting Policies

Property, Plant and Equipment and Intangible Assets—With respect to property, plant and equipment and intangible assets, key assumptions include estimates of useful lives and the recoverability of carrying values of fixed assets and other intangible assets. Such estimates could be significantly modified and/or the carrying values of the assets could be impaired by such factors as 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.

Houston Refinery Impairment—During the fourth quarter of 2021, we identified impairment triggers relating to our Houston refinery's cash-generating unit which resulted in non-cash impairment charges of \$624 million. Refer to Note 15 to our Consolidated Financial Statements.

In 2021, the Houston refinery's estimated fair value was calculated using a market approach which utilized unobservable inputs, which generally consist of market information provided by unrelated third parties.

In management's assessment, the underlying fundamentals and circumstances resulting in the impairment of the Houston refinery still exist and as such there is no reversal of the impairment loss (including partial reversal) previously recorded at December 31, 2022.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

These estimates required considerable judgment and are sensitive to changes in underlying assumptions such as future commodity prices, margins on refined products, 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.

Goodwill—As of December 31, 2022, the Goodwill balance was \$1,634 million. Of this amount \$1,271 million was recognized as a result of the acquisition of A. Schulman in August 2018, which is included in our APS segment, and is mainly attributed to acquired workforce and expected synergies. The remaining goodwill at December 31, 2022 represents the tax effect of the differences between the tax and book bases of our assets and liabilities resulting from the revaluation of those assets and liabilities to fair value in connection with the Company's acquisition of LyondellBasell Subholdings B.V. and LyondellBasell Finance Company on April 30, 2010.

Goodwill is allocated to a group of cash-generating units and tested for impairment annually or more frequently if events or changes in circumstances indicate impairment. For the purpose of impairment testing, goodwill is allocated to each of our cash-generating units. If the recoverable amount of the cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro-rata on the basis of the carrying amount of each asset in the unit. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. An impairment loss recognized for goodwill is not reversed in a subsequent period. On disposal of a cash-generating unit, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

For the years 2022 and 2021, no goodwill impairments were recognized. The recoverable amount of the cash-generating units to which goodwill has been allocated was determined based on a value-in-use model which utilized our financial budgets and extrapolated growth models, and discounted using the weighted average cost of capital of the Company.

Joint Arrangements—We are a party to several joint arrangements. The Company has joint control over these arrangements as unanimous consent is required from all parties to the agreements to direct the activities that significantly affect the returns of the arrangement, such as annual production budgets, capital expenditures, indebtedness, election of key management team members, approval of pricing policies and admission of new parties.

The classification of these joint arrangements as either a joint operation or a joint venture is driven by the rights and obligations of the parties particularly as it relates to transfer of marketing rights, off-take obligations, and credit risks relating to the activities of the arrangement to the parties rather than the legal form of the arrangement.

The joint ventures of the Company are structured as legal entities and provide the parties to the agreements with rights to the net assets of the entities under the arrangements. The parties are not substantially the only source of cash flows contributing to the continuity of the operations of the joint venture.

The output of the joint operations of the Company is for the sole use of the parties to the joint arrangement. The parties are substantially the only source of cash flows contributing to the continuity of the operations of the joint operation.

Employee Benefits—Our costs for long-term employee benefits, particularly pension and other postretirement medical and life insurance benefits, are incurred over long periods of time, and involve many uncertainties over those periods.

The current benefit service costs, as well as the existing liabilities, for pensions and other postretirement 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.

The benefit obligation and the periodic cost of other postretirement medical benefits are measured based on assumed rates of future increase in the per capita cost of covered health care benefits.

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.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

4. Financial Risk Management

We are exposed to market risks, such as changes in commodity pricing, currency exchange rates and interest rates.

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. The impact of a 10% change in our commodity prices at December 31, 2022 would be \$52 million impact on earnings and at December 31, 2021 the impact was immaterial.

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 Other comprehensive income.

We enter 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. The table below illustrates the impact on Other comprehensive loss of a 10% fluctuation in the foreign currency rate associated with the hedges at December 31:

Millions of euros/U.S. dollars	Notional Amount		10% Variance on Foreign Currency Rate	Impact on Other Comprehensive Loss	
	2022	2021		2022	2021
Net investment hedges:					
Cross Currency Basis Swaps	€ 617	€ 617	euro/U.S. dollar rate	\$ 67	\$ 71
Cross Currency Swaps	€ 750	€ 750	euro/U.S. dollar rate	\$ 75	\$ 92
Forward Exchange Contracts	€ 1,350	€ 1,250	euro/U.S. dollar rate	\$ 138	\$ 142

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 outstanding inter-company and third party 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 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 losses of \$14 million and \$2 million in 2022 and 2021, respectively. A 10% fluctuation compared to the U.S. dollar would have resulted in an additional impact to earnings of approximately \$17 million and \$4 million in 2022 and 2021 respectively.

We also enter into cross-currency swap contracts to reduce our exposure to the foreign currency exchange risk and manage the variability of cash flows associated with certain intercompany loans. A 10% fluctuation compared to the U.S. dollar would have resulted in additional impact to earnings of approximately \$113 million and \$134 million, respectively.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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 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 are designated as cash flow hedges. We estimate that a 10% change in market interest rates as of December 31, 2022 and 2021 would change the fair value of these forward-starting interest rate swaps by approximately \$23 million and \$48 million, respectively.

Fixed-rate debt—We enter into interest rate swaps that effectively convert our fixed-rate debt to variable-rate debt. These interest rate swaps are designated as fair value hedges. At December 31, 2022 and 2021 the total notional amount of these interest rate swaps was \$2,164 million and \$1,163 million, respectively.

At December 31, 2022, 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, 2022 would change the fair value of these interest rate swaps by approximately \$35 million, while an equivalent change in market interest rates as of December 31, 2021 would not materially impact the fair value of these interest rate swaps.

Variable-rate debt—At December 31, 2022 our variable rate-debt consisted of \$200 million outstanding under our Commercial Paper Program. We also have available borrowing capacity under our \$3,250 million Senior Revolving Credit Facility and our \$900 million U.S. Receivables Facility. At December 31, 2022 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, 2022 and 2021 would not materially impact the fair value of these facilities.

Capital Risk Management—The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business and maximize shareholder value. Capital includes equity attributable to the equity holders of the parent.

The Group manages its capital structure and makes adjustments to it in light of changes in economic conditions. To maintain or adjust the capital structure, the Group may issue new debt, repay debt, return capital to shareholders or issue new shares.

Liquidity and Capital Resources—As of December 31, 2022 we had unrestricted cash and cash equivalents of \$2,389 million (\$1,626 million in 2021). In addition at December 31, 2022 we had total unused availability under our credit facilities of \$3,844 million (\$3,946 million in 2021).

We may repay or redeem our debt, including purchases of our outstanding bonds in the open market, using cash and cash equivalents, cash from our short-term investments, cash from operating activities, proceeds from the issuance of debt, proceeds from asset divestitures, or a combination thereof. In connection with any repayment or redemption of our debt, we may incur cash and non-cash charges, which could be material in the period in which they are incurred.

We plan to fund our ongoing 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. Cash and cash equivalents, cash from our short-term investments, cash from operating activities, proceeds from the issuance of debt, or a combination thereof, may be used to fund the purchase of shares under our share repurchase authorization.

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 solid investment grade balance sheet continues to be the foundation of our capital allocation strategy.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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.

The table below provides a maturity analysis of our financial liabilities based on the remaining contractual maturities as of December 31.

Millions of U.S. Dollars	Total obligations	Less than 1 year	Between 1 to 2 years	Between 2 to 5 years	Over 5 years
December 31, 2022					
Borrowings	\$ 12,508	\$ 927	\$ 878	\$ 2,232	\$ 8,471
Interest payment on total borrowings	8,376	456	412	1,116	6,392
Trade and other payables	5,994	5,994	—	—	—
Lease liabilities	2,370	430	359	758	823
Derivatives liability	320	68	3	118	131
	<u>\$ 29,568</u>	<u>\$ 7,875</u>	<u>\$ 1,652</u>	<u>\$ 4,224</u>	<u>\$ 15,817</u>

Millions of U.S. Dollars	Total obligations	Less than 1 year	Between 1 to 2 years	Between 2 to 5 years	Over 5 years
December 31, 2021					
Borrowings	\$ 12,682	\$ 501	\$ 527	\$ 2,138	\$ 9,516
Interest payment on total borrowings	8,888	469	873	778	6,768
Trade and other payables	6,465	6,465	—	—	—
Lease liabilities	2,534	462	351	755	966
Derivatives liability	404	18	106	218	62
	<u>\$ 30,973</u>	<u>\$ 7,915</u>	<u>\$ 1,857</u>	<u>\$ 3,889</u>	<u>\$ 17,312</u>

Credit Risk—Investments in cash and cash equivalents and transactions involving derivative financial instruments are entered into with counterparties that have sound credit ratings and a good reputation. Fair value through Other comprehensive income (“FVOCI”) investments consist of bonds with counterparties whose credit ratings are investment grade and other high-quality instruments. Fair value through profit and loss (“FVTPL”) investments consist mainly of limited partnership investments, which include investments in, among other things, equities and equity related securities, debt securities, credit instruments, supply chain finance, global interest rate products, currencies, commodities, futures, options, warrants and swaps. The balance of Financial assets through FVTPL is zero for 2022. These investments are with counterparties whose credit ratings are investment grade and other high-quality instruments.

We have a global credit risk management policy to minimize credit losses due to non-performance of our customer base. We monitor our exposure to credit risk on an on-going basis through a team of credit professionals stationed in our key global markets. We continue to manage our customer credit risk very closely by monitoring our aging analysis along with payment and financial performance. Where appropriate, additional security instruments, letters of credit or corporate guarantees, are secured. Due to our global breadth and scale, we do not have a significant concentration of customer risk. Our single largest trade receivable balance amounted to \$101 million and \$136 million at December 31, 2022 and 2021, respectively.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Financial Instruments and Fair value Measurements

Millions of U.S. Dollars	2022				2021			
	Financial Assets at Amortized Cost	Assets Held at Fair Value	Derivatives Used for Hedging	Total	Financial Assets at Amortized Cost	Assets Held at Fair Value	Derivatives Used for Hedging	Total
Financial Assets at December, 31								
Trade and other receivables excluding prepayments	\$ 4,511	\$ —	\$ —	\$ 4,511	\$ 5,349	\$ —	\$ —	\$ 5,349
Derivative financial instruments	—	93	239	332	—	46	361	407
Financial assets at FVTPL	—	—	—	—	—	9	—	9
Cash and cash equivalents	2,389	—	—	2,389	1,626	—	—	1,626
Total	\$ 6,900	\$ 93	\$ 239	\$ 7,232	\$ 6,975	\$ 55	\$ 361	\$ 7,391
Financial Liabilities at December, 31								
	Other Financial Liabilities at Amortized Cost	Liabilities at Fair Value through Profit and Loss	Derivatives Used for Hedging	Total	Other Financial Liabilities at Amortized Cost	Liabilities at Fair Value through Profit and Loss	Derivatives Used for Hedging	Total
Borrowings	\$ 12,108	\$ —	\$ —	\$ 12,108	\$ 12,502	\$ —	\$ —	\$ 12,502
Lease liabilities	2,026	—	—	2,026	2,141	—	—	2,141
Derivative financial instruments	—	43	277	320	—	66	338	404
Trade and other payables	5,994	—	—	5,994	6,465	—	—	6,465
Total	\$ 20,128	\$ 43	\$ 277	\$ 20,448	\$ 21,108	\$ 66	\$ 338	\$ 21,512

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

Millions of U.S. Dollars	December 31, 2022		December 31, 2021	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Liabilities—				
Short term debt	\$ 918	\$ 890	\$ 495	\$ 470
Long-term debt	11,190	9,551	12,007	13,547
Total	\$ 12,108	\$ 10,441	\$ 12,502	\$ 14,017

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)

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

Millions of U.S. Dollars	December 31, 2022		December 31, 2021		Fair value Level	Statement of financial position classification
	Notional Amount	Fair Value	Notional Amount	Fair Value		
Assets—						
Derivatives designated as hedges:						
Foreign currency	\$ 2,478	\$ 197	\$ 2,399	\$ 87	2	Derivative financial instruments
Interest Rates	400	42	300	249	2	Derivative financial instruments
Commodities	—	—	41	25	2	Derivative financial instruments
Derivatives not designated as hedges:						
Commodities	192	28	221	30	2	Derivative financial instruments
Commodities	523	25	—	—	3	Derivative financial instruments
Foreign currency	1,310	40	34	16	2	Derivative financial instruments
Non-derivatives:						
Equity securities	—	—	9	9		
	<u>\$ 4,903</u>	<u>\$ 332</u>	<u>\$ 3,004</u>	<u>\$ 416</u>		
Liabilities—						
Derivatives designated hedges:						
Foreign currency	650	10	650	48	2	Derivative financial instruments
Interest Rates	2,164	253	1,863	290	2	Derivative financial instruments
Commodities	35	14	—	—	2	Derivative financial instruments
Derivatives not designated hedges:						
Commodities	57	14	24	1	2	Derivative financial instruments
Commodities	409	12	—	—	3	Derivative financial instruments
Foreign Currency	236	17	1,338	65	2	Derivative financial instruments
	<u>\$ 3,551</u>	<u>\$ 320</u>	<u>\$ 3,875</u>	<u>\$ 404</u>		

The commodity financial instruments categorized as level 3 relate to the contract for differences for electricity within the virtual power purchase agreements. The level 3 fair value is calculated as the present value of the expected cash flows under the contracts. The key valuation parameter used within these determinations is the expected future electricity prices, which ranged from \$0/megawatt-hour to \$7,521/megawatt-hour.

As these contract extend to periods where observable pricing data is limited and so a more than insignificant portion of their value may include estimates, day one gains of \$142 million were deferred and unamortized as of December 31, 2022.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Derivative Instruments and hedges

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

<u>Millions of dollars</u>	<u>December 31, 2022</u>		<u>December 31, 2021</u>		<u>Maturity Date</u>
	<u>Notional Amount</u>		<u>Notional Amount</u>		
Derivatives designated as hedges:					
Cash flow hedges	\$	35	\$	41	2023
Derivatives not designated as hedges:					
Commodity contracts		1,181		245	2023 to 2041

Interest rates—The following table presents the notional amounts outstanding interest rate derivative instruments:

<u>Millions of dollars</u>	<u>December 31, 2022</u>		<u>December 31, 2021</u>		<u>Maturity Date</u>
	<u>Notional Amount</u>		<u>Notional Amount</u>		
Cash flow hedges	\$	400	\$	1,000	2024
Fair value hedges		2,164		1,163	2025 to 2031

As of December 31, 2022, there was no collateral remaining as it had been returned. The ineffectiveness recorded for this hedging relationship was \$10 million and \$3 million for the years ended December 31, 2022 and 2021, respectively.

As of December 31, 2021, Non-Current derivative financial instruments included \$238 million of collateral related to these forward-starting interest swaps.

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

<u>Millions of dollars</u>	<u>December 31, 2022</u>		<u>December 31, 2021</u>		<u>Maturity Date</u>
	<u>Notional Amount</u>		<u>Notional Amount</u>		
Net investment hedges	\$	3,128	\$	3,048	2023 to 2030
Cross currency swaps not designated		1,150		1,150	2024 to 2027
Not designated		396		222	2023

For the year ended December 31, 2022, we recognized \$4 million loss in Other comprehensive income relating to the cost of hedging and \$4 million gain in profit and loss related to ineffectiveness. For the year ended December 31, 2021, we recognized less than \$1 million loss in other comprehensive income relating to the cost of hedging and \$4 million gain in profit or loss relating to ineffectiveness

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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

<u>Millions of dollars</u>	Effect of Derivative Instruments			
	Year Ended December 31, 2022			
	Statement of financial position		Statement of income	
	Gain (Loss) Recognized in OCI	Gain (Loss) Reclassified to Income from OCI	Additional Gain (Loss) Recognized in Income	Statement of income Classification
Derivatives designated as hedges:				
Commodities	\$ 21	\$ (59)	\$ —	Cost of sales
Foreign currency	232	—	50	Finance Costs
Interest rates	286	5	(211)	Finance Costs
Derivatives not designated as hedges:				
Commodities	—	—	72	Revenue
Commodities	—	—	(9)	Cost of sales
Foreign currency	—	—	16	Other (expense) income, net
Foreign currency	\$ —	\$ —	\$ 17	Finance Costs
Total	<u>\$ 539</u>	<u>\$ (54)</u>	<u>\$ (65)</u>	

<u>Millions of dollars</u>	Year Ended December 31, 2021			
	Statement of financial position		Statement of income	
	Gain (Loss) Recognized in OCI	Gain (Loss) Reclassified to Income from OCI	Additional Gain (Loss) Recognized in Income	Statement of income Classification
	Derivatives designated as hedges:			
Commodities	\$ 54	\$ (34)	\$ —	Cost of sales
Foreign currency	195	—	11	Finance Costs
Interest rates	72	5	(10)	Finance Costs
Derivatives not designated as hedges:				
Commodities	—	—	20	Revenue
Commodities	—	—	69	Cost of sales
Foreign currency	—	—	124	Other (expense) income, net
Foreign currency	—	—	30	Finance Costs
Total	<u>\$ 321</u>	<u>\$ (29)</u>	<u>\$ 244</u>	

Other Financial Instruments:

Cash and Cash Equivalents—At December 31, 2022 and 2021, we had marketable securities classified as Cash and cash equivalents of \$1,191 million and \$438 million, respectively.

Investments in Equity Securities—The cost basis of our investment in equity securities was \$9 million as of December 31, 2021. As of December 31, 2022, there was no investments in equity securities remaining. The investment was under an orderly voluntary liquidation by the fund administrator in 2021. We received proceeds of \$8 million, \$335 million and \$313 million from the sale or liquidation of this investment during the years ended December 31, 2022, 2021 and 2020, respectively. The investment was fully liquidated in January 2022.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

5. Revenues

Contract Balances—Contract liabilities were \$167 million and \$169 million at December 31, 2022 and 2021, respectively. We are obligated to deliver products or services in connection with sales agreements under which customer payments were received before transfer of control to the customers occurs. These contract liabilities will be recognized in earnings when control of the product or service is transferred to the customer.

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.

Revenues disaggregated by key products are summarized below:

<u>Millions of U.S. dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues:		
Olefins & co-products	\$ 5,090	\$ 5,343
Polyethylene	9,892	10,437
Polypropylene	6,871	8,336
Propylene oxide & derivatives	3,369	2,885
Oxyfuels and related products	5,482	3,587
Intermediate chemicals	4,044	3,450
Compounding and solutions	4,202	4,135
Advanced polymers	1,030	1,001
Refined products	10,975	7,178
Other	784	851
Total	<u>\$ 51,739</u>	<u>\$ 47,203</u>

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

<u>Millions of U.S. dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Sales and other operating revenues:		
United States	\$ 24,789	\$ 22,526
Germany	3,555	3,395
China	3,621	3,201
Mexico	2,042	1,572
Italy	1,954	1,828
Poland	1,737	1,180
Japan	1,366	1,417
France	1,271	1,431
The Netherlands	1,178	1,390
Other	10,226	9,263
Total	<u>\$ 51,739</u>	<u>\$ 47,203</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Transaction Price Allocated to the Remaining Performance Obligations—We have elected to exclude contracts which have an initial term of one year or less from this disclosure. 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 influence, including volatility in commodity markets, industry production capacities and operating rates, planned and unplanned industry operating interruptions, foreign exchange rates and worldwide geopolitical trends.

