



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, 2023, including the forward-looking statements and information related to financial measures. Effective January 1, 2023, our *Catalloy* and polybutene-1 businesses, previously reported in our Advanced Polymer Solutions segment, are now reported in our Olefins and Polyolefins-Americas and Olefins and Polyolefins-Europe, Asia and International segments

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, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating income	\$444	\$326	\$217	\$1,665	\$2,206
EBITDA	604	479	384	2,303	2,865
Identified items: Impairment	—	25	—	25	—
EBITDA excluding identified items	604	504	384	2,328	2,865

Three months ended December 31, 2023 versus three months ended September 30, 2023 - EBITDA increased \$125 million versus the third quarter 2023 or \$100 million, excluding an impairment of \$25 million in the third quarter of 2023. Fourth quarter 2023 results benefited approximately \$75 million due to last-in, first out (LIFO) inventory valuation changes relative to the third quarter 2023. Compared to the prior period, olefins results improved by approximately \$80 million largely due to higher volumes following the completion of planned maintenance during the third quarter. Olefin margins were relatively flat, with lower ethane costs mostly offset by lower values for co-product fuels. The company's ethylene crackers operated at 90% of capacity with the raw materials being approximately 75% ethane and 25% other natural gas liquids. Polyolefins results declined approximately \$25 million largely due to compression in polypropylene spreads as polymer price increases lagged higher monomer costs.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - EBITDA increased \$220 million versus the fourth quarter 2022. Fourth quarter 2023 results increased approximately \$90 million due to LIFO inventory valuation changes relative to the prior period. Olefins results increased approximately \$210 million driven by higher margins and volumes. Ethylene margins increased driven by lower ethane and energy costs. Ethylene volumes improved due to higher utilization. Combined polyolefin results decreased approximately \$55 million due to lower polyolefins spreads partially offset by higher volumes with strong export demand.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - EBITDA decreased \$562 million versus 2022 or \$537 million excluding an impairment of \$25 million in the third quarter of 2023. Compared to the prior period, olefins results increased approximately \$195 million due to improved margins and volumes. Ethylene margins increased driven by lower ethane and energy costs during 2023. Ethylene volumes increased due higher utilization. Combined polyolefins results decreased approximately \$840 million due to lower polyolefins margins driven by softer demand and new industry capacity, 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, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating (loss) income	(\$140)	(\$95)	(\$156)	(\$160)	\$75
EBITDA	(125)	(45)	(148)	(9)	178
Identified items: Impairment	38	—	—	38	69
EBITDA excluding identified items	(87)	(45)	(148)	29	247

Three months ended December 31, 2023 versus three months ended September 30, 2023 - EBITDA decreased \$80 million versus the third quarter 2023 or \$42 million excluding an impairment of \$38 million in the fourth quarter 2023. Compared to the prior period, olefins results decreased approximately \$25 million due to lower ethylene volumes driven by weak demand. To match lower demand and manage working capital, the company's ethylene crackers operated at 70%. Approximately 35% of the raw materials were derived from non-naphtha feedstocks. Combined polyolefins results increased about \$15 million driven by modestly higher polymer spreads over monomer. Joint venture equity income decreased approximately \$30 million compared to prior period.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - EBITDA increased \$23 million versus the fourth quarter 2022 or \$61 million excluding an impairment of \$38 million in the fourth quarter 2023. Fourth quarter 2023 results increased approximately \$55 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, olefins results increased about \$60 million due to higher margins driven by lower feedstock and energy costs and increased utilization. Combined polyolefins results decreased approximately \$40 million due to margin decline driven by weak demand. Polyolefins volumes increased on higher utilization. Joint venture equity income decreased approximately \$5 million compared to prior period.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - Compared to 2022, EBITDA decreased \$187 million, or \$218 million excluding impairments of \$38 million in 2023 and \$69 million related to the exit of our Australia polypropylene business in 2022. Full year 2023 results increased approximately \$55 million due to LIFO inventory valuation changes. Compared to the prior period, olefins results increased approximately \$155 million driven by higher volumes and margins. Ethylene volumes increased after planned and unplanned downtime in full year 2022. Ethylene margins increased due to lower feedstock and energy costs. Combined polyolefins results decreased approximately \$435 million driven by lower margins. Polyolefins margins declined driven by lower pricing due to weak demand. Joint venture equity income increased approximately \$10 million compared to prior period.

