

## LYONDELLBASELL BUSINESS RESULTS DISCUSSION BY REPORTING SEGMENT

LyondellBasell manages operations through six operating segments: 1) Olefins and Polyolefins - Americas; 2) Olefins and Polyolefins - Europe, Asia and International; 3) Intermediates and Derivatives; 4) Advanced Polymer Solutions; 5) Refining; and 6) Technology.

This information should be read in conjunction with our Earnings Release for the period ended December 31, 2022, including the forward-looking statements and information related to financial measures.

**Olefins & Polyolefins - Americas (O&P-Americas)** - Our O&P-Americas segment produces and markets Olefins & Co-products, polyethylene and polypropylene.

**Table 1 - O&P-Americas Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income	\$195	\$391	\$1,067	\$2,082	\$4,552
EBITDA	359	559	1,262	2,734	5,273

**Three months ended December 31, 2022 versus three months ended September 30, 2022 - EBITDA** decreased \$200 million versus the third quarter 2022. Fourth quarter 2022 results decreased approximately \$15 million due to last-in, first out (LIFO) inventory valuation charges relative to the third quarter 2022. Compared to the prior period, olefins results remained relatively unchanged with higher margins offset by lower volumes. The company's ethylene crackers operated at 80% of capacity with the raw materials being about 65% ethane and 25% other natural gas liquids. Polyolefins results decreased approximately \$190 million driven by lower polyolefins spreads due to new market capacity and customer destocking.

**Three months ended December 31, 2022 versus three months ended December 31, 2021 - EBITDA** decreased \$903 million versus the fourth quarter 2021. Fourth quarter 2022 results decreased approximately \$15 million due to LIFO inventory valuation charges relative to the prior period. Olefins results decreased approximately \$445 million driven by lower margins and volumes. Ethylene margins decreased driven by lower ethylene sales prices. Ethylene volumes declined due to reduced utilization. Combined polyolefin results decreased approximately \$430 million due to lower polyolefins spreads resulting from soft demand and new market supply.

**Full year ended December 31, 2022 versus full year ended December 31, 2021 - EBITDA** decreased \$2,539 million versus 2021. Compared to the prior period, olefins results decreased approximately \$1,750 million due to lower margins and volumes. Ethylene margins decreased driven by lower demand, higher feedstock and energy costs and lower co-product sales prices. Ethylene volumes declined due to planned and unplanned downtime. Combined polyolefins results decreased approximately \$720 million due to lower polyolefins margins driven by softer demand, new capacity and higher energy costs, partially offset by higher polyethylene export volumes.

**Olefins & Polyolefins - Europe, Asia, International (O&P-EAI)** - Our O&P-EAI segment produces and markets Olefins & Co-products, polyethylene and polypropylene.

**Table 2 - O&P-EAI Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income	(\$159)	(\$86)	\$57	\$14	\$1,228
EBITDA	(152)	(83)	155	112	1,749
Identified items: Impairments	—	—	—	69	—
EBITDA excluding identified items	(152)	(83)	155	181	1,749

**Three months ended December 31, 2022 versus three months ended September 30, 2022** - EBITDA decreased \$69 million versus the third quarter 2022. Fourth quarter 2022 results decreased approximately \$50 million due to LIFO inventory valuation charges relative to the third quarter 2022. Compared to the prior period, olefins results decreased approximately \$55 million due to lower ethylene prices driven by weak demand. To match lower demand and manage working capital, the company's ethylene crackers operated at 60%. Approximately 25% of the raw materials were derived from non-naphtha feedstocks. Combined polyolefins results increased about \$25 million driven by higher margins due to moderating energy costs.

**Three months ended December 31, 2022 versus three months ended December 31, 2021** - EBITDA decreased \$307 million versus the fourth quarter 2021. Fourth quarter 2022 results decreased approximately \$20 million due to LIFO inventory valuation changes and approximately \$15 million due to a decrease in the euro versus the U.S. dollar exchange rate relative to the prior period. Compared to the prior period, olefins results decreased about \$20 million due to lower volumes driven by reduced utilization and lower margins. Combined polyolefins results decreased approximately \$170 million due to margin decline driven by lower spread over monomer and higher energy costs. Polyolefins volumes decreased due to lower demand. Joint venture equity income decreased approximately \$80 million due to lower spreads and higher energy costs.

**Full year ended December 31, 2022 versus full year ended December 31, 2021** - Compared to 2021, EBITDA decreased \$1,637 million, or \$1,568 million excluding an impairment of \$69 million related to the exit of our Australia polypropylene business. Full year 2022 results decreased approximately \$170 million due to a decrease in the euro versus the U.S. dollar exchange rate. Compared to the prior period, olefins results decreased approximately \$335 million driven by lower volumes and margins. Ethylene volumes decreased due to unplanned downtime and curtailed operating rates to manage working capital. Ethylene margins decreased due to higher feedstock and energy costs outpacing increased ethylene prices. Combined polyolefins results decreased approximately \$665 million driven by lower margins and volumes. Polyolefins margins declined driven by lower spreads over monomer and higher energy costs. Polyolefins volumes decreased due to weaker demand. Equity income decreased approximately \$380 million due to lower spreads across all joint ventures.