6. Expenses by Nature

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Year Ended December 31,</u>	
		<u>2022</u>	<u>2021</u>
Change in inventories of finished goods and work in progress		\$ 1,513	\$ (2,639)
Raw materials and utilities		36,874	32,486
Employee benefit expenses	7	3,163	3,242
Depreciation and amortization	15,16	1,784	1,901
Distribution expenses		1,395	1,327
Other expenses		2,041	1,712
Total cost of sales, selling costs, and administration expenses		\$ 46,770	\$ 38,029

7. Employee Benefit Expenses

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Year Ended December 31,</u>	
		<u>2022</u>	<u>2021</u>
Wages and salaries		\$ 2,415	\$ 2,490
Social security		390	408
Share-based compensation granted to directors and employees	8	70	66
Pension costs - defined benefit obligations	25	85	119
Pension costs - defined contribution obligations		68	65
Other post-employment benefits - defined benefit obligations	25	8	10
Other employee benefits		127	84
Total cost of employee benefits		\$ 3,163	\$ 3,242

8. Share-Based Compensation Granted to Directors and Employees

We are authorized to grant RSUs, Stock options, PSUs, 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. Assuming a maximum payout for our PSU awards, there were 9,134,270 shares available for issuance as of December 31, 2022.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Compensation expense:		
Restricted stock units	\$ 33	\$ 30
Stock options	8	9
Performance share units	29	27
Total	<u>\$ 70</u>	<u>\$ 66</u>
Tax benefit:		
Restricted stock units	\$ 8	\$ 7
Stock options	2	2
Performance share units	7	6
Total	<u>\$ 17</u>	<u>\$ 15</u>

Restricted Stock Unit Awards—RSUs entitle the recipient to be paid out an equal number of ordinary shares upon vesting. RSUs generally cliff vest 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, 2022 and 2021 was \$96.14 and \$104.43, respectively. The total fair value of RSUs vested and issued during 2022 and 2021 was \$20 million and \$27 million, respectively.

The following table summarizes RSU activity:

	<u>2022</u>		<u>2021</u>	
	<u>Number of Units (in thousands)</u>	<u>Weighted Average Granted Fair Value (Per Share)</u>	<u>Number of Units (in thousands)</u>	<u>Weighted Average Granted Fair Value (Per Share)</u>
Outstanding at January 1	738	\$ 93.43	693	\$ 88.45
Granted	487	96.14	390	104.43
Vested	(335)	92.47	(270)	96.29
Forfeited	(42)	95.17	(75)	94.38
Outstanding at December 31	<u>848</u>	<u>\$ 95.28</u>	<u>738</u>	<u>\$ 93.43</u>

As of December 31, 2022, the unrecognized compensation cost related to RSUs was \$39 million, which is expected to be recognized over a weighted average period of two years.

Stock Option Awards—Stock options allow employees the opportunity in the future to purchase ordinary shares of stock in the future at an exercise price equal to the market price at the date of grant. The 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.

The fair value of each Stock option is estimated based on several assumptions, 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.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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.

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

	Year Ended December 31,	
	2022	2021
Weighted average fair value:	\$ 24.27	\$ 20.49
Fair value assumptions:		
Dividend yield	4.3 %	5.9 %
Expected volatility	39.1-40.7%	39.1-39.4%
Risk-free interest rate	1.9-4.2%	0.9-1.0%
Weighted average expected term, in years	5.4	5.6

The following table summarizes Stock option activity:

	Number of Shares (in thousands)	Weighted Average Exercise Price ⁽¹⁾	Weighted Average Remaining Term	Aggregate Intrinsic Value (Millions of U.S. Dollars)
Outstanding at January 1, 2021	2,404	\$ 88.36		
Granted	537	104.48		
Exercised	(356)	87.83		
Forfeited	(135)	96.89		
Expired	(1)	103.71		
Outstanding at December 31, 2021	2,449	\$ 91.50	7.4 years	\$ 13
Exercisable at December 31, 2021	1,741	\$ 90.14	5.4 years	\$ 10
Outstanding at January 1, 2022	2,449	\$ 91.50		
Granted	372	92.16		
Exercised	(221)	86.23		
Forfeited	(2)	98.40		
Expired	(7)	108.46		
Outstanding at December 31, 2022	2,591	\$ 87.46	5.6 years	\$ 5
Exercisable at December 31, 2022	1,856	\$ 85.69	4.5 years	\$ 4

⁽¹⁾ The weighted average exercise price for 2022 has been modified to reflect the reduction of exercise price related to the special dividend.

The aggregate intrinsic value of Stock options exercised during the years ended December 31, 2022 and 2021 was \$6 million and \$7 million, respectively.

As of December 31, 2022, the unrecognized compensation cost related to Stock options was \$6 million, which is expected to be recognized over a weighted average period of 1.4 years. During 2022, cash received from the exercise of Stock options was \$11 million and the tax benefit associated with these exercises was \$1 million.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Performance Share Units Awards—A target number of PSUs is granted to participants at the beginning of each 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 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,	
	2022	2021
Weighted average fair value	\$ 122.15	\$ 169.57
Fair value assumptions:		
Expected volatility of LyondellBasell N.V. common stock	48.71 %	48.05 %
Expected volatility of peer companies	23.12-61.28%	24.30-59.44%
Average correlation coefficient of peer companies	0.59	0.59
Risk-free interest rate	1.69 %	0.31 %

The following table summarizes PSU activity, assuming payout at 100% of target shares:

	2022		2021	
	Number of Units (in thousands)	Weighted Average Grant Date Fair Value (per share)	Number of Units (in thousands)	Weighted Average Grant Date Fair Value (per share)
Outstanding at January 1	754	\$ 95.45	749	\$ 82.07
Granted	291	101.33	288	130.85
Vested	—	—	—	—
Forfeited	(274)	78.06	(283)	95.99
Outstanding at December 31	<u>771</u>	<u>\$ 102.07</u>	<u>754</u>	<u>\$ 95.45</u>

As of December 31, 2022, the unrecognized compensation cost related to PSUs was \$28 million, which is expected to be recognized over a weighted average period of two years.

Employee Stock Purchase Plan

We have an Employee Share Purchase Plan (“ESPP”) which allows participants to purchase our stock at a 10% discount on the lower of the fair market value at either the beginning or end of the purchase period. As a result of the 10% discount and the look-back provision, the ESPP is considered a compensatory plan. Total expense related to our ESPP was \$3 million in both 2022 and 2021.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

9. Directors' Remuneration

The Company is managed by its Board of Directors consisting of non-executive directors and one executive director, our CEO.

Executive Director Remuneration

During 2022, our CEOs were Mr. Lane, who served as interim CEO through May 22, 2022, and Mr. Vanacker, who was CEO effective May 23, 2022 through the end of the year. During 2021, Mr. Patel served as our CEO until his retirement from the Company on December 31, 2021. Mr. Vanacker, Mr. Lane and Mr. Patel received a base salary, annual bonus, and grants of share-based awards under the Company's Long-Term Incentive Plan. The share-based awards include RSUs, Stock options, and PSUs. Information on these awards can be found in Note 8, Share-Based Compensation Granted to Directors and Employees.

The following table summarizes the full year compensation expense recorded in our Financial Statements associated with Mr. Vanacker and Mr. Lane for the year ended December 31, 2022 and with Mr. Patel for the year ended December 31, 2021.

Thousands of U.S. Dollars	Salary	Share-Based Compensation ⁽¹⁾	Short-Term Incentives ⁽²⁾	Pension Service Cost	All Other Compensation ⁽³⁾	Total
2022						
Peter Vanacker	\$ 862	\$ 3,504	\$ 1,155	\$ 12	\$ 2,569	\$ 8,102
Kenneth Lane	\$ 969	\$ 3,015	\$ 1,237	\$ 12	\$ 1,614	\$ 6,847
2021						
Bhavesh Patel	\$ 1,575	\$ 13,858	\$ 3,553	\$ 17	\$ 234	\$ 19,237

- (1) Share-based compensation expense represents costs for which are recognized over the vesting period.
- (2) Short-term incentives represent annual bonuses paid for performance. The target annual bonus, set as a percentage of base salary, is multiplied by the payout for corporate-wide results. The payout for corporate-wide results ranges from 0 to 200% and is based on (i) health, safety and environmental performance; (ii) business results (earnings before interest, taxes, depreciation and amortization); (iii) cost discipline; and for 2022 (iv) sustainability. The corporate wide results paid out at 109% of target for 2022 and 162% of target for 2021.
- (3) Amounts included in "All Other Compensation" in the table above include Company 401(k) matching contributions and pension plan contributions; Company contributions under the Company's U.S. Senior Management Deferral Plan (2022 only); Company reimbursement, and gross-up on that reimbursement, of state taxes owed for work performed in those states on behalf of the Company; executive physicals; payment of professional fees for tax filings; payment of business club memberships and dues; financial planning allowances; relocation costs for Mr. Vanacker; incremental cost for the personal use of Company aircraft by the NEO's spouse or personal guests or the payment or reimbursement of commercial travel for spouses related to business trips; a \$1.9 million cash sign-on bonus paid in connection with the 2022 appointment of Mr. Vanacker; and a one-time cash retention award paid to Mr. Lane in 2022, of which \$1.5 million and less than \$1 million was expensed in 2022 and 2021, respectively.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following tables show the equity compensation activity for Mr. Vanacker and Mr. Lane during 2022.

Overview of stock options

Grant Year	Outstanding at January 1, 2022	2022			Outstanding at December 31, 2022	Vested in 2022	Exercise Price ⁽¹⁾	Expiration Date
		Granted	Exercised	Forfeited/Expired				
Peter Vanacker:								
2022	—	96,191	—	—	96,191	—	\$ 101.51	5/23/2032
Kenneth Lane:								
2019	4,782	—	—	—	4,782	—	\$ 80.68	07/15/2029
2020	26,298	—	13,149	—	13,149	13,149	78.15	02/20/2030
2021	30,707	—	—	—	30,707	10,237	99.21	02/25/2031
2022	—	28,469	—	—	28,469	—	89.26	02/24/2032
Total	61,787	28,469	13,149	—	77,107	23,386		

⁽¹⁾ The exercise prices in the table above have been modified to reflect the reduction of exercise price related to the special dividend.

Overview of restricted stock units

Grant Year	Outstanding at January 1, 2022	2022			Outstanding at December 31, 2022	Share Price at Grant Date
		Granted	Vested	Forfeited		
Peter Vanacker:						
2022	—	44,413	—	—	44,413	106.71
Kenneth Lane:						
2019	8,069	—	8,069	—	—	85.88
2020	5,774	—	—	—	5,774	83.35
2021	5,878	—	—	—	5,878	104.41
2022	—	7,200	—	—	7,200	94.46
2022	—	13,832	—	—	13,832	111.50
Total	19,721	21,032	8,069	—	32,684	

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Overview of performance share units assuming payout at 100% of target shares⁽¹⁾

Grant Year	Outstanding at January 1, 2022	2022			Outstanding at December 31, 2022	Share Price at Grant Date
		Granted	Vested	Forfeited		
Peter Vanacker:						
2022	—	46,263	—	—	46,263	106.71
Kenneth Lane:						
2019 ⁽²⁾	4,881	—	—	4,881	—	85.88
2020	11,548	—	—	—	11,548	83.35
2021	11,756	—	—	—	11,756	104.41
2022	—	14,399	—	—	14,399	94.46
Total	28,185	14,399	—	4,881	37,703	

⁽¹⁾ Our outstanding PSUs accrue accumulated dividend equivalents per unit during the three-year performance period, which will be converted to additional PSUs at the end of performance period subject to the same terms and conditions as the original award, including final performance factor. PSUs granted in 2019, 2020, 2021, and 2022 received \$12.79, \$18.54, \$14.34, and \$9.90, respectively, of accumulated and accrued dividend equivalents per outstanding unit as of December 31, 2022. For PSUs granted in 2019, accrued dividend equivalents were reversed in 2022 due to final performance factor of 0%.

⁽²⁾ PSUs that were granted in 2019 were forfeited in 2022 due to final performance factor of 0% at the end of the three-year performance period.

Non-Executive Director Remuneration

Our non-executive members of our Board of Directors receive cash and equity compensation, in the form of RSUs, for their service on the Board and its committees. Additionally, Directors have the option to elect to receive all or a portion of the cash component of their compensation in Company shares. The compensation program for our non-executive Directors is shown in the table below.

Board Retainer	Cash	\$115,000 (\$325,000 for Chair)
	RSUs	Valued at \$170,000 (\$325,000 for Chair)
Committee Retainers (excluding Executive Committee)	Members	\$10,000 (\$15,000 for Audit Committee)
	Chairs	\$20,000 (\$27,500 for Audit and Compensation and Talent Development Committee Chairs)
Travel Fees		\$5,000 for each intercontinental round trip

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes the compensation expense recorded in our Financial Statements associated with the non-executive members of the Board of Directors for the years ended December 31, 2022 and 2021.

Thousands of U.S. Dollars	2022				2021			
	Fees Earned or Paid in Cash ⁽¹⁾	Stock Compensation ⁽²⁾	All Other Compensation ⁽³⁾	Total	Fees Earned or Paid in Cash ⁽¹⁾	Stock Compensation ⁽²⁾	All Other Compensation ⁽³⁾	Total
Jacques Aigrain <i>Chair of the Board</i>	\$ 346	\$ 334	\$ 15	\$ 695	\$ 344	\$ 330	\$ 9	\$ 683
Lincoln Benet	145	175	5	325	145	173	5	323
Jagjeet Bindra	150	175	24	349	149	173	7	329
Robin Buchanan	135	175	—	310	135	173	5	313
Anthony Chase ⁽⁴⁾	70	248	11	329	83	103	5	191
Nance Dicciani	—	333	4	337	—	328	2	330
Robert Dudley ⁽⁴⁾	135	175	20	330	80	103	5	188
Claire Farley	150	175	19	344	145	173	7	325
Michael Hanley	153	175	14	342	152	173	20	345
Virginia Kamsky ⁽⁵⁾	41	154	8	203	—	—	—	—
Albert Manifold	137	175	5	317	140	173	5	318
<i>Former Director</i>								
Stephen Cooper ⁽⁶⁾	—	122	4	126	—	296	2	298
Isabella Goren ⁽⁷⁾	—	—	—	—	56	68	2	126

(1) Includes retainers for services earned or paid through December 31, 2022 and 2021. Mr. Cooper and Ms. Dicciani each elected to receive all of the cash component of their 2022 and 2021 compensation in the form of shares of our common stock. Mr. Chase and Ms. Kamsky elected to receive 50% of the cash component of their 2022 compensation in the form of shares of our common stock.

(2) Represents annual grants of RSUs for all directors and shares of stock issued in lieu of cash compensation. The annual grants are made in conjunction with the Board's regularly scheduled meeting in May of each year. The terms of the RSUs provide for vesting one year from the date of grant and for cash dividend equivalent payments when dividends are paid on the Company's shares.

In 2022, the annual grant for each director, other than Mr. Aigrain and Ms. Kamsky, was 1,568 shares. Mr. Aigrain received 2,997 shares as Chair of the Board while Ms. Kamsky received 1,564 shares as she was elected the day after the Board's regularly scheduled meeting. These awards are the only stock awards outstanding at 2022 fiscal year-end for the non-executive Board members. In 2021, the annual grant for each director other than Mr. Aigrain, Mr. Chase and Mr. Dudley, was 1,531 shares. Mr. Aigrain received 2,927 shares as Chair of the Board, and Mr. Chase and Mr. Dudley received 1,527 shares as both were elected the day after the Board's regularly scheduled meeting.

The shares received in lieu of cash compensation are issued at the same time quarterly cash payments for retainers and travel fees are otherwise made. The number of shares issued is based on the average of the closing price of the Company's shares over the quarter in which the compensation was earned. The shares issued in lieu of cash compensation in 2022 were as follows: Mr. Chase – 853 shares, Mr. Cooper – 549 shares, Ms. Dicciani – 1,839 shares, and Ms. Kamsky – 556 shares. The shares issued in lieu of cash compensation in 2021 were as follows: Mr. Cooper - 1,255 shares and Ms. Dicciani - 1,586 shares.

(3) Includes \$5,000 for each intercontinental trip taken for work performed for the Company. In 2022 and 2021, Mr. Cooper and Ms. Dicciani elected to receive the cash component of the travel fees in the form of shares of our stock. Mr. Chase and Ms. Kamsky also elected to receive part of their travel fees in shares in 2022. Also includes benefits in kind related to tax preparation and advice related to the Board members' UK and Dutch tax returns and payments. The Company provides these services, through a third party, to members of our Board because of our unique incorporation and tax domicile situation.

(4) Mr. Chase and Mr. Dudley were elected to the Board on May 28, 2021.

(5) Ms. Kamsky was elected to the Board on May 26, 2022.

(6) Mr. Cooper retired from the Board on May 27, 2022.

(7) Ms. Goren retired from the Board on May 28, 2021.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

10. Other (Income) Expense, Net

<u>Millions of U.S. Dollars</u>	<u>2022</u>	<u>2021</u>
(Gains)/losses on financial derivatives	\$ (76)	\$ (160)
(Gains)/losses on foreign exchange	39	(26)
(Gains)/losses on sale of investment	—	(4)
Other	(28)	(34)
Other (income) expense, net	<u>\$ (65)</u>	<u>\$ (224)</u>

(Gains)/losses on financial derivatives—The amounts reported as gains on financial derivatives in 2022 and 2021 are related to our cross-currency swaps.

11. Finance Costs

<u>Millions of U.S. Dollars</u>	<u>2022</u>	<u>2021</u>
Interest expense on borrowings	\$ 269	\$ 529
Provisions for unwinding of discount	1	—
Foreign exchange (gain) loss from borrowings and cash	42	183
Interest expense on leases	69	69
Other	49	50
Total finance costs	<u>\$ 430</u>	<u>\$ 831</u>

12. Income Tax Expense

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, including primarily the U.S., The Netherlands, Germany, France and Italy.

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 the U.S. and Europe where we operate. In 2020, the Organization for Economic Cooperation and Development (OECD) released Pillar One and Two proposals focused on taxing rights and minimum taxes. Although certain actions have occurred, there continues to be uncertainty as to the enactment and implementation of the OECD's Pillars One and Two in countries where we operate. With the European Union's approval of a Pillar 2 Directive in late December 2022, we anticipate local law enactment in 2023 effective no earlier than 2024 inclusive of non-EU countries such as the United Kingdom. While the timing and ultimate impact is still uncertain, we do not expect the impact to be material based on the principles agreed to at this stage. We continue to monitor these and other proposed tax law changes as they could increase our tax liabilities in the future, if enacted.

On August 16, 2022, the U.S. enacted the Inflation Reduction Act ("IRA") which is intended to address climate change, lower health-care costs and reduce the federal deficit. We are continuing to analyze the provisions included in the IRA and await proposed and final regulations from the Department of the Treasury; however, we do not expect it to have a material impact on our Consolidated Financial Statements.