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, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating (loss) income	(\$30)	\$611	\$211	\$1,262	\$1,604
EBITDA	73	708	291	1,679	1,872
Identified items: Impairment	192	—	—	192	—
EBITDA excluding identified items	265	708	291	1,871	1,872

Three months ended December 31, 2023 versus three months ended September 30, 2023 - EBITDA decreased \$635 million versus the third quarter 2023, or \$443 million excluding an impairment of \$192 million in the fourth quarter 2023 for our Dutch PO/SM joint venture. Fourth quarter 2023 results decreased approximately \$95 million due to LIFO inventory valuation charges relative to the third quarter 2023. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$30 million driven by lower volumes and margins due to soft demand. Intermediate Chemicals results decreased about \$5 million due to lower styrene margins driven by higher feedstock costs. Oxyfuels & Related Products results decreased approximately \$315 million with lower oxyfuels margins due to increased supply after industry downtime during third quarter 2023.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - EBITDA decreased \$218 million versus the fourth quarter 2022, or \$26 million excluding an impairment of \$192 million in the fourth quarter 2023 for our Dutch PO/SM joint venture. Fourth quarter 2023 results decreased approximately \$70 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$50 million due to lower demand for durable goods pressuring margins, partially offset by increased propylene oxide exports to Asia. Intermediate Chemicals results decreased about \$25 million due to lower styrene and acetyls margins. Oxyfuels & Related Products results increased approximately \$100 million driven by higher volumes due to increased capacity.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - EBITDA decreased \$193 million versus 2022, or \$1 million excluding an impairment of \$192 million in the fourth quarter 2023 for our Dutch PO/SM joint venture. 2023 results decreased approximately \$70 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, Propylene Oxide & Derivatives results decreased approximately \$390 million driven by lower margins due to lower demand for durable goods. Intermediate Chemicals results decreased about \$175 million driven by lower styrene and acetyls margins. Oxyfuels & Related Products increased approximately \$570 million driven by significantly higher margins due to increased gasoline crack spreads and higher volumes due to increased capacity.

Advanced Polymer Solutions (APS) - Our Advanced Polymer Solutions segment produces and markets Compounding & Solutions, such as polypropylene compounds, engineered plastics, masterbatches, engineered composites, colors and powders.

Table 4 - Advanced Polymer Solutions Financial Overview

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating (loss) income	(\$17)	(\$6)	(\$50)	(\$261)	\$16
EBITDA	12	18	(26)	(162)	115
Identified items: Goodwill impairment	—	—	—	252	—
EBITDA excluding identified items	12	18	(26)	90	115

Three months ended December 31, 2023 versus three months ended September 30, 2023 - EBITDA decreased \$6 million versus the third quarter 2023, due to lower volumes driven by reduced demand and decreased margins due to higher raw material cost and product mix. Fourth quarter 2023 results benefited from approximately \$10 million of LIFO inventory valuation changes relative to the third quarter 2023.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - EBITDA increased \$38 million versus the fourth quarter 2022 due to higher margins driven by lower raw material and energy costs and improved product mix. Fourth quarter 2023 results increased approximately \$30 million due to LIFO inventory valuation changes relative to the prior period.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - EBITDA decreased \$277 million versus 2022, or \$25 million excluding a non-cash goodwill impairment of \$252 million in 2023. 2023 results increased approximately \$30 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, volumes decreased due to reduced demand.

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, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating (loss) income	\$(13)	\$51	\$221	\$221	\$889
EBITDA	10	76	249	379	921
Identified items: Refinery exit costs	30	29	73	195	157
Identified items: Impairment	11	—	—	11	—
EBITDA excluding identified items	51	105	322	585	1,078

Three months ended December 31, 2023 versus three months ended September 30, 2023 - Relative to the third quarter 2023, EBITDA decreased \$66 million, or \$54 million excluding exit costs of \$30 million and impairment of \$11 million in the fourth quarter and exit costs of \$29 million in the third quarter. Fourth quarter 2023 results decreased approximately \$40 million due to LIFO inventory valuation. Compared to the prior period, margins declined as the Maya 2-1-1 industry benchmark decreased to \$27 per barrel due to lower gasoline crack spreads driven by seasonal changes and lower demand. The decline in refining margins was partially offset by hedging impact. The Houston Refinery operated at an average crude throughput of 230,000 barrels per day of about 85% utilization rate during the fourth quarter 2023 due to planned and unplanned downtime.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - Compared to the fourth quarter 2022, EBITDA decreased \$239 million, or \$271 million excluding exit costs of \$30 million and impairment of \$11 million in the fourth quarter 2023 and exit costs of \$73 million in the fourth quarter 2022. Fourth quarter 2023 results decreased approximately \$80 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, margins declined as the Maya 2-1-1 industry benchmark decreased about \$21 per barrel driven by lower heavy crude differential and distillate crack spreads. The decline in refining margins was partially offset by hedging impact. Crude throughput was approximately flat compared to prior period.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - Relative to 2022, EBITDA decreased \$542 million, or \$493 million excluding exit costs of \$195 million and an impairment of \$11 million in 2023 and exit costs of \$157 million in 2022 for the Houston Refinery. Compared to the prior period, margins decreased driven by a decrease in the Maya 2-1-1 industry benchmark of about \$6 per barrel to \$39 per barrel primarily due to lower demand for diesel and other distillates. Crude throughput was approximately flat compared to prior period.

