

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, 2021, including the forward-looking statements and information related to financial measures. Comments and analysis represent underlying business activity and are exclusive of LCM and impairment.

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, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income	\$1,067	\$1,403	\$516	\$4,552	\$1,170
EBITDA	1,262	1,568	722	5,273	1,810
LCM (benefits) charges, pre-tax	—	—	—	—	3
EBITDA excluding LCM	1,262	1,568	722	5,273	1,813

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA decreased \$306 million versus the third quarter 2021. Compared to the prior period, olefins results declined by approximately \$190 million driven by compressed margins primarily due to lower prices for ethylene and propylene. We operated our ethylene crackers at 97 percent of capacity with the raw materials being about 65 percent ethane and 20 percent other natural gas liquids. Polyolefins results decreased about \$120 million driven by lower spreads with declining prices for polyethylene and polypropylene outpacing decreases in monomer prices, partially offset by record polyethylene volume driven by strong demand.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA increased \$540 million versus the fourth quarter 2020. Compared to the prior period, olefins results increased more than \$190 million driven by higher margins partially offset by lower volumes. Margins increased due to higher ethylene and propylene prices outpacing increased feedstock and energy costs. Ethylene volumes declined as inventories were built for planned maintenance in the first quarter 2022. Polyolefins results increased about \$345 million driven by wider margins with polyethylene and polypropylene price increases outpacing monomer price increases.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA increased \$3,460 million versus 2020. The record results for 2021 benefited from approximately \$50 million of last-in, first out (LIFO) inventory valuation charges which occurred in the prior period. Olefins results increased \$1,955 million versus 2020 driven by a significant increase in margin with higher ethylene and propylene prices outpacing higher

feedstock costs and energy prices. Polyolefins results increased \$1,375 million driven by improved margins with polyethylene and polypropylene price increases outpacing monomer price increases. Joint venture equity income increased \$70 million due to increased spreads and 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, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income	\$57	\$361	\$144	\$1,228	\$412
EBITDA	155	474	304	1,749	826
LCM (benefits) charges, pre-tax	—	—	(53)	—	—
EBITDA excluding LCM	155	474	251	1,749	826

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA decreased \$319 million versus the third quarter 2021. Fourth quarter 2021 results decreased approximately \$30 million due to LIFO inventory valuation charges and \$10 million due to a decrease in the euro versus the U.S. dollar exchange rate relative to the third quarter 2021. Olefins results decreased about \$180 million due to lower margins and volumes. Margins declined driven by higher feedstock and energy costs, partially offset by higher ethylene and propylene prices. We operated the ethylene crackers at 70 percent due to planned maintenance on two of our crackers with approximately 30 percent of the raw materials derived from non-naphtha feedstocks. Combined polyolefins results decreased about \$100 million driven by lower margins due to higher energy costs and lower product price spreads over monomer. Joint venture equity income decreased approximately \$15 million due to higher energy costs and lower spreads.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA decreased \$96 million versus the fourth quarter 2020, excluding an unfavorable \$53 million variance due to LCM inventory benefits in the fourth quarter 2020. Fourth quarter 2021 results decreased approximately \$50 million due to LIFO inventory valuation changes relative to the prior period. Compared with the prior period, olefins results decreased about \$100 million due to lower margins and volumes. Margins declined driven by higher feedstock and energy costs, partially offset by increased ethylene and propylene prices. Volumes declined due to planned maintenance. Combined polyolefins results increased approximately \$100 million largely due to higher margins. Strong demand and tight markets drove spreads higher, partially offset by increased energy costs. Joint venture equity income decreased about \$50 million driven by increased energy costs and lower spreads.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA increased \$923 million versus 2020. Full year 2021 results include the benefit of approximately \$40 million due to an increase in the euro versus the U.S. dollar exchange rate relative to 2020 partially offset by the impact of approximately \$25 million due to LIFO inventory changes. Compared with the prior period, olefins results decreased about \$30 million driven by higher feedstock costs outpacing increased ethylene and propylene prices. Combined polyolefins results increased more than \$815 million due to higher margins with increases in polyethylene and polypropylene prices outpacing monomer price increases. Joint venture equity income increased approximately \$125 million driven by higher margins.

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, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income	\$139	\$247	\$166	\$967	\$501
EBITDA	252	348	262	1,378	833
LCM (benefits) charges, pre-tax	—	—	(66)	—	10
EBITDA excluding LCM	252	348	196	1,378	843