The Company considered the impact of the Coronavirus Aid, Relief, and Economic Security Act, also known as the "CARES Act", enacted March 27, 2020, in the period of enactment. Based on return filings in 2021, we recorded an overall tax benefit related to the carryback of U.S. tax net operating losses ("NOL") of approximately \$364 million cumulatively. We requested a cash refund of approximately \$1.1 billion which has been received; \$870 million and \$231 million in 2021 and 2022, respectively.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>Year Ended December 31,</u>	
		<u>2022</u>	<u>2021</u>
Current tax on profits for the year		\$ 550	\$ 1,347
Deferred tax - origination and reversal of temporary difference	24	235	186
Income tax expense/(benefit)		<u>\$ 785</u>	<u>\$ 1,533</u>

The following table reconciles the expected tax expense (benefit) at the statutory rates applicable in the countries where the Company operates to the total income tax expense (benefit) as calculated:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Profit before tax	\$ 4,583	\$ 8,352
Tax calculated at domestic tax rates applicable to profits in the respective countries	1,011	1,983
Tax effects of:		
Exempt income	(228)	(316)
Return to accrual	16	(179)
Uncertain tax positions	(80)	(8)
Other	66	53
Income tax expense /(benefit)	<u>\$ 785</u>	<u>\$ 1,533</u>

The weighted average applicable tax rates for 2022 and 2021 were 22.1% and 23.9% respectively. The decrease was primarily attributable to a change in the geographical mixture of the profit before tax. Our effective income tax rate of 17.1% in 2022 and 18.4% in 2021 resulted in tax provisions of \$785 million and \$1,533 million, respectively. Compared to 2021, the 2022 effective income tax rate decreased primarily due to changes in the mix of income in countries with varying statutory tax rates, and fluctuations in uncertain tax positions. These decreases were partially offset by the benefit received in 2021 from return to accrual adjustments primarily associated with a step-up of certain Italian assets to fair market value and the CARES Act.

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 currently anticipate the favorable treatment for interest income, dividends, and export incentives to continue in the near term; however, this treatment is based on current law, which could change.

Current and deferred taxes related to items charged or (credited) directly to other comprehensive income during the period are as follows:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Current:		
Currency translation differences	\$ 54	\$ 47
Derivatives	1	(1)
Deferred:		
Retirement benefit obligation	107	59
Currency translation differences	6	(2)
Derivatives	\$ 54	\$ 20
Other	\$ 3	\$ —
	<u>\$ 225</u>	<u>\$ 123</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Current and deferred taxes credited directly to equity are as follows:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Current tax		
Share-based payments	\$ —	\$ —
Deferred tax:		
Share-based payments	(4)	—
Step-up fixed asset basis	—	—
	<u>\$ (4)</u>	<u>\$ —</u>

13. Earnings per Share

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.

Basic earnings per share—Basic earnings per share is based upon the weighted average number of shares of common stock outstanding during the period.

<u>Millions of U.S. Dollars, except per share data</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Profit attributable to LyondellBasell N.V.	\$ 3,798	\$ 6,819
Dividends on preferred stock	(7)	(7)
Profit attributable to participating securities	(10)	(17)
Profit attributable to equity holders of the Company	3,781	6,795
Basic weighted average common stock outstanding	327	334
Basic earnings per share	<u>\$ 11.56</u>	<u>\$ 20.37</u>

Diluted earnings per share—Diluted earnings per share includes the effect of certain stock option and other equity-based compensation awards to assume conversion of all dilutive potential ordinary shares.

<u>Millions of U.S. Dollars, except per share data</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Profit attributable to LyondellBasell N.V.	\$ 3,798	\$ 6,819
Dividends on preferred stock	(7)	(7)
Profit attributable to participating securities	(10)	(17)
Profit attributable to equity holders of the Company	3,781	6,795
Basic weighted average common stock outstanding	327	334
Effect of dilutive securities	1	—
Potential dilutive shares	<u>328</u>	<u>334</u>
Diluted earnings per share	<u>\$ 11.54</u>	<u>\$ 20.35</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

14. Intangible Assets

Millions of U.S. Dollars	Emission Allowance	Various Contracts	Software	Customer relationship	Goodwill	Other	Total
Balance at January 1, 2021	\$ 235	\$ 105	\$ 54	\$ 257	\$ 1,732	\$ 151	\$ 2,534
Additions	67	—	36	—	—	4	107
Retirements	(19)	—	—	—	—	—	(19)
Amortization	(11)	(20)	(12)	(20)	—	(30)	(93)
Transfers	—	—	—	—	—	—	—
Exchange differences	(12)	(1)	1	(2)	(62)	(7)	(83)
Impairments	(24)	(8)	—	—	—	—	(32)
At December 31, 2021	<u>\$ 236</u>	<u>\$ 76</u>	<u>\$ 79</u>	<u>\$ 235</u>	<u>\$ 1,670</u>	<u>\$ 118</u>	<u>\$ 2,414</u>
At December 31, 2021							
Cost	\$ 740	\$ 435	\$ 158	\$ 305	\$ 1,670	\$ 356	\$ 3,664
Accumulated amortization and impairment	(504)	(359)	(79)	(70)	—	(238)	(1,250)
Closing balance	<u>\$ 236</u>	<u>\$ 76</u>	<u>\$ 79</u>	<u>\$ 235</u>	<u>\$ 1,670</u>	<u>\$ 118</u>	<u>\$ 2,414</u>
Balance at January 1, 2022							
Acquisitions	—	8	—	—	6	—	14
Additions	56	—	13	—	—	2	71
Retirements	(19)	—	—	—	—	—	(19)
Amortization	(8)	(18)	(14)	(19)	—	(23)	(82)
Exchange differences	(7)	—	1	(4)	(42)	(6)	(58)
Transfers	—	4	1	(3)	—	—	2
Impairments	—	—	—	—	—	—	—
At December 31, 2022	<u>\$ 258</u>	<u>\$ 70</u>	<u>\$ 80</u>	<u>\$ 209</u>	<u>\$ 1,634</u>	<u>\$ 91</u>	<u>\$ 2,342</u>
At December 31, 2022							
Cost	\$ 771	\$ 436	\$ 124	\$ 297	\$ 1,634	\$ 352	\$ 3,614
Accumulated amortization and impairment	(513)	(366)	(44)	(88)	—	(261)	(1,272)
Closing balance	<u>\$ 258</u>	<u>\$ 70</u>	<u>\$ 80</u>	<u>\$ 209</u>	<u>\$ 1,634</u>	<u>\$ 91</u>	<u>\$ 2,342</u>

Research and development—Research and development expenditures not capitalized and recognized as an expense for 2022 and 2021 were \$108 million and \$110 million, respectively.

Goodwill—The following table indicates goodwill by cash generating units ("CGU"):

Millions of U.S. Dollars	2022	2021
Intermediates and Derivatives	\$ 107	\$ 130
Olefins and Polyolefins - Americas	123	131
Olefins and Polyolefins - Europe, Asia, International	29	28
Technology	4	10
Advanced Polymers solutions	1,371	1,371
Total	<u>\$ 1,634</u>	<u>\$ 1,670</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The recoverable amount of a CGU is determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on management approved financial budgets covering a five-year period. Cash flows beyond the five-year period are extrapolated using the estimated growth rates described in the "Growth rate estimates" section below. Based on this analysis, the recoverable amounts of each of our cash generating units or groups of cash generating units were substantially in excess of their carrying value. Accordingly, no goodwill impairment was recognized in 2022 or 2021.

The calculation of value is most sensitive to the following assumptions:

- Gross margin;
- Pre-tax discount rates;
- Market share assumptions; and
- Growth rate used to extrapolate cash flows beyond the budget period.

Gross margins—Gross margins are predicted in the planning period by using key hydrocarbon pricing estimates and product variable margins based on macroeconomic predictions and individual supply and demand balances.

Pre-tax discount rates—Pre-tax discount rates ("discount rates") represent the current market assessment of the risks specific to each cash generating unit, regarding the time value of money and individual risks of the underlying assets which have not been incorporated in the cash flow estimates. The discount rate calculation is based on the nature of the assets and activities of the Company's business and its operating segments and derived from its weighted average cost of capital ("WACC"). The WACC takes into account both debt and equity. The cost of equity is derived from the expected return on investment by the nature of the Company's assets and activities.

Market share assumptions—These assumptions are based on forecasts of demand for our products taking into consideration changes in global capacity.

Growth rate estimates—Rates are based upon managements' best estimates which are determined using published third party sources, internal knowledge and market insights based on macroeconomic predictions.

The key assumptions used for value-in-use calculations are as follows:

	2022		2021	
	Pre-tax Discount Rate	Growth Rate	Pre-tax Discount Rate	Growth Rate
Intermediates and Derivatives	10 %	2 %	8 %	2 %
Olefins and Polyolefins - Americas	9 %	2 %	8 %	2 %
Olefins and Polyolefins - EAI	10 %	1 %	8 %	2 %
Technology	10 %	1 %	9 %	2 %
Advanced Polymers Solutions	12 %	2 %	10 %	2 %

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

15. Property, Plant and Equipment

<u>Millions of U.S. Dollars</u>	Land	Major Manufacturing Equipment	Buildings	Major Turnarounds	Light Equipment and Instrumentation	Furniture and Fixtures	Information Systems	Assets Under Construction	Joint Operations	Total
Balance at January 1, 2021	\$ 376	\$ 7,832	\$ 821	\$ 692	\$ 1,896	\$ 8	\$ 13	\$ 3,103	\$ 3,586	\$ 18,327
Acquisition of joint operations	—	—	—	—	—	—	—	—	—	—
Additions	3	39	—	—	—	—	—	2,047	270	2,359
Transfers	—	628	33	101	211	—	5	(925)	—	53
Disposals	(7)	(6)	—	—	(5)	—	—	—	(3)	(21)
Depreciation	—	(624)	(50)	(238)	(281)	(1)	(6)	—	(195)	(1,395)
Impairment	(27)	(378)	(18)	(36)	(47)	—	(1)	(70)	—	(577)
Exchange differences	(11)	(179)	(11)	(8)	10	—	(1)	(34)	21	(213)
At December 31, 2021	<u>\$ 334</u>	<u>\$ 7,312</u>	<u>\$ 775</u>	<u>\$ 511</u>	<u>\$ 1,784</u>	<u>\$ 7</u>	<u>\$ 10</u>	<u>\$ 4,121</u>	<u>\$ 3,679</u>	<u>\$ 18,533</u>
At December 31, 2021										
Cost	\$ 334	\$ 12,279	\$ 1,228	\$ 1,652	\$ 3,348	\$ 24	\$ 64	\$ 4,121	\$ 4,406	\$ 27,456
Accumulated depreciation and impairment	—	(4,967)	(453)	(1,141)	(1,564)	(17)	(54)	—	(727)	(8,923)
Closing balance	<u>\$ 334</u>	<u>\$ 7,312</u>	<u>\$ 775</u>	<u>\$ 511</u>	<u>\$ 1,784</u>	<u>\$ 7</u>	<u>\$ 10</u>	<u>\$ 4,121</u>	<u>\$ 3,679</u>	<u>\$ 18,533</u>
Balance at January 1, 2022										
Additions	—	60	—	—	—	—	—	1,839	116	2,015
Transfers	—	1,780	1,078	291	251	1	4	(3,405)	(10)	(10)
Retirements	—	(14)	—	—	(3)	—	—	—	—	(17)
Disposals	(1)	—	—	—	(1)	—	—	—	(1)	(3)
Depreciation	—	(564)	(48)	(211)	(263)	(1)	(5)	—	(191)	(1,283)
Impairment	—	(22)	—	—	—	—	(1)	(2)	—	(25)
Exchange differences	(14)	101	(10)	9	12	(1)	1	(31)	(117)	(50)
At December 31, 2022	<u>\$ 319</u>	<u>\$ 8,653</u>	<u>\$ 1,795</u>	<u>\$ 600</u>	<u>\$ 1,780</u>	<u>\$ 6</u>	<u>\$ 9</u>	<u>\$ 2,522</u>	<u>\$ 3,476</u>	<u>\$ 19,160</u>
At December 31, 2022										
Cost	\$ 319	\$ 13,993	\$ 2,281	\$ 1,732	\$ 3,528	\$ 22	\$ 63	\$ 2,522	\$ 4,375	\$ 28,835
Accumulated depreciation and impairment	—	(5,340)	(486)	(1,132)	(1,748)	(16)	(54)	—	(899)	(9,675)
Closing balance	<u>\$ 319</u>	<u>\$ 8,653</u>	<u>\$ 1,795</u>	<u>\$ 600</u>	<u>\$ 1,780</u>	<u>\$ 6</u>	<u>\$ 9</u>	<u>\$ 2,522</u>	<u>\$ 3,476</u>	<u>\$ 19,160</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The below table outlines the Property, Plant and Equipment by category for our share of Joint operation fixed assets:

Millions of U.S. Dollars	Land	Major Manufacturing Equipment	Buildings	Light Equipment and Instrumentation	Assets Under Construction	Other	Total
Balance at January 1, 2021	\$ 21	\$ 2,570	\$ 280	\$ 95	\$ 9	\$ 611	\$ 3,586
Additions	—	3	—	1	54	212	270
Transfers	—	2	—	—	(2)	—	—
Disposals	—	—	—	—	—	(3)	(3)
Depreciation	—	(116)	(11)	(8)	—	(60)	(195)
Impairment	—	—	—	—	—	—	—
Exchange differences	—	29	6	2	—	(16)	21
At December 31, 2021	<u>\$ 21</u>	<u>\$ 2,488</u>	<u>\$ 275</u>	<u>\$ 90</u>	<u>\$ 61</u>	<u>\$ 744</u>	<u>\$ 3,679</u>
At December 31, 2021							
Cost	\$ 21	\$ 2,630	\$ 289	\$ 99	\$ 61	\$ 1,306	\$ 4,406
Accumulated depreciation	—	(142)	(14)	(9)	—	(562)	(727)
Closing balance	<u>\$ 21</u>	<u>\$ 2,488</u>	<u>\$ 275</u>	<u>\$ 90</u>	<u>\$ 61</u>	<u>\$ 744</u>	<u>\$ 3,679</u>
Balance at January 1, 2022							
Cost	\$ 21	\$ 2,488	\$ 275	\$ 90	\$ 61	\$ 744	\$ 3,679
Additions	—	—	—	—	53	63	116
Transfers	—	9	5	—	(9)	(15)	(10)
Disposals	—	—	—	—	—	(1)	(1)
Depreciation	—	(127)	(9)	(8)	—	(48)	(192)
Exchange differences	—	(87)	2	1	(5)	(27)	(116)
At December 31, 2022	<u>\$ 21</u>	<u>\$ 2,283</u>	<u>\$ 273</u>	<u>\$ 83</u>	<u>\$ 100</u>	<u>\$ 716</u>	<u>\$ 3,476</u>
At December 31, 2022							
Cost	\$ 21	\$ 2,541	\$ 296	\$ 101	\$ 100	\$ 1,316	\$ 4,375
Accumulated depreciation	—	(258)	(23)	(18)	—	(600)	(899)
Closing balance	<u>\$ 21</u>	<u>\$ 2,283</u>	<u>\$ 273</u>	<u>\$ 83</u>	<u>\$ 100</u>	<u>\$ 716</u>	<u>\$ 3,476</u>

The largest joint operations for the Company are Louisiana Integrated PolyEthylene JV LLC and Bora LyondellBasell Petrochemical Co., Ltd. At December 31, 2022, the net book values of property, plant and equipment for these joint operations was \$1,788 million and \$972 million respectively.

Capitalized borrowing costs—We capitalize interest costs incurred on funds used to construct property, plant and equipment. In 2022 and 2021, we capitalized interest of \$114 million and \$97 million, respectively.

Disposition—In the second quarter of 2022 we sold our ownership interest in our polypropylene 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 is based on expected consideration and classified as Level 3 within the fair value hierarchy. The charge is reflected as Impairments in our Consolidated Statements of Income.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Impairment of Long lived assets—In September 2021, we announced we were weighing strategic options, including a potential sale, for our Houston refinery. The subsequent evaluation of strategic options during the fourth quarter of 2021 increased the likelihood of the asset’s disposal prior to the end of its expected useful life. As a result of this impairment indicator, we assessed the Houston refinery for impairment in the fourth quarter of 2021 and determined that its carrying value exceeded its estimated recoverable amount. We estimated the fair values of the Houston refinery’s property, plant and equipment, parts and materials, and intangible assets were all zero as of December 31, 2021. Given this, our Refining segment recognized a \$624 million non-cash impairment charge in the fourth quarter of 2021 that includes a \$549 million impairment of property, plant and equipment, a \$43 million impairment of parts and materials, and a \$32 million impairment of intangible assets, which reduced the assets’ carrying values to their fair values. The fair values of the impaired assets were determined using market information provided by unrelated third parties. The fair value measurement for the cash-generating unit is classified as Level 3.

Depreciation of property, plant, equipment and right-of-use assets, amortization of intangible assets and impairment charges are recognized in Cost of sales, Selling costs and Administrative expenses as indicated in the following table:

Millions of U.S. Dollars	Year Ended December 31,	
	2022	2021
Cost of sales	\$ 1,778	\$ 1,870
Selling costs	\$ 1	\$ 5
Administrative expenses	\$ 5	\$ 26
Impairment	\$ 69	\$ 624
Total	\$ 1,853	\$ 2,525

16. Leases

We lease storage tanks, terminal facilities, land, office facilities, railcars, pipelines, barges, plant equipment and other equipment. As of December 31, 2022, our Right-of-use assets were \$1,867 million. Lease liabilities totaled \$2,026 million of which \$372 million are current. These values were derived using a weighted average discount rate of 3.4%.

Our leases have a weighted-average remaining lease term of 9 years. While extension clauses included in our leases do not materially impact our Right-of-use assets or Lease liabilities, certain leases include options to extend the lease for up to 20 years.

Millions of U.S. dollars	Storage	Railcars	Land	Offices	Pipelines	Other	Total
Balance at January 1, 2021	\$ 889	\$ 316	\$ 120	\$ 104	\$ 69	\$ 37	\$ 1,535
Additions	454	26	7	36	79	56	658
Changes	227	36	4	(7)	(38)	61	283
Depreciation	(214)	(85)	(5)	(27)	(13)	(31)	(375)
Terminations and other	(3)	(12)	(5)	1	(1)	8	(12)
Balance at December 31, 2021	\$ 1,353	\$ 281	\$ 121	\$ 107	\$ 96	\$ 131	\$ 2,089
Balance at January 1, 2022	\$ 1,353	\$ 281	\$ 121	\$ 107	\$ 96	\$ 131	\$ 2,089
Additions	41	54	—	17	2	29	143
Changes	87	58	—	11	1	(8)	149
Depreciation	(317)	(87)	(5)	(31)	(13)	(35)	(488)
Terminations and other	(8)	(1)	(6)	(4)	—	(7)	(26)
Balance at December 31, 2022	\$ 1,156	\$ 305	\$ 110	\$ 100	\$ 86	\$ 110	\$ 1,867

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

The following table sets out the cash and non-cash movements for the lease liability for the period:

Millions of U.S. dollars	
Balance as at January 1, 2021	\$ 1,579
Cash Flows	(352)
Additions - Leases	666
Changes - Leases	284
Other non-cash movements	(36)
Balance as at December 31, 2021	<u>\$ 2,141</u>
Balance as at January 1, 2022	\$ 2,141
Cash Flows	(382)
Additions - Leases	143
Changes - Leases	149
Other non-cash movements	(25)
Balance as at December 31, 2022	<u>\$ 2,026</u>

Maturities of Lease liabilities are as follows:

Millions of U.S. dollars	
2023	430
2024	359
2025	298
2026	249
2027	211
Thereafter	823
Total lease payments	<u>2,370</u>
Less: Imputed interest	(344)
Total	<u>2,026</u>

The following table presents the components of Lease cost:

Millions of U.S. dollars	Year Ended December, 31	
	<u>2022</u>	<u>2021</u>
Lease costs		
Depreciation of right-of-use assets	487	375
Interest on lease liabilities	69	69
Net lease costs	<u>\$ 556</u>	<u>\$ 444</u>

In connection with the planned exit from the refinery business, announced in April 2022, we recognized accelerated lease amortization costs of \$91 million during 2022 which is included in Depreciation of right-of-use assets lease cost above.