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, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Operating income	\$69	\$134	\$50	\$334	\$331
EBITDA	77	146	59	375	366

Three months ended December 31, 2023 versus three months ended September 30, 2023 - EBITDA decreased \$69 million compared to the third quarter 2023. Compared to the prior period, licensing revenue decreased as fewer number of contracts reached revenue milestones and catalyst margins decreased due to product mix.

Three months ended December 31, 2023 versus three months ended December 31, 2022 - EBITDA increased \$18 million versus the fourth quarter 2022. Fourth quarter 2023 results increased approximately \$20 million due to LIFO inventory valuation changes relative to the fourth quarter 2022. Compared to the prior period, licensing revenue decreased as a lower number of contracts attained revenue milestones and catalyst volumes increased due to improved demand.

Full year ended December 31, 2023 versus full year ended December 31, 2022 - EBITDA increased \$9 million versus 2022. 2023 results increased approximately \$20 million due to LIFO inventory valuation changes relative to 2022. Compared to the prior period, higher catalyst margins and licensing revenue were partially offset by lower catalyst volumes due to softer demand.

Capital Spending and Cash Balances

Capital expenditures, including sustaining maintenance and profit-generating growth projects, were \$484 million during the fourth quarter 2023 and \$1.5 billion for the full year 2023. Our cash and liquid investment balance was \$3.4 billion, which includes cash and cash equivalents, restricted cash and short-term investments. There were 324 million common shares outstanding as of December 31, 2023. The company paid dividends of \$1.6 billion during 2023.

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

Millions of U.S. dollars	Three Months Ended			Year Ended	
	December 31, 2023	September 30, 2023	December 31, 2022	December 31, 2023	December 31, 2022
EBITDA:					
Olefins & Polyolefins - Americas	\$ 604	\$ 479	\$ 384	\$ 2,303	\$ 2,865
Olefins & Polyolefins - EAI	(125)	(45)	(148)	(9)	178
Intermediates & Derivatives	73	708	291	1,679	1,872
Advanced Polymer Solutions	12	18	(26)	(162)	115
Refining	10	76	249	379	921
Technology	77	146	59	375	366
Other	(12)	(26)	(17)	(56)	(16)
EBITDA	\$ 639	\$ 1,356	\$ 792	\$ 4,509	\$ 6,301
Add: Identified items:					
Impairments:					
Olefins & Polyolefins - Americas	\$ —	\$ 25	\$ —	\$ 25	\$ —
Olefins & Polyolefins - EAI	38	—	—	38	69
Intermediates & Derivatives	192	—	—	192	—
Advanced Polymer Solutions	—	—	—	252	—
Refining	11	—	—	11	—
Refinery exit costs:					
Refining	30	29	73	195	157
Total Identified items:	\$ 271	\$ 54	\$ 73	\$ 713	\$ 226
EBITDA excluding Identified items:					
Olefins & Polyolefins - Americas	\$ 604	\$ 504	\$ 384	\$ 2,328	\$ 2,865
Olefins & Polyolefins - EAI	(87)	(45)	(148)	29	247
Intermediates & Derivatives	265	708	291	1,871	1,872
Advanced Polymer Solutions	12	18	(26)	90	115
Refining	51	105	322	585	1,078
Technology	77	146	59	375	366
Other	(12)	(26)	(17)	(56)	(16)
EBITDA excluding Identified items	\$ 910	\$ 1,410	\$ 865	\$ 5,222	\$ 6,527

Note: Effective January 1, 2023, our *Catalloy* and polybutene-1 businesses were moved from the Advanced Polymer Solutions segment and reintegrated into the Olefins and Polyolefins-Americas and Olefins and Polyolefins-Europe, Asia, International segments. The segment information presented above gives effect to this change for all periods presented.