**Intermediates & Derivatives (I&D)** - Our I&D segment produces and markets Propylene Oxide & Derivatives, Oxyfuels & Related Products and Intermediate Chemicals, such as styrene monomer, acetyls, ethylene oxide and ethylene glycol.

**Table 3 - I&D Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income	\$211	\$290	\$139	\$1,604	\$967
EBITDA	291	360	252	1,872	1,378

**Three months ended December 31, 2022 versus three months ended September 30, 2022** - EBITDA decreased \$69 million versus the third quarter 2022. Fourth quarter 2022 results decreased approximately \$25 million due to LIFO inventory valuation charges relative to the third quarter 2022. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$35 million driven by lower volumes due to soft demand. Intermediate Chemicals results increased about \$95 million due to improved styrene margins. Oxyfuels & Related Products results decreased approximately \$90 million driven by lower volumes and margins. Oxyfuels volumes declined as the timing of vessel sailings resulted in unusually high third quarter volumes. Oxyfuels margins declined, but still remained well above historical averages.

**Three months ended December 31, 2022 versus three months ended December 31, 2021** - EBITDA increased \$39 million versus the fourth quarter 2021. Fourth quarter 2022 results increased approximately \$65 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$130 million with lower margins due to higher energy costs and lower volumes driven by lower demand for durable goods. Intermediate Chemicals results decreased about \$75 million due to lower styrene margins driven by increased supply. Oxyfuels & Related Products results increased approximately \$195 million driven by higher raw material margins and gasoline prices.

**Full year ended December 31, 2022 versus full year ended December 31, 2021** - EBITDA increased \$494 million versus 2021. Full year 2022 results decreased approximately \$55 million due to a decrease in the euro versus the U.S. dollar exchange rate. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$60 million driven by lower margins due to higher energy costs. Intermediate Chemicals results decreased about \$80 million driven by lower margins due to higher energy and feedstock costs. Oxyfuels & Related Products increased approximately \$735 million driven by significantly higher margins due to increased gasoline prices. Equity income decreased approximately \$60 million due to lower propylene oxide and styrene margins in Asia.

**Advanced Polymer Solutions (APS)** - Our Advanced Polymer Solutions segment produces and markets in two lines of business: Compounding & Solutions and Advanced Polymers. Compounding & Solutions includes polypropylene compounds, engineered plastics, masterbatches, engineered composites, colors and powders. Advanced Polymers consists of *Catalloy* and polybutene-1. Effective January 1, 2023, our *Catalloy* and polybutene-1 products will be reflected in our O&P—Americas and O&P—EAI segments.

**Table 4 - Advanced Polymer Solutions Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income (loss)	(\$25)	\$38	(\$13)	\$201	\$286
EBITDA	3	66	24	312	409

**Three months ended December 31, 2022 versus three months ended September 30, 2022** - EBITDA decreased \$63 million versus the third quarter 2022. Fourth quarter 2022 results decreased approximately \$25 million due to LIFO inventory valuation charges relative to the third quarter 2022. Compared to the prior quarter, Compounding & Solutions results decreased approximately \$35 million due to decreased volumes driven by lower demand and decreased margins driven by higher raw material and energy costs. Advanced Polymers results were relatively unchanged.

**Three months ended December 31, 2022 versus three months ended December 31, 2021** - EBITDA decreased \$21 million versus the fourth quarter 2021. Fourth quarter 2022 results increased approximately \$30 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, Compounding & Solutions results decreased approximately \$45 million due to lower margins driven by higher raw material and energy costs. Advanced Polymers results were relatively unchanged.

**Full year ended December 31, 2022 versus full year ended December 31, 2021** - EBITDA decreased \$97 million versus 2021. Full year 2022 results decreased approximately \$40 million due to a decrease in the euro versus the U.S. dollar exchange rate relative to the prior period. Compared to the prior period, Compounding & Solutions results decreased approximately \$115 million due to lower margins driven by higher raw material and energy costs and volumes declined due to lower demand. Advanced Polymers results increased approximately \$25 million due to higher *Catalloy* margins driven by product mix.

**Refining** - Our Refining segment produces and markets gasoline and distillates, including diesel fuel, heating oil and jet fuel.

**Table 5 - Refining Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income (loss)	\$221	\$98	\$(496)	\$889	\$(696)
EBITDA	249	106	(474)	921	(624)
Identified items:					
Impairment	—	—	624	—	624
Refinery exit costs	73	84	—	157	—
EBITDA excluding identified items	322	190	150	1,078	—

**Three months ended December 31, 2022 versus three months ended September 30, 2022** - Relative to the third quarter 2022, EBITDA increased \$143 million, or \$132 million excluding exit costs of \$73 million in the fourth quarter and \$84 million in the third quarter. Fourth quarter 2022 results increased approximately \$40 million due to LIFO inventory valuation. Compared to the prior period, margins improved driven by favorable heavy crude pricing and higher Maya 2-1-1 industry crack spread to about \$48 per barrel. The Houston Refinery operated at an average crude throughput of 229,000 barrels per day of about 85% utilization rate due to unplanned downtime and U.S. Gulf Coast weather events.