Cash paid for Lease liabilities for the year ended December 31, 2022 representing principal payments and interest totaled \$382 million and \$69 million, respectively.

As of December 31, 2022, we have entered into additional leases, with an undiscounted value of \$82 million, primarily for storage tanks. These leases, which will commence in 2023 and 2024, have lease terms ranging from 3 to 10 years.

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

17. Investments in Associates, Joint Ventures and Acquisition of Joint Operations

Summarized aggregate financial information of the joint ventures and associates are shown below.

The amounts recognized on our Consolidated Statement of Financial Position are as follows:

<u>Millions of U.S. Dollars</u>	<u>December 31,</u>	
	<u>2022</u>	<u>2021</u>
Associates	\$ 261	\$ 292
Joint ventures	877	1,052
Total	<u>\$ 1,138</u>	<u>\$ 1,344</u>

The amounts recognized on our Consolidated Statement of Income are as follows:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Associates	\$ (16)	\$ 25
Joint ventures	32	372
Total	<u>\$ 16</u>	<u>\$ 397</u>

Associates—The changes in our investments in Associates are as follows:

<u>Millions of U.S. Dollars</u>	<u>December 31,</u>	
	<u>2022</u>	<u>2021</u>
Opening balance	\$ 292	\$ 338
Share in profit of associates, net of tax	(16)	25
Contributions	5	4
Dividends received	(6)	(23)
Divestitures	—	(21)
Currency exchange differences	(14)	(31)
Closing balance	<u>\$ 261</u>	<u>\$ 292</u>

Currency exchange differences are reported in the Consolidated Statement of Other Comprehensive Income within Currency translation of foreign operations.

Joint Ventures—The changes in our Joint Venture investments are as follows:

<u>Millions of U.S. Dollars</u>	<u>2022</u>	<u>2021</u>
	Opening balance	\$ 1,052
Share in profit of joint ventures, net of tax	32	372
Dividends received	(252)	(228)
Contributions	4	—
Currency exchange differences	41	(29)
Other	—	—
Closing balance	<u>\$ 877</u>	<u>\$ 1,052</u>

Currency exchange differences are reported in the Consolidated Statement of Other Comprehensive Income within Currency translation of foreign operations.

None of the associates and joint ventures are listed on a stock exchange.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Principal Subsidiaries—Information about principal subsidiaries at December 31, 2022 is set out in Appendix A.

Associates, Joint Ventures and Joint Operations—Our principal Associates, Joint Ventures and Joint Operations are as follows:

Entity Name	Jurisdiction of formation and principal place of business	Percent Owned
Bora LyondellBasell Petrochemical Co., Ltd.	China	50%
Ningbo ZRCC Lyondell Chemical Co. Ltd.	China	27%
Ningbo ZRCC LyondellBasell New Material Company Limited	China	50%
EPS Etylen-Pipeline-Süd GmbH & Co. KG	Germany	14%
Source One Plastics GmbH	Germany	49%
PT LyondellBasell Advanced Polyolefins	Indonesia	65%
PT LyondellBasell Advanced Polyolefins Commercial	Indonesia	65%
PolyMirae Co., Ltd.	Republic Of Korea	50%
Indelpro, S.A. de C.V.	Mexico	49%
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F.	Netherlands	50%
QCP B.V.	Netherlands	50%
QCP Holding B.V.	Netherlands	50%
Basell Orlen Polyolefins Sp. Z.o.o.	Poland	50%
Al Waha Petrochemical Company	Saudi Arabia	25%
Natpet Schulman Specialty Plastic Compounds	Saudi Arabia	50%
Saudi Ethylene & Polyethylene Company	Saudi Arabia	25%
Saudi Polyolefins Company	Saudi Arabia	25%
HMC Polymers Company Limited	Thailand	29%
SCG ICO Polymers Company Limited	Thailand	13%
Louisiana Integrated PolyEthylene JV LLC	United States	50%
PD Glycol LP	United States	50%
PO JV, LP	United States	50%
Technology JV, LP	United States	49%

Investment in Ningbo ZRCC LyondellBasell New Material Company Limited

In January 2021, we executed a joint agreement with China Petroleum & Chemical Corporation (“Sinopec”) to form the Ningbo ZRCC LyondellBasell New Material Company Limited. We contributed \$104 million for a 50% equity interest. The joint operation constructed a new PO and SM unit in Zhenhai Ningbo, China which began production in January 2022. The unit utilizes LyondellBasell’s leading PO/SM technology and has the capacity to produce 275 thousand tons of PO and 600 thousand tons of SM per year. Products produced by the joint venture will be marketed equally by both partners, expanding our respective participation in the Chinese market. The joint operation is included within our Intermediates & Derivatives segment.

18. Inventories

<u>Millions of U.S. Dollars</u>	<u>December 31,</u>	
	<u>2022</u>	<u>2021</u>
Finished goods	\$ 3,393	\$ 3,809
Parts and materials	944	810
Raw materials and supplies	1,453	1,542
Total inventories	<u>\$ 5,790</u>	<u>\$ 6,161</u>

Cost of inventories of \$38,387 million and \$29,847 million in 2022 and 2021, respectively, has been recognized as expense and included in Cost of sales.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

19. Trade and Other Receivables

<u>Millions of U.S. Dollars</u>	December 31,	
	2022	2021
Trade receivables	\$ 3,405	\$ 4,695
Trade receivables on related parties	349	318
Less: allowance for trade receivables losses	(7)	(7)
Trade receivables, net	3,747	5,006
Social security and other taxes	204	143
Prepaid expenses	589	476
Other	560	351
Total	5,100	5,976
Less: non-current portion	(223)	(151)
Current portion	\$ 4,877	\$ 5,825

The carrying value of trade and other receivables approximates their fair value. The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivable mentioned above. We do not hold any collateral as security.

The aging of the net trade receivables at December 31 was as follows:

<u>Millions of U.S. Dollars</u>	2022	2021
Amounts undue	\$ 3,651	\$ 4,947
Past due 0-90 days	100	76
Past due 91-180 days	(4)	(17)
Total	\$ 3,747	\$ 5,006

The aging of the gross provision for doubtful debts provided for at December 31 was as follows:

<u>Millions of U.S. Dollars</u>	2022		2021	
	Gross	Provision	Gross	Provision
Amounts undue	\$ —	\$ —	\$ —	\$ —
Past due 0-90 days	—	—	—	—
Past due 91-180 days	7	7	7	7
Total	\$ 7	\$ 7	\$ 7	\$ 7

The movement in the allowance for doubtful accounts is as follows:

<u>Millions of U.S. Dollars</u>	2022	2021
Balance, January 1	\$ 7	\$ 18
(Write off) additions, net	—	(11)
Balance, December 31	\$ 7	\$ 7

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Trade receivables secured by letters of credit were \$54 million and \$68 million at December 31, 2022 and 2021, respectively. The carrying amounts of trade and other receivables are denominated in the following currencies at December 31:

<u>Millions of Euros/U.S. dollars</u>	<u>2022</u>	<u>2021</u>
USD	\$ 3,038	\$ 3,214
EUR	1,234	2,030
Other	828	732
Total	<u>\$ 5,100</u>	<u>\$ 5,976</u>

For further details on trade receivables, reference is made to Note 4 Financial Risk Management.

20. Cash and Cash Equivalents

For the purpose of the Consolidated Statement of Cash Flows, Cash and cash equivalents comprise the following at December 31:

<u>Millions of U.S. Dollars</u>	<u>2022</u>	<u>2021</u>
Cash at bank and on hand	\$ 1,198	\$ 1,188
Short-term deposits	1,191	438
Total	<u>\$ 2,389</u>	<u>\$ 1,626</u>

Cash at banks earns interest at floating rates based on daily bank deposit rates. Short-term deposits are made for varying periods of between one day and three months, depending on the immediate cash requirements, and earn interest at the respective short-term deposit rates.

21. Equity Attributable to the Owners of the Company

The Company's authorized share capital totals €51 million divided into 1,275 million ordinary shares of €0.04 each.

Other reserves comprise of gains and losses on pension revaluation, financial instruments and foreign currency revaluations.

For a breakdown of Equity attributable to equity holders, reference is made to the Consolidated Statement of Changes in Equity. For a detail of the non-distributable reserves, reference is made to the Corporate Financial Statements.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Dividend distribution—We declared and paid the following dividends for the following periods:

<u>Millions of dollars, except per share amounts</u>	<u>Dividend Per Ordinary Share</u>	<u>Aggregate Dividends Paid</u>	<u>Date of Record</u>
For the year 2022:			
March - Quarterly dividend	\$ 1.13	\$ 371	March 7, 2022
June - Quarterly dividend	1.19	389	June 6, 2022
June - Special dividend	5.20	1,704	June 6, 2022
September - Quarterly dividend	1.19	388	August 29, 2022
December - Quarterly dividend	1.19	386	November 28, 2022
	<u>\$ 9.90</u>	<u>\$ 3,238</u>	
For the year 2021:			
March - Quarterly dividend	\$ 1.05	\$ 352	March 8, 2021
June - Quarterly dividend	1.13	378	June 7, 2021
September - Quarterly dividend	1.13	380	August 30, 2021
December - Quarterly dividend	1.13	376	November 29, 2021
	<u>\$ 4.44</u>	<u>\$ 1,486</u>	

In addition to the dividends paid to ordinary shareholders above, in 2022 we paid \$8 million of dividend equivalents to holders of RSUs, which are recognized as dividends in Retained earnings. See Note 2 to the Consolidated Financial Statements.

In February, May, August and November 2022, we paid cash dividends of \$15.00 per share to our redeemable non-controlling interest stock shareholders of record as of January 15, 2022, April 15, 2022, July 15, 2022, and October 15, 2022, respectively. In 2022 and 2021, total dividends were \$7 million.

Share Repurchase Authorization—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 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 2021, our shareholders approved a proposal to authorize us to repurchase up to 34.0 million ordinary shares, through November 28, 2022 (“2021 Share Repurchase Authorization”), which superseded any 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 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>
For the year 2021:			
2021 Share Repurchase Authorization	5,163,334	\$ 92.37	\$ 477
	<u>5,163,334</u>	<u>\$ 92.37</u>	<u>\$ 477</u>

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Total cash paid for share repurchases for the years ended December 31, 2022 and 2021, was \$420 million and \$463 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:

	December 31,	
	2022	2021
Ordinary shares outstanding:		
Beginning balance	329,536,389	334,015,220
Share-based compensation	291,104	468,131
Employee stock purchase plan	293,828	216,372
Purchase of ordinary shares	(4,397,754)	(5,163,334)
Ending balance	<u>325,723,567</u>	<u>329,536,389</u>

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

	December 31,	
	2022	2021
Ordinary shares held as Treasury shares:		
Beginning balance	10,675,605	6,030,408
Share-based compensation	(291,104)	(468,131)
Employee stock purchase plan	(83,324)	(50,006)
Purchase of ordinary shares	4,397,754	5,163,334
Ending balance	<u>14,698,931</u>	<u>10,675,605</u>

22. Non-Controlling Interests

Non-controlling interests primarily represent the interest of unaffiliated investors in a partnership that owns our PO/SM II plant at the Channelview, Texas complex and A. Schulman plastics.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

23. Borrowings

The carrying amounts of borrowings and the fair value of borrowings as of December 31 are as follows:

Millions of U.S. Dollars	2022		2021	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Non-current:				
Senior Notes due 2024, \$1,000 million, 5.75%	\$ 774	\$ 778	\$ 773	\$ 844
Senior Notes due 2055, \$1,000 million, 4.625%	974	803	974	1,233
Guaranteed Notes due 2023, \$750 million, 4.0%	—	—	423	444
Guaranteed Notes due 2025, \$500 million 1.250%	475	440	485	485
Guaranteed Notes due 2026, €500 million, 0.875%	518	466	562	579
Guaranteed Notes due 2027, \$1,000 million, 3.5%	587	550	631	637
Guaranteed Notes due 2027, \$300 million, 8.1%	300	328	300	385
Guaranteed Notes Due 2030, \$500 million 3.375%	120	121	140	151
Guaranteed Notes Due 2030, \$500 million 2.250%	469	399	490	499
Guaranteed Notes due 2031, €500 million 1.625%	516	415	558	605
Guaranteed Notes Due 2040, \$750 million 3.375%	741	536	743	775
Guaranteed Notes due 2043, \$750 million, 5.25%	725	671	724	957
Guaranteed Notes due 2044, \$1,000 million, 4.875%	982	843	981	1,246
Guaranteed notes due 2049, \$1,000 million, 4.2%	976	752	975	1,157
Guaranteed Notes Due 2050, \$1,000 million 4.20%	971	749	981	1,157
Guaranteed Notes Due 2051, \$1,000 million 3.625%	897	684	986	1,068
Guaranteed Notes Due 2060, \$500 million 3.800%	481	332	490	534
Term loan due 2027, \$1,657 million 5.61%	454	454	571	571
Other	230	230	220	220
Total	11,190	9,551	12,007	13,547
Current:				
Guaranteed Notes due 2023, \$750 million, 4%	424	422	—	—
Current portion Term loan due 2027 \$1,657 million 5.61%	97	97	—	—
Commercial Paper	200	200	204	204
Other	197	171	291	266
Total	918	890	495	470
Total borrowings	\$ 12,108	\$ 10,441	\$ 12,502	\$ 14,017

The fair values of the senior notes and guaranteed notes are based on data obtained from well-established and recognized vendors of market data for debt valuations. The fair value of the finance payable to investees and the Other equals the carrying amount, as the impact of discounting is not significant.

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NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table sets out an analysis of the cash movements in borrowings for the period.

Millions of U.S. Dollars	Current Borrowings	Non-current Borrowings	Total
Balance as at January 1, 2021	\$ 731	\$ 16,048	\$ 16,779
Acquisitions of Joint Operation	—	141	141
Net Cash Flows	(237)	(4,021)	(4,258)
Foreign Exchange Adjustments	—	—	—
Other Non-cash movements	1	(161)	(160)
Balance as at December 31, 2021	495	12,007	12,502
Acquisitions of Joint Operations	—	—	—
Net Cash Flows	—	(103)	(103)
Foreign Exchange Adjustments	\$ (2)	(299)	(301)
Other Non-cash movements	425	(415)	10
Balance as at December 31, 2022	<u>\$ 918</u>	<u>\$ 11,190</u>	<u>\$ 12,108</u>

Gains (losses) related to fair value 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 U.S. Dollars	Gains (Losses)		Cumulative Fair Value Hedging Adjustments Included in Carrying Amount of Debt	
	Year Ended December 31,		Year Ended December 31,	
	2022	2021	2022	2021
Guaranteed Notes due 2025, 1.25%	\$ 12	\$ 2	\$ 14	\$ 2
Guaranteed Notes due 2026, 0.875%	12	3	13	1
Guaranteed Notes due 2027, 3.5%	46	56	—	(46)
Guaranteed Notes due 2030, 3.375%	23	(2)	21	(2)
Guaranteed Notes due 2030, 2.25%	22	2	24	2
Guaranteed Notes due 2031, 1.625%	11	—	11	—
Guaranteed Notes due 2050, 4.2%	10	3	13	3
Guaranteed Notes due 2051, 3.625%	90	—	90	—
Guaranteed Notes due 2060, 3.8%	9	—	9	—
Total	<u>\$ 235</u>	<u>\$ 64</u>	<u>\$ 195</u>	<u>\$ (40)</u>

These fair values adjustments are recognized in finance cost in the Consolidated Statement of income.

The carrying amounts of our borrowings are denominated in the following currencies:

Millions of U.S. Dollars	December 31,	
	2022	2021
USD	\$ 10,236	\$ 10,458
EUR	1,041	1,128
CNY	742	814
Other	89	102
	<u>\$ 12,108</u>	<u>\$ 12,502</u>

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Long-Term Debt

Senior Revolving Credit Facility—Our \$3,250 million senior unsecured revolving credit facility (the “Senior Revolving Credit Facility”), which expires in November 2026, 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, LIBOR rate or EURIBOR rate, plus an applicable margin. Additional fees are incurred for the average daily unused commitments. At December 31, 2022, we had no borrowings or letters of credit outstanding and \$3,050 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.

Term Loan due 2022—In 2021 we fully repaid the remaining \$1,450 million outstanding borrowings under our Term Loan due 2022 which was entered in 2019.

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 in whole or in part, prior to their respective 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.

Additionally, our Senior Notes due 2024 may be redeemed and repaid, in whole at any time or in part from time to time prior to the date that is 90 days prior to the scheduled maturity date of the notes at a redemption price equal to 100% of the principal amount of the notes redeemed plus a premium for each note redeemed equal to the greater of 1.00% of the then outstanding principal amount of the note and the excess of: (a) the present value at such redemption date of (i) the principal amount of the note at maturity plus (ii) all required interest payments due on the note through maturity (excluding accrued but unpaid interest), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 50 basis points; over (b) the outstanding principal amount of the note. These notes may also be redeemed, in whole or in part, at any time on or after the date which is 90 days prior to the final maturity date of the notes, at a redemption price equal to 100% of the principal amount of the notes redeemed plus accrued and unpaid interest.

As of December 31, 2022, we are in compliance with our debt covenants.

Guaranteed Notes—In June 2021, we redeemed \$325 million of the outstanding \$750 million 4.0% guaranteed notes due 2023. In conjunction with the partial redemption, we recognized \$25 million of debt extinguishment costs which are reflected in Interest expense in the Consolidated Statements of Income. The debt extinguishment costs include \$23 million paid for make-whole premiums and non-cash charges of \$2 million for the write-off of unamortized debt discount and issuance costs.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In September 2021, we redeemed the entire \$500 million outstanding of 2.875% guaranteed notes due 2025. In conjunction with the redemption, we recognized \$37 million of debt extinguishment costs which are reflected in Interest expense in the Consolidated Statements of Income. The debt extinguishment costs include \$34 million paid for make-whole premiums and non-cash charges of \$3 million for the write-off of unamortized debt issuance costs.

In October 2021, we redeemed the entire \$650 million outstanding guaranteed floating rate notes due 2023. In conjunction with the redemption, we recognized \$3 million of debt extinguishment costs related to the non-cash write-off of unamortized debt issuance costs which are reflected in Interest expense in the Consolidated Statements of Income.

Pursuant to a cash tender offer, in December 2021 we repaid \$775 million principal outstanding of our guaranteed notes, comprising \$409 million of our \$1,000 million 3.5% guaranteed notes due 2027, \$358 million of our \$500 million 3.375% guaranteed notes due 2030, and \$8 million of our \$500 million 1.25% guaranteed notes due 2025. In conjunction with the tender offer, we recognized \$42 million of debt extinguishment costs which are reflected in Interest expense in the Consolidated Statements of Income. The debt extinguishment costs include \$71 million paid for make-whole premiums and non-cash charges of \$7 million for the write-off of unamortized debt discount and issuance costs, partially offset by \$36 million in gains resulting from the write-off of the cumulative fair value hedge accounting adjustments.

Senior Notes—Pursuant to a cash tender offer, in December 2021 we repaid \$225 million principal outstanding of our \$1,000 million 5.75% senior notes due 2024. In conjunction with the tender offer, we recognized \$23 million of debt extinguishment costs which are reflected in Interest expense in the Consolidated Statements of Income. The debt extinguishment costs include \$22 million paid for make-whole premiums and non-cash charges of \$1 million for the write-off of unamortized debt issuance costs.

Short-Term Debt

U.S. Receivables Facility—Our U.S. Receivables Facility, which expires in June 2024, has a purchase limit of \$900 million in addition to a \$300 million uncommitted accordion feature. 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 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, 2022, there were no borrowings or letters of credit outstanding and \$794 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 \$3,250 million Senior Revolving Credit Facility. Proceeds from the issuance of commercial paper may be used for general corporate purposes, including dividends and share repurchases. Interest rates on the commercial paper outstanding at December 31, 2022 are based on the terms of the notes and range from 4.3% to 5.0%. At December 31, 2022, we had \$200 million of outstanding 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.

Weighted Average Interest Rate—At December 31, 2022 and 2021, our weighted average interest rate on outstanding Short-term debt was 3.7% and 0.9%, respectively.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Additional Information

Other Information—LYB International Finance B.V., LYB International Finance II B.V., LYB International Finance III, LLC and LYB Americas Finance Company LLC (“LYB Finance subsidiaries”) are wholly owned finance subsidiaries of LyondellBasell Industries N.V., as defined in Rule 3-10(b) of Regulation S-X. 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.

24. Deferred Income Tax

The gross movement in the deferred income tax account is as follows:

Millions of U.S. Dollars	Note	2022	2021
Opening balance at January 1,		\$ 2,390	\$ 2,141
Income statement charge	12	235	186
Tax charge/(credit) relating to components of other comprehensive income	12	170	77
Tax charge/(credit) directly relating to equity	12	—	—
Tax charge/(credit) relating to reclass from deferred tax liabilities		(4)	4
Currency translation adjustment		(21)	(18)
Deferred tax liabilities, net		<u>\$ 2,770</u>	<u>\$ 2,390</u>

The deferred tax movement 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 are presented below.

Millions of U.S. Dollars	Retirement Benefit Obligation	Tax Attributes	Other	Total
Deferred income tax assets:				
Balance at January 1, 2021	\$ 457	\$ 110	\$ 114	\$ 681
(Charged)/credited to the income statement	3	(52)	(34)	(83)
(Charged)/credited to other comprehensive income	(59)	—	(18)	(77)
(Charged)/credited to equity	—	—	—	—
(Charged)/credited for deferred tax liabilities and current tax liabilities reclassification	(1)	—	(8)	(9)
Currency translation adjustment	(17)	(1)	(2)	(20)
Balance at December 31, 2021	<u>\$ 383</u>	<u>\$ 57</u>	<u>\$ 52</u>	<u>\$ 492</u>
Reclassification				(300)
Net deferred tax assets				<u>\$ 192</u>
Balance at January 1, 2022	\$ 383	\$ 57	\$ 52	\$ 492
(Charged)/credited to the income statement	(21)	147	95	221
(Charged)/credited to other comprehensive income	(107)	—	(1)	(108)
(Charged)/credited to equity	4	—	—	4
(Charged)/credited for deferred tax liabilities and current tax liabilities reclassification	(1)	10	40	49
Currency translation adjustment	(13)	1	(2)	(14)
Balance at December 31, 2022	<u>\$ 245</u>	<u>\$ 215</u>	<u>\$ 184</u>	<u>\$ 644</u>
Reclassification				(409)
Net deferred tax assets				<u>\$ 235</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

<u>Millions of U.S. Dollars</u>	<u>Intangible Asset</u>	<u>Accelerated Tax Depreciation</u>	<u>Inventory</u>	<u>Other</u>	<u>Total</u>
Deferred income tax liabilities:					
Balance at January 1, 2021	\$ 91	2,422	\$ 148	\$ 161	\$ 2,822
Charged/(credited) to the income statement	(34)	(131)	285	(17)	103
Reclass (to)/from deferred tax assets	—	—	—	—	—
(Charged)/credited to equity	(3)	(2)	(2)	3	(4)
Currency translation adjustment	(1)	(27)	(9)	(2)	(39)
Balance at December 31, 2021	<u>\$ 53</u>	<u>2,262</u>	<u>\$ 422</u>	<u>\$ 145</u>	<u>\$ 2,882</u>
Reclassification					(300)
Net deferred tax liabilities					<u>\$ 2,582</u>
Balance at January 1, 2022	\$ 53	2,262	\$ 422	\$ 145	\$ 2,882
Charged/(credited) to the income statement	(3)	523	(74)	10	456
(Charged)/credited to equity	—	—	—	62	62
Reclass (to)/from deferred tax assets	—	12	—	37	49
Currency translation adjustment	(2)	(18)	(8)	(7)	(35)
Balance at December 31, 2022	<u>\$ 48</u>	<u>2,779</u>	<u>\$ 340</u>	<u>\$ 247</u>	<u>\$ 3,414</u>
Reclassification					(409)
Net deferred tax liabilities					<u>\$ 3,005</u>

At December 31, 2022 and 2021, we had realizable tax attributes available in the amount of \$1,027 million and \$368 million, respectively, for which a deferred tax asset was recognized at December 31, 2022 and 2021 of \$215 million and \$57 million, respectively.

Deferred tax assets are recognized for tax attributes to the extent that the realization of the related tax benefit through future taxable profits is probable. Prior to the close of each reporting period, we consider the weight of all evidence, both positive and negative, to determine if the deferred tax assets for tax attributes and deductible temporary differences for each jurisdiction can be valued at full value. 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 carryback year(s) if carryback 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.

The Company did not recognize deferred tax assets of \$66 million and \$126 million with respect to tax attributes amounting to \$360 million and \$575 million for the years ended December 31, 2022 and 2021, respectively, which can be carried forward and utilized against future taxable income. During 2022, we had some reductions in our tax attributes which were not recognized which did not have an impact on our effective tax rate.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The expiration periods of tax attributes for which no deferred tax assets are recognized as of December 31, 2022 are as follows:

<u>Millions of U.S. Dollars</u>	<u>Gross Tax Attributes</u>	<u>Deferred Tax on Tax Losses</u>
2023	\$ 1	\$ —
2024	1	—
2025	—	—
2026	1	—
2027	—	—
Thereafter	158	11
Indefinite	199	55
Total	<u>\$ 360</u>	<u>\$ 66</u>

As of December 31, 2022 and 2021, deferred taxes of \$86 million and \$94 million, respectively, have been provided on the unremitted earnings (to the extent such earnings are subject to taxation on their future remittance) of certain joint ventures, equity investments and subsidiaries. As of December 31, 2022 the Company intends to permanently reinvest approximately \$550 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. As it is not probable that this taxable temporary difference will reverse in the foreseeable future we have not recognized any deferred tax liabilities.

Contingencies—Certain income tax returns of LyondellBasell N.V. and its subsidiaries are under examination by tax authorities. These audits may result in proposed assessments by the tax authorities. The Company believes that its tax positions comply with applicable tax law and intends to defend its positions through appropriate administrative and judicial processes.

Our current income tax payable is expected to be settled within the next 12 months.

25. Retirement Benefit Obligations

<u>Millions of U.S. Dollars</u>	<u>Note</u>	<u>2022</u>	<u>2021</u>
Asset in the Consolidated Statement of Financial Position:			
Defined benefit pension plans		\$ 14	\$ 25
Liabilities in the Consolidated Statement of Financial Position:			
Defined benefit pension plans		758	1,111
Other post-employment benefit plans		193	271
Total liabilities		<u>951</u>	<u>1,382</u>
Net defined benefit liabilities		<u>\$ 937</u>	<u>\$ 1,357</u>
Income statement charge:			
Defined benefit pension plans	7	\$ 85	\$ 119
Other post-employment benefit plans	7	8	10
Total charges		<u>\$ 93</u>	<u>\$ 129</u>
Remeasurements recognized in the Consolidated Statement of Other Comprehensive Income (loss) in the period (before tax):			
Defined benefit pension plans		\$ 305	\$ 261
Other post-employment benefit plans		64	9
Total recognized in Other Comprehensive Income in the period		<u>\$ 369</u>	<u>\$ 270</u>

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

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The U.S. defined benefit pension plans are subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), including minimum funding requirements. The benefits under the U.S. defined benefit plans are determined either under a cash balance formula or another formula based on the participant's earnings history or service or both. The benefit payments are made from a trust or insurance contract. The plans are administered by the Company's Benefits Administrative Committee ("BAC") and investment of the trust assets is directed by external investment managers hired and monitored by the Company's Benefits Finance Committee ("BFC"). Both the BAC and BFC consist of individuals appointed by the Board of Directors of Lyondell Chemical Company, a wholly owned subsidiary of the Company.

The non-U.S. defined benefit pension plans are subject to the regulatory framework and minimum funding requirements of applicable jurisdictions in which the plans are operated. The benefits under the non-U.S. defined benefit pension plan are also generally calculated based on the participant's earnings history or service or both. The benefit payments from certain non-U.S. plans are made from a trust or insurance contract; however, there are also a number of unfunded plans under which the Company meets each benefit payment obligation as it falls due. Management of non-U.S. plan assets is governed by local regulations and practice in each applicable jurisdiction.

Defined benefit pension plans—The amounts recognized in the Statement of Financial Position are determined as follows:

Millions of U.S. Dollars	Year Ended December 31,	
	2022	2021
Present value of benefit obligations	\$ (2,388)	\$ (3,808)
Fair value of plan assets	1,673	2,730
Deficit of defined benefit pension plans	(715)	(1,078)
Effect of asset limitation and minimum funding requirement	(29)	(8)
Net liability	<u>\$ (744)</u>	<u>\$ (1,086)</u>

The following tables provide a reconciliation of changes in the net defined benefit liability over the year:

Millions of U.S. Dollars	Present Value of Obligation	Fair Value of Plan Assets	Total	Effect of Asset Limitation and Minimum Funding Requirement	Total
At January 1, 2021	\$ 4,173	\$ (2,640)	\$ 1,533	\$ 7	\$ 1,540
Current service cost	102	—	102	—	102
Past service cost	1	—	1	—	1
Interest expense (income)	55	(39)	16	1	17
	158	(39)	119	1	120
Remeasurements:					
Return on plan assets (excluding interest income)	—	(137)	(137)	—	(137)
Effect of changes in demographic assumptions	—	—	—	—	—
Effect of changes in financial assumptions	(169)	—	(169)	—	(169)
Effect of changes in experience adjustments	24	—	24	—	24
	(145)	(137)	(282)	—	(282)
Exchange differences	(134)	58	(76)	—	(76)
Contributions:					
Employers	—	(216)	(216)	—	(216)
Plan participants	2	(2)	—	—	—
Payments from plans:					
Benefit payments	(246)	246	—	—	—
Settlement payments	—	—	—	—	—
At December 31, 2021	<u>\$ 3,808</u>	<u>\$ (2,730)</u>	<u>\$ 1,078</u>	<u>\$ 8</u>	<u>\$ 1,086</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Millions of U.S. Dollars	Present Value of Obligation	Fair Value of Plan Assets	Total	Effect of Asset Limitation and Minimum Funding Requirement	Total
At January 1, 2022	\$ 3,808	\$ (2,730)	\$ 1,078	\$ 8	\$ 1,086
Current service cost	84	—	84	—	84
Past service cost	(12)	—	(12)	—	(12)
Interest expense (income)	70	(57)	13	22	35
	<u>142</u>	<u>(57)</u>	<u>85</u>	<u>22</u>	<u>107</u>
Remeasurements:					
Return on plan assets (excluding interest income)	—	532	532	—	532
Effect of changes in demographic assumptions	(35)	—	(35)	—	(35)
Effect of changes in financial assumptions	(909)	—	(909)	—	(909)
Effect of changes in experience adjustments	76	—	76	—	76
	<u>(868)</u>	<u>532</u>	<u>(336)</u>	<u>—</u>	<u>(336)</u>
Exchange differences	(124)	69	(55)	(1)	(56)
Contributions:					
Employers	—	(57)	(57)	—	(57)
Plan participants	2	(2)	—	—	—
Payments from plans:					
Benefit payments	(211)	211	—	—	—
Settlement payments	(361)	361	—	—	—
At December 31, 2022	<u>\$ 2,388</u>	<u>\$ (1,673)</u>	<u>\$ 715</u>	<u>\$ 29</u>	<u>\$ 744</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.

The defined benefit obligation and plan assets are composed by country as follows:

2021								
Millions of U.S. Dollars	U.S.	Canada	France	Germany	Netherlands	U.K.	Other	Total
Present value of obligation	\$ 1,916	\$ 82	\$ 217	\$ 611	\$ 700	\$ 242	\$ 40	\$ 3,808
Fair value of plan assets	(1,743)	(91)	(9)	—	(623)	(253)	(11)	(2,730)
Effect of asset limitation and minimum funding requirement	—	8	—	—	—	—	—	8
Total	<u>\$ 173</u>	<u>\$ (1)</u>	<u>\$ 208</u>	<u>\$ 611</u>	<u>\$ 77</u>	<u>\$ (11)</u>	<u>\$ 29</u>	<u>\$ 1,086</u>
2022								
Millions of U.S. Dollars	U.S.	Canada	France	Germany	Netherlands	U.K.	Other	Total
Present value of obligation	\$ 1,140	\$ 63	\$ 154	\$ 391	\$ 449	\$ 159	\$ 32	\$ 2,388
Fair value of plan assets	(1,021)	(70)	(9)	—	(389)	(173)	(11)	(1,673)
Effect of asset limitation and minimum funding requirement	—	7	—	—	—	22	—	29
Total	<u>\$ 119</u>	<u>\$ —</u>	<u>\$ 145</u>	<u>\$ 391</u>	<u>\$ 60</u>	<u>\$ 8</u>	<u>\$ 21</u>	<u>\$ 744</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

As of December 31, 2022, the present value of the defined benefit obligation was comprised of approximately \$1,251 million relating to active employees, \$423 million relating to vested deferred members and \$714 million relating to members in retirement. As of December 31, 2021, the present value of the defined benefit obligation was comprised of approximately \$1,877 million relating to active employees, \$528 million relating to vested deferred members and \$1,403 million relating to members in retirement.

The expected contributions to be paid to the defined benefit pension plans and the multi-employer plan during 2023 are \$63 million and \$6 million, respectively.

Our goal is to manage pension investments over the longer term to achieve optimal returns with an acceptable level of risk and volatility. The assets are externally managed by professional investment firms and performance is evaluated continuously against specific benchmarks. The Company or other oversight bodies actively monitor investment results.

The actual return on plan assets during 2022 was a loss of \$475 million (gain of \$176 million in 2021).

The major categories of plan assets as a percentage of total plan assets are as follows:

	Year Ended December 31,	
	2022	2021
Equity securities	23 %	23 %
Fixed income securities	21 %	20 %
U.S. government securities	13 %	14 %
Alternatives ^(a)	16 %	17 %
Insurance arrangements	27 %	26 %

^(a) Include investments in real estate, hedge funds, private equity and insurance annuity contracts.

The plan assets are summarized as follows at December 31:

Millions of U.S. Dollars	2022			2021		
	Quoted	Unquoted	Total	Quoted	Unquoted	Total
Common and preferred stock:						
Domestic	\$ 51	\$ —	\$ 51	\$ 150	\$ —	\$ 150
International	91	—	91	129	—	129
Commingled funds:						
Domestic equity	168	—	168	183	—	183
International equity	86	—	86	195	—	195
Fixed income	342	—	342	486	—	486
Real estate	—	100	100	—	113	113
Hedge funds	—	119	119	—	171	171
Private equity	—	60	60	—	203	203
U.S. government securities:						
U.S. Treasury securities	223	—	223	401	—	401
Cash and cash equivalents	28	—	28	66	—	66
Insurance arrangements	—	492	492	—	737	737
Total Pension Assets	<u>\$ 989</u>	<u>\$ 771</u>	<u>\$ 1,760</u>	<u>\$ 1,610</u>	<u>\$ 1,224</u>	<u>\$ 2,834</u>

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

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The weighted average assumptions used to determine benefit obligations were as follows:

	Year Ended December 31,	
	2022	2021
Discount rate	4.72 %	2.13 %
Rate of salary increase	3.73 %	3.62 %
Rate of price inflation	2.76 %	2.16 %
Rate of pension increase	2.75 %	2.27 %

The weighted average assumptions used to determine net pension cost were as follows:

	Year Ended December 31,	
	2022	2021
Discount rate	2.13 %	1.75 %
Rate of salary increase	3.62 %	3.57 %
Rate of price inflation	2.16 %	1.97 %
Rate of pension increase	2.27 %	1.48 %

The sensitivity analysis presented in the following table is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated.

The sensitivity of the benefit obligations to changes in the discount rate is as follows:

Millions of U.S. Dollars	Effects on Benefit Obligations in 2022		Effects on Benefit Obligations in 2021	
	\$	Change %	\$	Change %
Present value of obligations	\$ 2,388		\$ 3,808	
Discount rate increases by 50 basis points	(133)	(5.6)%	(249)	(6.5)%
Discount rate decreases by 50 basis points	147	6.1 %	284	7.5 %

Reasonably foreseeable changes to the other principal assumptions would not result in a material impact to the benefit obligations and the benefit costs of our pension plans.

The defined benefit pension plans and the other post-employment benefit plans are subject to a number of risks, the most significant of which are discussed below:

- *Market price risk*—Significant changes in investment performance may result in corresponding increases and decreases in the value of the plan assets.
- *Changes in bond yields*—A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plan's bond holdings.
- *Inflation risk*—Some of the pension plans' benefit arrangements are directly related to the salary levels so that a significant increase in salaries could lead to an increase in the pension obligations of the plans.
- *Life expectancy*—Some plan obligations provide benefits for the lifetime of the member and so increases in life expectancy could result in an increase in the plans' liabilities.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Multi-employer Plan—The Company participates in a multi-employer pension arrangement Pensionskasse der BASF WaG V.VaG (Pensionskasse), which provides for benefits to the majority of our employees in Germany. The plan provides fixed, monthly retirement payments on the basis of the credits earned by the participating employees. The Company-specific plan information for the Pensionskasse is not publicly available and the plan is not subject to a collective-bargaining agreement. Up to a certain salary level, the benefit obligations are covered by contributions of the Company and the employees to the Pensionskasse. To the extent that the Pensionskasse is underfunded or for benefits owed but not subject to the Pensionskasse arrangement, the Company's future contributions to the plan or payments to retirees may increase. To the extent that benefit obligations under the plan are funded by Pensionskasse, the related Company contributions are expensed as incurred. The amounts accrued for expected future benefits payable which are not funded by Pensionskasse were \$72 million and \$95 million at December 31, 2022 and 2021, respectively. The re-measurements recognized in the Consolidated Statement of Comprehensive Income is a gain of \$17 million and a loss of \$21 million at December 31, 2022 and 2021, respectively.