**Three months ended December 31, 2022 versus three months ended December 31, 2021** - Compared to the fourth quarter 2021, EBITDA increased \$723 million, or \$172 million excluding exit costs of \$73 million in the fourth quarter 2022 and an impairment of \$624 million in the fourth quarter 2021 for the Houston Refinery. Fourth quarter 2022 results decreased approximately \$10 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, margin improved as the Maya 2-1-1 industry benchmark increased about \$25 per barrel driven by higher demand and tight market supply. Crude throughput decreased approximately 37,000 barrels per day due to unplanned downtime.

**Full year ended December 31, 2022 versus full year ended December 31, 2021** - Relative to 2021, EBITDA increased \$1,545 million, or \$1,078 million excluding exit costs of \$157 million in 2022 and an impairment of \$624 million in 2021 for the Houston Refinery. Compared to the prior period, margins improved driven by an increase in the Maya 2-1-1 industry benchmark of about \$24 per barrel to \$45 per barrel driven by higher demand for transportation fuels. Crude throughput averaged 238,000 barrels per day, about 7,000 barrels per day higher than the prior period in response to market demand.

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

**Table 6 - Technology Financial Overview**

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Operating income	\$50	\$82	\$163	\$331	\$471
EBITDA	59	92	173	366	514

**Three months ended December 31, 2022 versus three months ended September 30, 2022** - EBITDA decreased \$33 million compared to the third quarter 2022. Fourth quarter 2022 results decreased approximately \$15 million due to LIFO inventory valuation charges relative to the third quarter 2022. Compared to the prior period, catalyst volumes decreased due to lower demand and licensing revenue decreased as fewer number of contracts reached revenue milestones.

**Three months ended December 31, 2022 versus three months ended December 31, 2021** - EBITDA decreased \$114 million versus the fourth quarter 2021. Fourth quarter 2022 results decreased approximately \$20 million due to LIFO inventory valuation charges relative to the prior period. Compared to the prior period, licensing revenue as a lower number of contracts attained revenue milestones and catalyst volumes decreased due to lower demand.

**Full year ended December 31, 2022 versus full year ended December 31, 2021** - EBITDA decreased \$148 million versus 2021. Full year 2022 results decreased approximately \$55 million due to a decrease in the euro versus the U.S. dollar exchange rate relative to the prior period. Compared to the prior period, licensing revenue decreased as a lower number of contracts attained revenue milestones.

### **Capital Spending and Cash Balances**

Capital expenditures, including growth projects, maintenance turnarounds, catalyst and information technology-related expenditures, were \$473 million during the fourth quarter 2022 and \$1.9 billion for the full year 2022. Our cash and liquid investment balance was \$2.2 billion, which includes cash and cash equivalents, restricted cash and short-term investments. There were 326 million common shares outstanding as of December 31, 2022. The company paid dividends of \$3.2 billion during 2022.

**Table 7 - Reconciliation of EBITDA to EBITDA Excluding Identified Items by Segment**

Millions of U.S. dollars	Three Months Ended			Year Ended	
	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	December 31, 2021
<b>EBITDA:</b>					
Olefins & Polyolefins - Americas	\$ 359	\$ 559	\$ 1,262	\$ 2,734	\$ 5,273
Olefins & Polyolefins - EAI	(152)	(83)	155	112	1,749
Intermediates & Derivatives	291	360	252	1,872	1,378
Advanced Polymer Solutions	3	66	24	312	409
Refining	249	106	(474)	921	(624)
Technology	59	92	173	366	514
Other	(17)	8	3	(16)	(10)
Continuing Operations	<u>\$ 792</u>	<u>\$ 1,108</u>	<u>\$ 1,395</u>	<u>\$ 6,301</u>	<u>\$ 8,689</u>
<b>Add: Identified items:</b>					
<b>Impairments:</b>					
Olefins & Polyolefins - EAI	\$ —	\$ —	\$ —	\$ 69	\$ —
Refining	\$ —	\$ —	\$ 624	\$ —	\$ 624
<b>Refinery exit costs:</b>					
Refining	73	84	—	157	—
Total identified items:	<u>\$ 73</u>	<u>\$ 84</u>	<u>\$ 624</u>	<u>\$ 226</u>	<u>\$ 624</u>
<b>EBITDA excluding identified items:</b>					
Olefins & Polyolefins - Americas	\$ 359	\$ 559	\$ 1,262	2,734	\$ 5,273
Olefins & Polyolefins - EAI	(152)	(83)	155	181	1,749
Intermediates & Derivatives	291	360	252	1,872	1,378
Advanced Polymer Solutions	3	66	24	312	409
Refining	322	190	150	1,078	—
Technology	59	92	173	366	514
Other	(17)	8	3	(16)	(10)
Continuing Operations	<u>\$ 865</u>	<u>\$ 1,192</u>	<u>\$ 2,019</u>	<u>\$ 6,527</u>	<u>\$ 9,313</u>