The amounts recognized in the Consolidated Statement of Income are as follows:

<u>Millions of U.S. Dollars</u>	Year Ended December 31,	
	2022	2021
Company contributions to Pensionskasse	\$ 7	\$ 6

Other post-employment benefits plans—The amounts recognized in the Consolidated Statement of Financial Position are determined as follows:

<u>Millions of U.S. Dollars</u>	December 31,	
	2022	2021
Present value of benefit obligations	\$ 193	\$ 271
Fair value of plan assets	—	—
Net liability	\$ 193	\$ 271

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The changes in the net defined benefit liability over the year are as follows:

<u>Millions of U.S. Dollars</u>	<u>Present Value of Obligation</u>	<u>Fair Value of Plan Assets</u>	<u>Total</u>
At January 1, 2021	\$ 297	\$ —	\$ 297
Current service cost	4	—	4
Past service cost	2	—	2
Interest expense	5	—	5
	<u>11</u>	<u>—</u>	<u>11</u>
Remeasurements:			
Effect of changes in demographic assumptions	—	—	—
Effect of changes in financial assumptions	(12)	—	(12)
Effect of changes in experience adjustments	3	—	3
	<u>(9)</u>	<u>—</u>	<u>(9)</u>
Exchange differences	(6)	—	(6)
Contributions:			
Employers	—	(22)	(22)
Plan participants	7	(7)	—
Payments from plans:			
Benefit payments	(29)	29	—
At December 31, 2021	<u>\$ 271</u>	<u>\$ —</u>	<u>\$ 271</u>

<u>Millions of U.S. Dollars</u>	<u>Present Value of Obligation</u>	<u>Fair Value of Plan Assets</u>	<u>Total</u>
At January 1, 2022	\$ 271	\$ —	\$ 271
Current service cost	3	—	3
Past service cost	(1)	—	(1)
Interest expense	6	—	6
	<u>8</u>	<u>—</u>	<u>8</u>
Remeasurements:			
Effect of changes in demographic assumptions	—	—	—
Effect of changes in financial assumptions	(65)	—	(65)
Effect of changes in experience adjustments	1	—	1
	<u>(64)</u>	<u>—</u>	<u>(64)</u>
Exchange differences	(5)	—	(5)
Contributions:			
Employers	—	(17)	(17)
Plan participants	7	(7)	—
Payments from plans:			
Benefit payments	(24)	24	—
At December 31, 2022	<u>\$ 193</u>	<u>\$ —</u>	<u>\$ 193</u>

The weighted average assumptions used to determine benefit obligations were as follows:

	<u>2022</u>	<u>2021</u>
Discount rate	5.13 %	2.43 %
Rate of salary increase	4.16 %	4.17 %

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The weighted average assumptions used to determine net benefit cost were as follows:

	2022	2021
Discount rate	2.43 %	2.08 %
Rate of salary increase	4.17 %	4.83 %

The following table reflects the sensitivity of the benefit obligations of our other post-employment benefit plans to changes in the discount rate:

<u>Millions of U.S. Dollars</u>	Effects on Benefit Obligations in 2022	Change %	Effects on Benefit Obligations in 2021	Change %
Present value of obligations	\$ 193		\$ 271	
Discount rate increases by 50 basis points	(9)	(4.9)%	(18)	(6.5)%
Discount rate decreases by 50 basis points	10	5.4 %	20	7.4 %

Reasonably foreseeable changes to the other principal assumptions would not result in a material impact to the benefit obligations and the benefit costs of our other post-employment benefit plans.

The weighted average duration of the defined benefit obligation for the defined benefit pension plans and other post-employment benefit plans is 12.0 and 10.5 years, respectively.

As of December 31, 2022, future expected benefit payments by our defined benefit pension plans and other post-employment benefit plans which reflect expected future service, as appropriate, are as follows:

<u>Millions of U.S. Dollars</u>	2023	2024	2025	2026	2027	Thereafter	Total
Defined benefit pension plans	\$ 178	\$ 179	\$ 149	\$ 153	\$ 153	\$ 799	\$ 1,611
Other post-employment benefit plans	16	16	16	16	15	70	149
Total	<u>\$ 194</u>	<u>\$ 195</u>	<u>\$ 165</u>	<u>\$ 169</u>	<u>\$ 168</u>	<u>\$ 869</u>	<u>\$ 1,760</u>

26. Trade and Other Payables

<u>Millions of U.S. Dollars</u>	<u>December 31,</u>	
	2022	2021
Trade payables	\$ 3,404	\$ 3,579
Amounts due to related parties	881	1,093
Social security and other taxes	26	25
Accrued expenses	1,683	1,768
Total Trade and Other Payables	<u>\$ 5,994</u>	<u>\$ 6,465</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

27. Provisions

<u>Millions of U.S. Dollars</u>	<u>Asset Retirement Obligation</u>	<u>Environmental</u>	<u>Restructuring</u>	<u>Other</u>	<u>Total</u>
Balance at January 1, 2021	\$ 76	\$ 133	\$ 20	\$ 40	\$ 269
Charged/(credited) to the income statement:					
Additional provisions	—	—	—	—	—
Changes in estimate	3	25	6	1	35
Used during the period	(3)	(14)	(11)	(1)	(29)
Foreign exchange differences	(4)	(4)	(1)	(3)	(12)
Other	—	(1)	—	—	(1)
At December 31, 2021	\$ 72	\$ 139	\$ 14	\$ 37	\$ 262
Of which:					
Non-current	\$ 65	\$ 120	\$ 1	\$ 29	\$ 215
Current	7	19	13	8	47
Closing balance	\$ 72	\$ 139	\$ 14	\$ 37	\$ 262

<u>Millions of U.S. Dollars</u>	<u>Asset Retirement Obligation</u>	<u>Environmental</u>	<u>Restructuring</u>	<u>Other</u>	<u>Total</u>
Balance at January 1, 2022	\$ 72	\$ 139	\$ 14	\$ 37	\$ 262
Charged/(credited) to the income statement:					
Additional provisions	263	—	29	—	292
Changes in estimate	3	5	—	1	9
Used during the period	(3)	(12)	(7)	(1)	(23)
Foreign exchange differences	(5)	—	—	—	(5)
Other	(8)	(4)	—	(3)	(15)
At December 31, 2022	\$ 322	\$ 128	\$ 36	\$ 34	\$ 520
Of which:					
Non-current	\$ 316	\$ 117	\$ 31	\$ 30	\$ 494
Current	6	11	5	4	26
Closing balance	\$ 322	\$ 128	\$ 36	\$ 34	\$ 520

Asset retirement obligations—At some locations, we are contractually obligated to decommission our plants upon site exit. We have provided for the net present value of the estimated costs. Typically such costs are incurred within three years of a plant's closure. In connection with the planned exit from the refinery business, we recorded liabilities for asset retirement obligations of \$263 million in 2022.

Environmental Remediation—Our accrued liability for future environmental remediation costs at current and former plant sites and other remediation sites totaled \$128 million and \$139 million as of December 31, 2022 and 2021, respectively. At December 31, 2022, the accrued liabilities for individual sites range from less than \$1 million to \$26 million. The remediation expenditures are expected to occur over a number of years, and 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.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

28. Contingencies and Commitments

Contingencies-Litigation and Other Matters

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 and various types of litigation. As of December 31, 2022, 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, environmental damages, personal injury and property damage. 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 a consideration of all relevant facts and circumstances, we do not believe the ultimate outcome of any currently pending lawsuit against us will have a material adverse effect upon our operations, financial condition or Consolidated Financial Statements.

Commitments

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 assure sources of supply and are not expected to be in excess of normal requirements. As of December 31, 2022, we had capital expenditure commitments, which we incurred in our normal course of business, including commitments of approximately \$71 million related to the construction of our new PO/TBA plant in Houston, Texas.

The aggregate future estimated purchase obligations are as follows:

<u>Millions of U.S. Dollars</u>	<u>December 31, 2022</u>	
	<u>Purchase Obligation</u>	
	<u>Joint Ventures</u>	<u>Consolidated Entities</u>
No later than 1 year	\$ 520	\$ 9,667
Later than 1 year and no later than 5 years	1,226	11,807
Later than 5 years	659	12,402
Total	<u>\$ 2,405</u>	<u>\$ 33,876</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

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.

29. Related Parties

The Company has related party transactions with its associates and joint ventures. These related party transactions include the sales and purchases of goods in the normal course of business as well as certain financing arrangements and are at arm's length basis. In addition, under contractual arrangements with certain of the Company's equity investees, we receive certain services, utilities and materials at some of our manufacturing sites and we provide certain services to our associates and joint ventures.

We have guaranteed \$20 million of the indebtedness of two of our joint ventures as of December 31, 2022.

The related party transactions are summarized as follows:

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
The Company billed related parties for:		
Sale of products—		
Joint Ventures	\$ 7	\$ 13
Associates	40	28
Shared services agreements—		
Joint Ventures	—	1
Associates	—	1
Related parties billed the Company for:		
Sale of products—		
Joint Ventures	\$ 529	\$ 583
Associates	742	675
Shared services agreements—		
Associates	93	84
Year-end balances with related parties:		
Receivable from Joint Ventures	\$ 3	\$ 3
Receivable from Associates	12	32
Loans to Associate and Joint Ventures	54	11
Loans from Associates and Joint Ventures	—	1
Payables to Joint Ventures	106	238
Payables to Associates	58	138

30. 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, and our Chief Executive Officer uses the operating results of each of the operating segments for performance evaluation and resource allocation. 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.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- *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, acetyls, ethylene oxide and ethylene glycol.
- *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, and advanced polymers, which includes *Catalloy* and polybutene-1.
- *Refining*. Our Refining segment refines heavy, high-sulfur crude oil and other crude oils of varied types and sources available on the U.S. Gulf Coast into refined products, including gasoline and distillates.
- *Technology*. Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts.

Our chief operating decision maker uses EBITDA as the primary measure for reviewing profitability of our segments, and therefore, we have presented EBITDA for all segments. We define EBITDA as earnings before interest, income taxes, and depreciation and amortization.

“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 postretirement benefit costs other than service costs. Sales between segments are made primarily at prices approximating prevailing market prices.

Accounting policies for internal reporting are based on U.S. GAAP and are materially similar to those described in Summary of Significant Accounting Policies (See Note 2) except for

Inventories—The Group measures its inventories in accordance with the Last In, First Out (“LIFO”) method, which is permitted under U.S. GAAP. According to IAS 2, *Inventories*, the LIFO method is prohibited under IFRS. Therefore, the inventories are measured using the First In, First Out (“FIFO”) method for the Consolidated Financial Statements. This inventory measurement difference between the reportable segments and the consolidated information results in different costs of sale and net profit for the period.

Employee Benefits—Under U.S. GAAP, ASC Topic 715, *Compensation-Retirement Benefits* (“ASC 715”) requires the interest expense component of pension expense to be calculated as the product of the defined benefit liability and the discount rate. Such interest expense is netted against interest income resulting from the expected rate of return on plan assets applied to 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 discount rate, reflecting long-term market expectations, rather than current fluctuations in market conditions. Under IFRS, in accordance with IAS 19, *Employee Benefits* the Company recognizes a net interest expense (income), which is the product of the net defined benefit liability (asset) and the discount rate, as a component of its pension expense on defined benefit plans.

Under ASC 715, past service cost and actual return on plan assets in excess of expected return are initially recorded in other comprehensive income and subsequently recognized in earnings over the average remaining service period of the participants to the extent it exceeds the “corridor”. The corridor is defined as the greater of 10 percent of the accumulated projected benefit obligation or the fair value of the plan assets as of the beginning of the year. Under IFRS, the Company recognizes immediately past service cost and net interest expense (income) as discussed above in the Consolidated Statement of Income. Actual return of plan assets in excess of recognized interest income is permanently recorded in other comprehensive income.

Other—There are differences between IFRS and U.S. GAAP with respect to IFRS 11, *Joint Arrangements* as well as, leases, discontinued operations, the subsequent measurement of asset retirement obligations, capitalization of development costs related to Research and development and amortization of debt issuance costs. If material, these differences are separately disclosed in the Consolidated Financial Statements reconciliation.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In April 2022 we announced our decision to cease operation of our Houston refinery no later than the end of 2023 after determining that exiting the refining business is our best strategic and financial path forward. Our exit of the refining business progresses our greenhouse gas (“GHG”) emission reduction goals, and the site’s prime location gives us more options for advancing our future strategic objectives, including circularity. In the interim, we will continue serving the fuels market.

During 2022, in connection with the planned exit from the refinery business, we expensed accelerated lease amortization costs of \$91 million, personnel costs of \$64 million, asset retirement cost depreciation of \$32 million, and asset retirement obligation accretion of \$1 million and we recognized curtailment gains of \$18 million related to employee benefit plans. In subsequent periods, we expect to incur additional costs primarily consisting of accelerated amortization of lease assets of \$150 million to \$250 million, personnel costs of \$50 million to \$80 million and other charges of \$50 million to \$100 million. Additionally, we estimate that the Houston refinery’s asset retirement obligations are in the range of \$150 million to \$450 million. As of December 31, 2022, we recorded asset retirement obligations of \$263 million representing our best estimate. The asset retirement obligations we recorded require significant judgment and are subject to changes in the underlying assumptions. We intend to proceed with an orderly shut-down and do not expect to recognize these charges all at once, but rather over time. We do not anticipate any material cash payments related to the exit of the refinery business to be made in 2023.

Summarized financial information concerning reportable segments is shown in the following table for the periods presented:

	Year Ended December 31, 2022							
<u>Millions of dollars</u>	<u>O&P – Americas</u>	<u>O&P – EAI</u>	<u>I&D</u>	<u>APS</u>	<u>Refining</u>	<u>Technology</u>	<u>Other</u>	<u>Total</u>
Sales and other operating revenues:								
Customers	\$ 8,928	\$ 12,030	\$ 12,703	\$ 5,227	\$ 10,975	\$ 588	\$ —	\$ 50,451
Intersegment	5,007	793	247	4	918	105	(7,074)	—
	13,935	12,823	12,950	5,231	11,893	693	(7,074)	50,451
Depreciation and amortization expense	582	166	332	109	39	39	—	1,267
Other income (expense), net	(28)	—	(39)	2	(7)	(4)	4	(72)
Income (loss) from equity investments	98	(68)	(25)	—	—	—	—	5
EBITDA	2,734	112	1,872	312	921	366	(16)	6,301
Capital expenditures	375	344	940	73	53	98	7	1,890

	Year Ended December 31, 2021							
<u>Millions of dollars</u>	<u>O&P – Americas</u>	<u>O&P – EAI</u>	<u>I&D</u>	<u>APS</u>	<u>Refining</u>	<u>Technology</u>	<u>Other</u>	<u>Total</u>
Sales and other operating revenues:								
Customers	\$ 10,502	\$ 12,685	\$ 9,968	\$ 5,133	\$ 7,178	\$ 707	\$ —	\$ 46,173
Intersegment	4,500	805	212	12	824	136	(6,489)	—
	15,002	13,490	10,180	5,145	8,002	843	(6,489)	46,173
Depreciation and amortization expense	578	197	379	117	79	43	—	1,393
Other income (expense), net	28	11	(2)	7	(7)	—	25	62
Income (loss) from equity investments	115	313	34	(1)	—	—	—	461
EBITDA	5,273	1,749	1,378	409	(624)	514	(10)	8,689
Capital expenditures	319	249	1,112	85	74	91	29	1,959

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Sales and other operating revenues and Capital expenditures disclosed above are prepared from the books and records of LyondellBasell N.V. under accounting principles generally accepted in the United States (“U.S. GAAP”) while the Consolidated Financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”). The differences are primarily related to the difference in accounting for joint arrangements under IFRS and U.S. GAAP.

Reconciliation of EBITDA for reportable segments to the Company's Consolidated Statement of Income is summarized in the following table:

Millions of U.S. Dollars	Note	Year Ended December 31,	
		2022	2021
EBITDA:			
Total segment EBITDA		\$ 6,317	\$ 8,699
Other EBITDA		(16)	(10)
		<u>6,301</u>	<u>8,689</u>
Less:			
Depreciation and amortization expense		(1,267)	(1,393)
Other income (expense), net		72	(62)
Income from equity investments		(5)	(461)
U.S. GAAP operating income		<u>5,101</u>	<u>6,773</u>
Measurement difference:			
Inventory valuation		(262)	1,612
Classification difference:			
Other income (expense), net	10	72	233
Joint Arrangements		9	119
Other		45	37
Total Company's operating profit		<u>\$ 4,965</u>	<u>\$ 8,774</u>

Long-lived assets include Property, plant and equipment, Right-of-use assets, Intangible assets excluding goodwill and Investments in associates and joint ventures. The following long-lived assets data is based upon the location of the assets:

Millions of U.S. Dollars	December 31,	
	2022	2021
Long-lived assets:		
United States	\$ 16,166	\$ 15,634
Germany	1,490	1,525
The Netherlands	1,050	1,034
China	1,326	1,440
France	778	736
Italy	330	327
Mexico	285	308
Other	1,398	1,632
Total	<u>\$ 22,823</u>	<u>\$ 22,636</u>

31. Subsequent Events

Effective January 1, 2023, our *Catalloy* and polybutene-1 products were moved from the APS segment and integrated into the O&P-Americas and Olefins and O&P-EAI segments. This move will allow the APS team to focus on our compounding and solutions business, and to develop a more agile operating model with meaningful regional and segment growth strategies. Also, effective January 1, 2023, a portion of the APS reporting unit's goodwill has been allocated to the O&P-Americas and O&P-EAI segments based on their relative fair values.

As a result of moving our *Catalloy* and polybutene-1 products to our O&P-Americas and O&P-EAI segments we evaluated goodwill for impairment immediately before and after the change. As of December 31, 2022, the majority of goodwill included in our APS reporting unit was related to the 2018 acquisition of A. Schulman. As of December 31, 2022, a large portion of the APS reporting unit's fair value was derived from our *Catalloy* and polybutene-1 products, 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.

As a result of the reallocation of goodwill within our operating segments in the first quarter of 2023, our APS segment recognized non-cash impairment charges related to goodwill, intangible assets and property, plant and equipment of approximately \$250 million, \$70 million and \$25 million, respectively. Estimates of fair values were determined through the use of a discounted cash flow model, market comparisons and internal assumptions including revenue growth rates and discount rates, which are inherently subjective.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Appendix - A

Entity Name	Jurisdiction of Formation
LyondellBasell Industries N.V.	Netherlands
LYB International Finance B.V.	Netherlands
LyondellBasell Finance Company	United States
Basell North America Inc.	United States
LYB Americas Finance Company LLC	United States
Lyondell Chemical Company	United States
LYB (Barbados) SRL	Barbados
LYB Bayport Ethers LLC	United States
LYB Channelview POTBA LLC	United States
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 International Finance III, LLC	United States
LYB Receivables 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 Properties, L.P.	United States
Lyondell Chemical Technology, L.P.	United States
Lyondell POTechLP, Inc.	United States
Lyondell Chemical Technology Management, Inc.	United States
Lyondell POTechGP, Inc.	United States
Lyondell POJVGP, LLC	United States
Lyondell POJVL, 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 Advanced Polyolefins Pty Ltd	Australia
LyondellBasell SCS UK Ltd	United Kingdom
AS Worldwide LLC & Cie, S.C.S.	Luxembourg
AS Worldwide, LLC	United States
LYB Treasury Services Ltd.	United Kingdom
ASI Investments Holding Co.	United States

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

<u>Entity Name</u>	<u>Jurisdiction of Formation</u>
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
HPC Holdings, LLC	United States
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
LyondellBasell Hungary Kft	Hungary
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
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 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 INDUSTRIES N.V.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Entity Name	Jurisdiction of Formation
LyondellBasell Singapore Pte. Ltd.	Singapore
LyondellBasell Taiwan Co., Ltd.	Taiwan
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
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 Magyarország Kereskedelmi Korlátolt Felelősségű Társaság	Hungary
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 Slovakia s.r.o.	Slovakia (Slovak Republic)
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
Basell Chemie Köln GmbH	Germany
Basell Polyolefine GmbH	Germany
Basell Bayreuth Chemie GmbH	Germany
A. Schulman GmbH	Germany
A. Schulman Real Estate GmbH & Co. KG	Germany
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
Elian S.A.S.	France
Basell Polyolefines France S.A.S.	France
Compagnie de Distribution des Hydrocarbures SAS	France
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

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

<u>Entity Name</u>	<u>Jurisdiction of Formation</u>
LyondellBasell Central Europe Kft.	Hungary
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
LyondellBasell Circular Economy B.V.	Netherlands

LYONDELLBASELL INDUSTRIES N.V.
CORPORATE FINANCIAL STATEMENTS

Corporate Financial Statements

LYONDELLBASELL INDUSTRIES N.V.
CORPORATE FINANCIAL STATEMENTS
CORPORATE STATEMENT OF INCOME

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Income from Group companies after tax	\$ 3,618	\$ 6,189
Other income (expense), net of tax	180	260
Profit attributable to the equity holders	<u>\$ 3,798</u>	<u>\$ 6,449</u>

LYONDELLBASELL INDUSTRIES N.V.
CORPORATE FINANCIAL STATEMENTS

CORPORATE STATEMENT OF FINANCIAL POSITION

Before Appropriation of Profit

Millions of U.S. Dollars	Note	December 31,	
		2022	2021
ASSETS			
Non-current assets:			
Goodwill	2	\$ 324	\$ 324
Investments in Group companies	2	12,826	13,057
Long-term loans to Group companies	6	4,785	4,785
Deferred tax assets		—	—
Other Assets		—	1
Total non-current assets		17,935	18,167
Current assets:			
Receivables from Group companies		14	36
Prepaid expense and other current assets		2	3
Short-term loans to Group companies	6	—	1,974
Cash and cash equivalents	3	38	44
Total current assets		54	2,057
Total assets		\$ 17,989	\$ 20,224
EQUITY AND LIABILITIES			
Equity:			
	4		
Share capital		\$ 19	\$ 19
Share premium		169	94
Legal reserves		(1,003)	(991)
Other reserves		9,906	6,748
Profit for the year		3,798	6,449
Total equity attributable to equity holders		12,889	12,319
Non-current liabilities:			
Long-term debt	5	1,748	1,747
Deferred income	7	729	2,932
Other long-term liabilities		8	36
Deferred tax liabilities		2	2
Total non-current liabilities		2,487	4,717
Current liabilities:			
Bank overdraft	3	96	689
Short-term loans from Group companies	6	2,461	2,445
Other liabilities		56	54
Total current liabilities		2,613	3,188
Total equity and liabilities		\$ 17,989	\$ 20,224

LYONDELLBASELL INDUSTRIES N.V.
CORPORATE FINANCIAL STATEMENTS

Notes to the Corporate Financial Statements

1. General

LyondellBasell Industries N.V. (the "Company" or "LyondellBasell N.V."), together with its consolidated subsidiaries (collectively, the "Group") applies the option provided in Section 2:362 (8) of the Dutch Civil Code for the principles applicable to the recognition and measurement of assets and liabilities and the determination of results for its Corporate Financial Statements. Accordingly, the principles for recognition and measurement of assets and liabilities and determination of results (hereinafter referred to as "accounting policies") of the Company's Corporate Statement of Financial Position are the same as those applied for the Consolidated Financial Statements under International Financial Reporting Standards ("IFRS"), as adopted by the European Union, for the periods ended December 31, 2022 and 2021, except as noted below:

- Investments in subsidiaries and other companies in which the Company has control are measured at net asset value, which is based on the net book value of assets, provisions and liabilities, in accordance with the accounting policies applied in the Consolidated Financial Statements.
- Goodwill presented in the Corporate Statement of Financial Position reflects the goodwill of subsidiaries directly acquired by the Company and is measured in accordance with the accounting policies of the Consolidated Financial Statements. Goodwill of subsidiaries indirectly owned (via intermediate subsidiaries) is recognized as part of the net asset value of such intermediate subsidiary.

At December 31, 2022 and 2021, the Company had sixteen full-time employees all located outside of The Netherlands.

2. Goodwill and Investments

<u>Millions of U.S. Dollars</u>	<u>Goodwill</u>	<u>Investments</u>
Balance at January 1, 2021	\$ 327	\$ 9,003
Income from investments, net of tax	—	3,549
Equity settled transactions	—	75
Dividends received	—	(1,366)
Transfers and capital contribution	—	1,660
Additions to other reserves	(3)	136
Balance at December 31, 2021	<u>\$ 324</u>	<u>\$ 13,057</u>
Balance at January 1, 2022	\$ 324	\$ 13,057
Income from investments, net of tax	—	1,414
Equity settled transactions	—	84
Dividends received	—	(2,051)
Additions to other reserves	—	322
Balance at December 31, 2022	<u>\$ 324</u>	<u>\$ 12,826</u>

Equity settled transactions—Equity settled transactions represent share-based compensation granted to directors and employees.

Dividends received—During 2022, the Company received the following dividends from direct subsidiaries:

- \$1,000 million from LyondellBasell Subholdings B.V.;
- \$560 million from LYB Export Holdings Limited; and
- \$491 million from LyondellBasell Hungary Kft.

Additions to other reserves—This mainly represents movements for currency translation differences and remeasurements of post-employment benefits obligations, which are non-distributable.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

3. Cash and Cash Equivalents

The Company's cash and cash equivalents are held by its in-house banking unit, LYB Finance Company B.V. The interest rate on the account with LYB Finance Company B.V. is subject to a floating interest rate, based on current market rates. Cash at bank and in-hand are freely disposable. At December 31, 2022 and 2021 the rates were as follows:

	2022		2021	
	Borrowing	Lending	Borrowing	Lending
US Dollar	5.37 %	3.97 %	1.34 %	— %
Great British pound	4.41 %	3.01 %	1.31 %	— %
Euro	2.75 %	1.35 %	1.25 %	— %

4. Equity Attributable to Equity Holders

For a breakdown of Equity attributable to equity holders, see table below.

Millions of U.S. Dollars	Share Capital	Share premium	Legal Reserve		Other reserves			Total Equity Attributable to equity holders
			Currency translation differences	Group Companies	Retained earnings	Treasury Shares	Profit for the year	
Balance as at 1 January 2021	\$ 19	\$ 35	\$ (780)	\$ (502)	\$ 7,633	\$ (531)	\$ 1,720	\$ 7,594
Previous year results	—	—	—	—	1,720	—	(1,720)	—
Employee share-based payments:								
Issuance of shares	—	59	—	—	—	43	—	102
Tax credits related to share-based payments	—	—	—	—	—	—	—	—
Purchase of non-controlling interest	—	—	—	—	—	—	—	—
Shares purchased	—	—	—	—	—	(477)	—	(477)
Net current period change	—	—	(140)	284	—	—	—	144
Profit for the year	—	—	—	—	—	—	6,449	6,449
Additions to legal reserve	—	—	—	147	(147)	—	—	—
Common stock dividends paid	—	—	—	—	(1,486)	—	—	(1,486)
Preferred stock dividends paid	—	—	—	—	(7)	—	—	(7)
Balance as at 31 December 2021	<u>\$ 19</u>	<u>\$ 94</u>	<u>\$ (920)</u>	<u>\$ (71)</u>	<u>\$ 7,713</u>	<u>\$ (965)</u>	<u>\$ 6,449</u>	<u>\$ 12,319</u>

Millions of U.S. Dollars	Share Capital	Share premium	Legal Reserve		Other reserves			Total Equity Attributable to equity holders
			Currency translation differences	Group Companies	Retained earnings	Treasury Shares	Profit for the year	
Balance as at 1 January 2022	\$ 19	\$ 94	\$ (920)	\$ (71)	\$ 7,713	\$ (965)	\$ 6,449	\$ 12,319
Previous year results	—	—	—	—	6,449	—	(6,449)	—
Employee share-based payments:								
Issuance of shares	—	75	—	—	—	25	—	100
Shares purchased	—	—	—	—	—	(406)	—	(406)
Net current period change	—	—	(144)	475	—	—	—	331
Profit for the year	—	—	—	—	—	—	3,798	3,798
Additions to legal reserve	—	—	—	(343)	343	—	—	—
Common stock dividends paid	—	—	—	—	(3,246)	—	—	(3,246)
Preferred stock dividends paid	—	—	—	—	(7)	—	—	(7)
Balance as at 31 December 2022	<u>\$ 19</u>	<u>\$ 169</u>	<u>\$ (1,064)</u>	<u>\$ 61</u>	<u>\$ 11,252</u>	<u>\$ (1,346)</u>	<u>\$ 3,798</u>	<u>\$ 12,889</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

Share capital—The Company's authorized share capital totals €51 million divided into 1,275 million ordinary shares of €0.04 each. The issued and fully paid up share capital amounted to €15 million divided in 333 million ordinary shares.

The item "Group Companies" relates to the "*Wettelijke reserve deelnemingen*," which is required by Dutch Law. This reserve relates to any legal or economic restrictions on the ability of group companies to transfer funds to the parent in the form of dividends.

Pursuant to Dutch Law, limitations exist relating to the distribution of share capital of \$19 million (\$19 million in 2021) and Legal reserves of \$(1,003) million at December 31, 2022 (\$(991) million in 2021).

For more information related to share repurchases please refer to Note 21 of the consolidated financial statements. For more information related to Share based compensation refer to Note 8 of the consolidated financial statements.

In general, gains related to currency translation differences cannot be distributed as part of shareholders' equity as they form part of the legal reserves protected under Dutch Law. By their nature, losses related to currency translation differences and "group companies" reduce shareholders' equity and thereby distributable amounts.

The reconciliation of the Company's retained earnings to those of the Group reflected in the Group's Consolidated Statement of Financial Position is as follows:

Millions of U.S. Dollars	December 31,	
	2022	2021
Retained earnings as per Consolidated Statement of Financial Position	\$ 15,294	\$ 14,749
Non-distributable reserves of Group companies	(244)	(587)
Profit for the year	(3,798)	(6,449)
Retained earnings as per Corporate Statement of Financial Position	\$ 11,252	\$ 7,713

The Company is not liable for the losses incurred by LyondellBasell Finance Company during the year ended December 31, 2022 in excess of its net asset value. Refer to Note 7 for additional information.

Proposed Appropriation of Result—The Board of Directors paid an aggregate dividend of \$9.90 per share from its 2022 annual accounts. This included an interim dividend of \$1.13 per share paid to shareholders of record on March 7, 2022 and \$1.19 per share on June 6, 2022, August 29, 2022 and November 28, 2022. On 6 June 2022 a special dividend of \$5.20 was paid. These dividend payments, totaling \$3,238 million, have been charged to retained earnings.

The Board of Directors approved all dividends paid, as described above.

5. Long-term Debt

Senior Notes due 2055—In March 2015, we issued \$1,000 million of 4.625% Notes due 2055 at a discounted price of 98.353%.

5.75% Senior Notes—In April 2012, the Company issued \$1,000 million aggregate principal amount of 5.75% senior notes due 2024, at an issue price of 100%. In December 2021 the company made a repayment of \$225 million. As of December 31, 2022, the balance remaining on the loan is \$775 million.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

6. Group Company Loans

The following table summarizes, as of December 31, 2022, the maturities of our Long-term Loan Receivable from our Subsidiary and Loans Payable to our Subsidiaries for the next five years and thereafter:

<u>Millions of U.S. Dollars</u>	<u>Total</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>Thereafter</u>
Non-current receivables:							
Subordinate note receivable due July 2025, \$2,000 million	\$ 2,000	\$ —	\$ —	\$ 2,000	\$ —	\$ —	\$ —
Subordinate note receivable due July 2026, \$500 million	500	—	—	—	500	—	—
Note receivable due April 2024, \$986 million	285	—	285	—	—	—	—
Senior note receivable due June 2023, \$2,000 million	2,000	2,000	—	—	—	—	—
Total non-current receivables	<u>\$ 4,785</u>	<u>\$ 2,000</u>	<u>\$ 285</u>	<u>\$ 2,000</u>	<u>\$ 500</u>	<u>\$ —</u>	<u>\$ —</u>
Current payables:							
Revolving credit facility agreement	\$ 1,660	\$ 1,660	\$ —	\$ —	\$ —	\$ —	\$ —
Loan payable due October 2028, \$2,000 million	801	801	—	—	—	—	—
Total current payables	<u>\$ 2,461</u>	<u>\$ 2,461</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

Long-term Loan Receivable from our Subsidiary are as follows:

- \$2,000 million 6.14% senior note due July 1, 2025 with fair value of \$1,930 million, and a \$500 million 6.30% senior note due July 1, 2026, with a fair value of \$482 million.
- \$285 million 6.14% due April 2024 for which fair value approximates the carrying value.
- \$2,000 4.63% senior note due June 30, 2023, with a fair value of \$1,920 million. The loan is classified as a non-current asset due to the intention of management to extend the loan.

Loans Payable to our Subsidiaries—In October 2021 the loan was extended to October 2028 all other terms of the loan remain unchanged. The loan bears interest at a variable rate, which is set for a period of 3 months, using the U.S. LIBOR rate, plus 125 basis points. At December 31, 2022, the outstanding balance was \$801 million which approximates the fair value.

In September 2021 we entered into a revolving credit facility agreement with our wholly owned subsidiary, LYB Finance company B.V. for a maximum principal amount of \$2,500 million. The interest rate is 3 month USD LIBOR plus a spread of 1.055%. The loan is payable on demand from the lender. At December 31, 2022 the outstanding balance on the loan \$1,660 million.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

Movements in Group Company loans are presented below:

<u>Millions of U.S. Dollars</u>	<u>Receivables</u>	<u>Payables</u>
Balance at January 1, 2021	\$ 6,984	\$ 1,284
Borrowings	—	1,660
Discharge and assignments	(225)	(499)
Balance at December 31, 2021	<u>\$ 6,759</u>	<u>\$ 2,445</u>
Of which:		
Non-current	4,785	—
Current	1,974	2,445
Balance at December 31, 2021	<u>\$ 6,759</u>	<u>\$ 2,445</u>
Balance at January 1, 2022	\$ 6,759	\$ 2,445
Borrowings	—	16
Discharge and assignments	(1,974)	
Balance at December 31, 2022	<u>\$ 4,785</u>	<u>\$ 2,461</u>
Of which:		
Non-current	4,785	—
Current	—	2,461
Balance at December 31, 2022	<u>\$ 4,785</u>	<u>\$ 2,461</u>

7. Deferred Income

Deferred income represents the excess dividend paid by LyondellBasell Finance Company over its net asset value. This amount is reduced as the Company recognizes its share of LyondellBasell Finance Company's income. After the Deferred income is fully recognized, we will record our earnings from LyondellBasell Finance Company as additions to Investments in Group companies.

The movement in Deferred income, summarized below, represents our share of LyondellBasell Finance Company profit.

<u>Millions of U.S. Dollars</u>	<u>Deferred Income</u>
Balance at January 1, 2022	\$ 2,932
Income from Group Companies, net of tax	(2,203)
Balance at December 31, 2022	<u>\$ 729</u>

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

8. Commitments and Contingencies Not Included in the Balance Sheet

The Company has entered into guarantee agreements with counterparties on behalf of some of its subsidiaries for the supply of raw materials. At December 31, 2022, the total guaranteed amount was \$19,800 million (2021 \$19,300 million).

The Company receives an annual fee of 0.13% for guarantees of aggregate \$1 billion and an annual fee between 0.17% and 0.19% for all other outstanding guarantees as of December 31, 2022. Fee levels applied in 2021 were an annual fee of 0.13% for guarantees of aggregate \$2 billion and an annual fee of 0.17% and 0.19% for all other outstanding guarantees. The Company is jointly and severally liable, as intended in article 403, Book 2, of the Dutch Civil Code for the following subsidiaries in the Consolidated Financial Statements:

- LyondellBasell Subholdings B.V.
- LyondellBasell Circular Economy B.V.
- LYB International Finance B.V.
- LYB International Finance II B.V.
- Basell International Holdings B.V.
- Basell Europe Holdings B.V.
- LyondellBasell Industries Holdings B.V.
- LYB Trading Company B.V.
- LyondellBasell China Holdings B.V.

9. Independent Auditor's Fees

The fees listed below relate to the procedures applied to the Company and its consolidated group entities by PricewaterhouseCoopers Accountants N.V., The Netherlands, the external independent auditor as referred to in section 1(1) of the Dutch Accounting Firms Oversight Act (Dutch acronym: Wta), as well as by other Dutch and foreign-based PricewaterhouseCoopers individual partnerships and legal entities, including their tax services and advisory groups.

<u>Millions of U.S. Dollars</u>	<u>Year Ended December 31,</u>	
	<u>2022</u>	<u>2021</u>
Financial statements audit fees	\$ 11.0	\$ 10.7
Other assurance fees	0.9	0.9
All other fees	0.9	0.4
	<u>\$ 12.8</u>	<u>\$ 12.0</u>

The total audit fees of PricewaterhouseCoopers Accountants N.V., The Netherlands, charged to the Company and its group entities amounted to \$1.5 million and \$1.6 million, respectively, in 2022 and 2021.

The financial statements audit fees above include the aggregate fees billed for professional services rendered for the audit of LyondellBasell Industries N.V.'s annual financial statements, annual statutory financial statements of subsidiaries and services that are normally provided by the independent auditor in connection with these audits. This category also includes services such as comfort letters, statutory audits, attest services, consents and assistance with and review of documents.

The other assurance fees include the aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit or review of the Group's financial statements and are not reported under audit services. This category includes fees related to the performance of audits of benefit plans, agreed-upon or expanded audit procedures relating to accounting records required to respond to or comply with financial, accounting or regulatory reporting matters and consultations as to the accounting or disclosure treatment of transactions or events and/or the actual or potential impact of final or proposed rules, standards or interpretations by regulatory or standard setting bodies. Other fees relate to permitted services that are not included in the above categories.

LYONDELLBASELL INDUSTRIES N.V.

NOTES TO THE CORPORATE FINANCIAL STATEMENTS—(Continued)

10. Directors' Remuneration

Reference is made to Note 9, Directors' Remuneration of the Consolidated Financial Statements.

April 5, 2023

The Board of Directors

/s/ Peter Vanacker

Peter Vanacker

/s/ Jacques Aigrain

Jacques Aigrain

/s/ Lincoln Benet

Lincoln Benet

/s/ Jagjeet S. Bindra

Jagjeet S. Bindra

/s/ Robin W.T. Buchanan

Robin W.T. Buchanan

/s/ Anthony R. Chase

Anthony R. Chase

/s/ Nance K. Dicciani

Nance K. Dicciani

/s/ Robert W. Dudley

Robert W. Dudley

/s/ Claire S. Farley

Claire S. Farley

/s/ Michael S. Hanley

Michael S. Hanley

/s/ Virginia A. Kamsky

Virginia A. Kamsky

/s/ Albert J. Manifold

Albert J. Manifold

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

11. Other Information

Proposed Appropriation of Result

Profit remaining after the appropriation to reserves shall be at the disposal of the general meeting (article 22 sub 3 Articles of Association). The Board of Directors may also appropriate the complete profit to the reserves.

Legal Structure

The list of our subsidiaries and associates as of December 31, 2022 is included in Appendix A of this report.



Independent auditor's report

To: the general meeting and the board of directors of LyondellBasell Industries N.V.

Report on the financial statements 2022

Our opinion

In our opinion:

- the consolidated financial statements of LyondellBasell Industries N.V. together with its subsidiaries ('the Group') give a true and fair view of the financial position of the Group as at 31 December 2022 and of its result and cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union ('EU-IFRS') and with Part 9 of Book 2 of the Dutch Civil Code;
- the corporate financial statements of LyondellBasell Industries N.V. ('the Company') give a true and fair view of the financial position of the Company as at 31 December 2022 and of its result for the year then ended in accordance with Part 9 of Book 2 of the Dutch Civil Code.

What we have audited

We have audited the accompanying financial statements 2022 of LyondellBasell Industries N.V., Rotterdam. The financial statements comprise the consolidated financial statements of the Group and the corporate financial statements of the Company.

The consolidated financial statements comprise:

- the consolidated statement of financial position as at 31 December 2022;
- the following statements for 2022: the consolidated statement of income, the consolidated statement of comprehensive income, the consolidated statement of financial position, the consolidated statement of changes in equity and consolidated statement of cash flows; and
- the notes, comprising a summary of the significant accounting policies and other explanatory information.

The corporate financial statements comprise:

- the corporate statement of financial position as at 31 December 2022;
- the corporate statement of income for the year then ended; and
- the notes, comprising a summary of the accounting policies applied and other explanatory information.

The financial reporting framework applied in the preparation of the financial statements is EU-IFRS and the relevant provisions of Part 9 of Book 2 of the Dutch Civil Code for the consolidated financial statements and Part 9 of Book 2 of the Dutch Civil Code for the corporate financial statements.

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PricewaterhouseCoopers Accountants N.V., Fascinatio Boulevard 350, 3065 WB Rotterdam, P.O. Box 8800, 3009 AV Rotterdam, the Netherlands

T: +31 (0) 88 792 00 10, F: +31 (0) 88 792 95 33, www.pwc.nl

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The basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. We have further described our responsibilities under those standards in the section ‘Our responsibilities for the audit of the financial statements’ of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of LyondellBasell Industries N.V. in accordance with the ‘Wet toezicht accountantsorganisaties’ (Wta, Audit firms supervision act), the ‘Verordening inzake de onafhankelijkheid van accountants bij assuranceopdrachten’ (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the ‘Verordening gedrags- en beroepsregels accountants’ (VGBA, Dutch Code of Ethics).

Our audit approach

We designed our audit procedures with respect to the key audit matters, fraud and going concern, and the matters resulting from that, in the context of our audit of the financial statements as a whole and in forming our opinion thereon. The information in support of our opinion, such as our findings and observations related to individual key audit matters, the audit approach for fraud risk and the audit approach for going concern was addressed in this context, and we do not provide a separate opinion or conclusion on these matters.

Overview and context

LyondellBasell Industries 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 production of polymers. The business operations are subject to the cyclical and volatile nature of the chemicals industry which causes fluctuations in the results from period to period and over business cycles.

The chemicals industry has historically experienced periods of capacity shortages, causing prices and profit margins to increase, followed by periods of excess capacity, resulting in oversupply and declining prices and profit margins. The volatility of results affected our determination of materiality as set out in the materiality section of our report.

The Group is comprised of several components and therefore we considered our group audit scope and approach as set out in the section ‘The scope of our group audit’. We paid specific attention to the areas of focus driven by the operations of the Group, as set out below.

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made important judgements, for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. In these considerations, we paid attention to, amongst others, the assumptions underlying the risks related to climate change. We have performed a risk assessment of how the impact of the Group’s ambition in respect of climate change may affect the financial statements and our audit.

There was no impact and therefore we did not consider this to be a key audit matter. In note 3 of the consolidated financial statements, the Company describes the areas of judgement in applying accounting policies and the key sources of estimation uncertainty. Given the significant estimation uncertainty and the related higher inherent risks of material misstatement in providing for uncertain tax positions, we considered this matter as key audit matter as set out in the section ‘Key audit matters’ of this report.

Other areas of focus that were not considered as key audit matters, were capitalisation of assets, impairment of property, plant and equipment, inventory costing, revenue recognition and derivative financial instruments.

LyondellBasell Industries N.V. assessed the possible effects of climate change, including the revised climate reduction goals announced in December 2022 by the Company, on its financial position. We discussed LyondellBasell Industries N.V.’s assessment and governance thereof with management and evaluated the potential impact on the financial position including underlying assumptions and estimates. The expected effects of climate change are not considered a key audit matter.

We ensured that the audit teams at both group and component level included the appropriate skills and competences which are needed for the audit. We therefore included experts and specialists in the areas of amongst others IT, pensions, tax, valuations and financial instruments in our team.

The outline of our audit approach was as follows:



Materiality

- Overall materiality: USD 250 million

Audit scope

- We conducted audit work in six geographical locations: the Netherlands, the United States of America, Germany, Italy, Slovakia and China.
- We performed an audit of the complete financial information of five components and specified audit procedures of thirteen other components.
- Audit coverage: 81% of consolidated revenue, 83% of consolidated total assets and 78% of consolidated profit before tax.

Key audit matters

- Provisions for uncertain tax positions.
-

Materiality

The scope of our audit was influenced by the application of materiality, which is further explained in the section ‘Our responsibilities for the audit of the financial statements’.

Based on our professional judgement we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below.



These, together with qualitative considerations, helped us to determine the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and to evaluate the effect of identified misstatements, both individually and in aggregate, on the financial statements as a whole and on our opinion.

Overall group materiality	USD 250 million (2021: USD 275 million).
Basis for determining materiality	We used our professional judgement to determine overall materiality. As a basis for our judgement, we used 5% of the three-year weighted average of profit before income tax based on the US GAAP consolidated financial statements.
Rationale for benchmark applied	<p>We used profit before tax as the primary benchmark, a generally accepted auditing practice, based on our analysis of the common information needs of the users of the financial statements. On this basis, we believe that profit before tax is a relevant metric for the financial performance of the Company.</p> <p>The Company uses two accounting frameworks for calculating profit before tax:</p> <ul style="list-style-type: none">• The financial reporting frameworks that have been applied in the preparation of the financial statements are EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code.• The accounting principles generally accepted in the United States of America (US GAAP) have been applied for the quarterly and annual earnings releases, and the financial statements filed with the United States Securities and Exchange Commission. <p>Both US GAAP and EU-IFRS are applied in maintaining the daily operational accounting records. In addition, we believe that the users of financial information of the Company are primarily interested in the consolidated financial information based on US GAAP. Any user of these consolidated financial statements (EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code) would likely not review this information in isolation; if users did review this information, we expect it would likely be in supplement to the US GAAP financial information. The result of the benchmark applied using US GAAP figures is not higher than the result had the EU-IFRS figures been applied as a benchmark. Therefore, for the audit of these consolidated financial statements (EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code) we have applied a generally accepted auditing practice benchmark on the profit before tax based on US GAAP.</p> <p>We have applied a three-year weighted average of the profit before income tax as the Company's operations are subject to the cyclicity and volatility of the chemicals industry, hence operating results may vary substantially over the years. We assigned a lower weight to 2020 because of the impact that COVID-19 had on the profit before tax of that year, which cannot be attributed to the cyclical nature of the chemicals industry.</p>
Component materiality	Based on our judgement, we allocate materiality to each component in our audit scope that is less than our overall group materiality. The range of materiality allocated across components was between USD 55 million and USD 245 million. Certain components were audited to a local statutory audit materiality that was also less than our overall group materiality.



We also take misstatements and/or possible misstatements into account that, in our judgement, are material for qualitative reasons.

We agreed with the board of directors that we would report to them any misstatement identified during our audit above USD 25 million (2021: USD 25 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

The scope of our group audit

LyondellBasell Industries N.V. is the parent company of a group of entities. The financial information of this group is included in the consolidated financial statements of LyondellBasell Industries N.V.

We tailored the scope of our audit to ensure that we, in aggregate, provide sufficient coverage of the financial statements for us to be able to give an opinion on the financial statements as a whole, taking into account the management structure of the Group, the nature of operations of its components, the accounting processes and controls, and the markets in which the components of the Group operate. In establishing the overall group audit strategy and plan, we determined the type of work required to be performed at component level by the group engagement team and by each component auditor.

Our audit primarily focussed on five individually significant components of the Group, located in the United States of America and the Netherlands.

We subjected five components to audits of their complete financial information, as those components are individually financially significant to the Group. We further subjected thirteen components to specific risk-focussed audit procedures as they include significant or higher risk areas.

In total, in performing these procedures, we achieved the following coverage on the financial line items:

Revenue	81%
Total assets	83%
Profit before tax	78%

None of the remaining components represented more than 4% of total group revenue and/or 2.5% of total group assets. For those remaining components we performed, among other things, analytical procedures to corroborate our assessment that there were no significant risks of material misstatements within those components.

The group engagement team performed the audit work for group entities located in the Netherlands and the United States of America. We used component auditors located in Germany, China, the Netherlands, the United States of America, Italy and Slovakia who are familiar with the relevant laws and regulations to perform the audit work.

Where component auditors performed the work, we determined the level of involvement we needed to have in their work to be able to conclude whether we had obtained sufficient and appropriate audit evidence as a basis for our opinion on the consolidated financial statements as a whole.



We issued instructions to the component audit teams in our audit scope. These instructions included amongst others our risk analysis, materiality and the scope of the work. We explained to the component audit teams the structure of the Group, the main developments that were relevant for the component auditors, the risks identified, the materiality levels to be applied and our global audit approach. We liaised with the component teams in the United States of America, China, Italy, the Netherlands, Slovakia and Germany to review their audit work and reports about their findings. We had individual calls with each of the in-scope component audit teams both during the year and upon conclusion of their work. During these calls, we discussed the significant accounting and audit issues identified by the component auditors, their reports, the findings of their procedures and other matters that could be of relevance for the consolidated financial statements.

The group engagement team visits the component teams and local management on a rotational basis. In the current year, the group audit team visited the United States of America, the Netherlands and Germany components, given the importance of revenue and property, plant and equipment. We reviewed selected working papers of the component auditors based on professional judgement.

The group engagement team performed the audit work on the group consolidation, financial statement disclosures and a number of more complex items at the head office.

By performing the procedures outlined above at the components, combined with additional procedures exercised at group level, we have been able to obtain sufficient and appropriate audit evidence on the Group's financial information, to provide a basis for our opinion on the financial statements.

Audit approach fraud risks

We identified and assessed the risks of material misstatements of the financial statements due to fraud. During our audit we obtained an understanding of LyondellBasell Industries N.V. and its environment and the components of the internal control system. This included management's risk assessment process and their process for responding to the risks of fraud, and monitoring the internal control system.

We evaluated the design and relevant aspects of the internal control system with respect to the risks of material misstatements due to fraud and in particular the fraud risk assessment, as well as, among others, the code of conduct, ethics hotline and whistle-blower procedures, the compliance programmes and training and incident registration. We evaluated the design and the implementation and, where considered appropriate, tested the operating effectiveness of internal controls designed to mitigate fraud risks.

We asked members of the board of directors, as well as the internal audit department, segment controllers and legal department whether they are aware of any actual or suspected fraud. This did not result in signals of actual or suspected fraud that may lead to a material misstatement.

As part of our process of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption. We evaluated whether these factors indicate that a risk of material misstatement due to fraud is present.

In accordance with ISA 240 there are two presumed fraud risks when performing audit procedures:

- 1) Risk of management override of controls.
- 2) Risk of fraud in revenue recognition.



As part of our risk assessment, we evaluated the revenue transactions of the group. The group largely operates in a low value/high volume sales environment with an automated revenue recognition process. The simplicity of the group's business model, automated revenue recognition process and lack of incentives to perpetrate fraud limits the risk of fraud in revenue recognition.

Based on the above, our identification of fraud risk was limited to management override of controls and we performed the following specific procedures:

Identified fraud risk

Risk of management override of controls

Management is in a unique position to perpetrate fraud because of management's ability to manipulate accounting records and prepare fraudulent financial statements by overriding controls that otherwise appear to be operating effectively.

We paid attention to the risk of management override of controls, including risks of potential misstatements due to fraud based on an analysis of potential interests of management in areas where management would most likely override controls, i.e., accounting for significant unusual transactions, recording of critical accounting estimates, booking of manual journal entries, or via incomplete/inaccurate disclosures.

Our audit work and observations

We evaluated the design of the internal controls that are intended to mitigate the risk of management override of controls and assessed the effectiveness of the controls in the process of generating and processing journal entries and making estimates. We also paid specific attention to the access safeguards in the IT system and the possibility that these lead to violations of the segregation of duties.

We selected journal entries based on risk criteria and conducted specific audit activities for these entries, as part of which we also paid attention to significant transactions outside the normal course of business.

We also performed specific audit procedures related to important estimates of management, including uncertain tax positions (refer to the key audit matter 'Provisions for uncertain tax positions' for our audit work and observations). We specifically paid attention to the inherent risk of management bias in estimates.

Our audit procedures did not lead to specific indications of fraud or suspicions of fraud with respect to management override of controls.

We incorporated an element of unpredictability in our audit. In addition, we reviewed lawyer's letters and correspondence with regulators. During the audit, we remained alert to indications of fraud. We also considered the outcome of our other audit procedures and evaluated whether any findings were indicative of fraud or non-compliance of laws and regulations. Whenever we identify any indications of fraud, we re-evaluate our fraud risk assessment and its impact on our audit procedures.

Audit approach going concern

Management prepared the financial statements on the assumption that the entity is a going concern and that it will continue all its operations for at least twelve months from the date of the financial statements. Our procedures to evaluate management's going-concern assessment included, amongst others:

- considering whether management identified events or conditions that may cast significant doubt on the entity's ability to continue as a going concern (hereafter: going-concern risks);
- considering whether management's going-concern assessment includes all relevant information of which we are aware as a result of our audit and inquiring with management regarding management's most important assumptions underlying its going-concern assessment.



- evaluating management’s current budget including cash flows for at least twelve months from the date of the financial statements taking into account current developments in the industry and all relevant information of which we are aware as a result of our audit;
- analysing whether the current and the required financing have been secured to enable the continuation of the entirety of the entity’s operations, including evaluating the debt covenants to ensure that all conditions of the facilities have been met;
- performing inquiries of management as to its knowledge of going-concern risks beyond the period of management’s assessment.

Our procedures did not result in outcomes contrary to management’s assumptions and judgements used in the application of the going-concern assumption.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the financial statements. We have communicated the key audit matters to the board of directors. The key audit matters are not a comprehensive reflection of all matters identified by our audit and that we discussed. In this section, we described the key audit matters and included a summary of the audit procedures we performed on those matters.

<i>Key audit matter</i>	<i>Our audit work and observations</i>
<p><i>Provisions for uncertain tax positions</i> <i>Note 12 and 24</i></p> <p>The Company has recorded income tax expense from continuing operations of \$785 million, income tax receivables of \$296 million, income tax payables of \$367 million, and net deferred tax liabilities of \$2,770 million. The Company operates in multiple jurisdictions throughout the world, and their tax returns are periodically audited or subjected to review by tax authorities.</p> <p>Management recognises 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 in note 12 of the consolidated financial statements, there continues to be increased attention on the tax practices of multinational companies, in particular the U.S. and Europe where the Company operates. The company continues to monitor proposed tax law changes as they could increase their tax liabilities in the future, if enacted.</p> <p>Significant judgements were made by management when determining provisions for tax uncertainties, including a high degree of estimation uncertainty due to the complexity of tax laws, frequency of tax audits and potential for adjustments as a result of such tax audits.</p>	<p>We assessed and tested the design and operating effectiveness of controls over the accounting for uncertain tax positions, including:</p> <ul style="list-style-type: none"> • identification and recognition of the liabilities for uncertain tax positions; and • the completeness of the liabilities for uncertain tax positions. <p>We found the controls above to be properly designed and operating effectively to support our intended reliance.</p> <p>In addition, we were supported by individuals with specialised skills and knowledge in taxation and performed the following testing procedures:</p> <ul style="list-style-type: none"> • assessed management’s analysis of the technical merits of tax positions and estimates of the amount of tax benefit expected to be sustained; • evaluated the status and results of tax audits by the relevant tax authorities; • evaluated communication with tax authorities; • assessed the probability of tax positions of being sustained by evaluating and challenging management’s key assumptions and the application of relevant tax laws, particularly in cases where there had been developments with tax authorities;



Key audit matter

Based on the above, we consider the provisions for uncertain tax provisions to be a key audit matter.

Our audit work and observations

- considered and evaluated any evidence contrary to the assumptions used by management.

Based on the procedures performed we noted no material issues arising from our work.

Report on the other information included in the annual report

The financial report contains other information. This includes all information in the annual report in addition to the financial statements and our auditor's report thereon.

Based on the procedures performed as set out below, we conclude that the other information:

- is consistent with the financial statements and does not contain material misstatements; and
- contains all the information regarding the report of the board of directors and the other information that is required by Part 9 of Book 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and the understanding obtained in our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements.

By performing our procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of such procedures was substantially less than the scope of those procedures performed in our audit of the financial statements.

The board of directors is responsible for the preparation of the other information, including the Report of the Board of Directors and the other information in accordance with Part 9 of Book 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements

Our appointment

We were appointed as auditors of LyondellBasell Industries N.V. This followed the passing of a resolution by the shareholders at the annual general meeting held on 27 May 2022. Our appointment has been renewed annually by shareholders and now represents a total period of uninterrupted engagement of thirteen years.

Responsibilities for the financial statements and the audit

Responsibilities of the board of directors

The board of directors is responsible for:

- the preparation and fair presentation of the financial statements in accordance with EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code; and for
- such internal control as the board of directors determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.



As part of the preparation of the financial statements, the board of directors is responsible for assessing the Company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, the board of directors should prepare the financial statements using the going-concern basis of accounting unless the board of directors either intends to liquidate the Company or to cease operations or has no realistic alternative but to do so. The board of directors should disclose in the financial statements any event and circumstances that may cast significant doubt on the Company's ability to continue as a going concern.

Our responsibilities for the audit of the financial statements

Our responsibility is to plan and perform an audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence to provide a basis for our opinion. Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error and to issue an auditor's report that includes our opinion. Reasonable assurance is a high but not absolute level of assurance, which makes it possible that we may not detect all material misstatements. Misstatements may arise due to fraud or error. They are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

A more detailed description of our responsibilities is set out in the appendix to our report.

Rotterdam, 5 April 2023
PricewaterhouseCoopers Accountants N.V.

Original has been signed by I.J.C. Lefebure RA



Appendix to our auditor's report on the financial statements 2022 of LyondellBasell Industries N.V.

In addition to what is included in our auditor's report, we have further set out in this appendix our responsibilities for the audit of the financial statements and explained what an audit involves.

The auditor's responsibilities for the audit of the financial statements

We have exercised professional judgement and have maintained professional scepticism throughout the audit in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. Our audit consisted, among other things of the following:

- Identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud or error, designing and performing audit procedures responsive to those risks, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the intentional override of internal control.
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the board of directors.
- Concluding on the appropriateness of the board of directors' use of the going-concern basis of accounting, and based on the audit evidence obtained, concluding whether a material uncertainty exists related to events and/or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report and are made in the context of our opinion on the financial statements as a whole. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures, and evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Considering our ultimate responsibility for the opinion on the consolidated financial statements, we are responsible for the direction, supervision and performance of the group audit. In this context, we have determined the nature and extent of the audit procedures for components of the Group to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole. Determining factors are the geographic structure of the Group, the significance and/or risk profile of group entities or activities, the accounting processes and controls, and the industry in which the Group operates. On this basis, we selected group entities for which an audit or review of financial information or specific balances was considered necessary.

We communicate with the board of directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



We provide the board of directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related actions taken to eliminate threats or safeguards applied.

From the matters communicated with the board of directors, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.