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA decreased \$96 million versus the third quarter 2021. Results for the fourth quarter 2021 decreased approximately \$95 million due to LIFO inventory valuation charges relative to the prior quarter, partially offset by a decrease of approximately \$20 million in site closure costs for our ethanol business relative to the third quarter 2021. Compared to the prior period, Propylene Oxide & Derivatives results increased approximately \$5 million driven by higher margins due to tight markets and strong demand partially offset by lower volumes due to planned maintenance. Intermediate Chemicals results increased about \$65 million due to higher volumes and margins. Volumes increased due to the absence of planned and unplanned downtime incurred by our acetyls business during the third quarter 2021. Margins improved primarily in styrene partially offset by a decline in acetyls and methanol. Oxyfuels & Related Products results decreased about \$85 million driven by lower margins due to higher butane feedstock price and a decrease in volumes due to planned maintenance.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA increased \$56 million versus the fourth quarter 2020, excluding an unfavorable \$66 million variance due to LCM inventory benefits in the fourth quarter 2020. Results for the fourth quarter 2021 decreased approximately \$40 million due to LIFO inventory valuation changes relative to the prior quarter. Compared to the prior period, Propylene Oxide & Derivatives results increased approximately \$115 million with improved margins due to strong Asian demand and market tightness partially offset by high energy costs and lower volumes. Intermediate Chemicals results increased approximately \$45 million driven by higher margins partially offset by lower volumes. Margins increased due to improved product prices partially offset by higher feedstock costs. Volumes decreased due to planned and unplanned maintenance. Oxyfuels & Related Products results decreased about \$25 million driven by lower margins. Margins declined primarily due to higher butane feedstock prices.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA increased \$535 million versus 2020, excluding a favorable \$10 million variance due to LCM inventory charges in 2020. Results for 2021 decreased approximately \$60 million due to LIFO inventory valuation changes relative to the prior period and by approximately \$35 million due to site closure costs for our ethanol business in 2021. Compared to the prior period, Propylene Oxide & Derivatives results increased approximately \$440 million driven by increased margins as strong demand drove margins to a new record high during the year. Intermediate Chemicals results increased about \$150 million driven by higher margins with strong demand and tight markets driving price increases in most products. Oxyfuels & Related Products increased approximately \$45 million driven by higher margins due to improved gasoline demand.

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.

Table 4 - Advanced Polymer Solutions Financial Overview

<i>Millions of U.S. dollars</i>	Three Months Ended			Year Ended	
	December 31, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income (loss)	(\$13)	\$94	\$123	\$286	\$226
EBITDA	24	121	152	409	378
LCM (benefits) charges, pre-tax	—	—	(26)	—	3
EBITDA excluding LCM	24	121	126	409	381

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA

decreased \$97 million versus the third quarter 2021. Fourth quarter 2021 results decreased approximately \$55 million due to LIFO inventory valuation charges relative to the third quarter 2021. Compared to the prior quarter, Compounding & Solutions results decreased approximately \$40 million due to lower margins and volumes. Margins declined driven by higher raw material and energy costs. Volumes declined due to lower demand in the automotive and electronics industry as a result of the continued semiconductor shortage. Advanced Polymers results were relatively unchanged with an improvement in margin offset by a decline in volume.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA

decreased \$102 million versus the fourth quarter 2020, excluding an unfavorable \$26 million variance due to LCM inventory benefits in the fourth quarter 2020. Results for fourth quarter 2021 decreased approximately \$60 million due to LIFO inventory valuation charges in the current period. Compared to the prior period, Compounding & Solutions results decreased about \$60 million due to lower volumes and margins. Volumes declined driven by constrained production in automotive, appliance and other end markets as a result of semiconductor shortages. Advanced Polymers results increased approximately \$10 million due to improved margins partially offset by lower volumes. Margins increased as spreads improved with higher product prices.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA

increased \$28 million versus 2020. Results for 2021 decreased approximately \$45 million due to LIFO inventory valuation changes relative to the prior period. Compared to the prior period, results benefited from a reduction in integration costs of approximately \$35 million. Compounding & Solutions results were relatively unchanged with a decline in margin offset by an improvement in volume. Advanced Polymers results increased approximately \$40 million due to higher margins and volumes driven by increased construction market 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, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income (loss)	\$(496)	\$25	\$(93)	\$(696)	\$(1,024)
EBITDA	(474)	41	(72)	(624)	(871)
LCM (benefits) charges, pre-tax	—	—	(2)	—	—
Impairment, pre-tax	624	—	—	624	582
EBITDA excluding LCM and impairment	150	41	(74)	—	(289)

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA increased \$109 million versus the third quarter 2021, excluding an impairment of \$624 million for the Houston Refinery. Fourth quarter 2021 results benefited approximately \$50 million due to LIFO effects from reduced inventory volumes. Margins improved driven by optimization of product mix and an increase in the Maya 2-1-1 industry benchmark crack spread to \$23.58 per barrel. The Houston Refinery operated at nearly full utilization rate or an average crude throughput of 266,000 barrels per day.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA increased \$224 million versus the fourth quarter 2020, excluding an impairment of \$624 million in the fourth quarter 2021 and an unfavorable variance of \$2 million due to LCM benefits in the fourth quarter 2020. Results for the fourth quarter 2021 increased approximately \$45 million due to LIFO inventory valuation changes relative to the prior period. Margin improved as the Maya 2-1-1 industry benchmark increased by \$13.47 per barrel relative to same period last year, partially offset by higher renewable identification number credits (RINs) cost. The Houston Refinery operated at 266,000 barrels per day, 52,000 barrels per day higher than prior period due to improved demand for refined products.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA increased \$289 million versus 2020, excluding an impairment of \$624 million in the fourth quarter 2021 and \$582 million in the third quarter 2020 for the Houston Refinery. Results for 2021 increased approximately \$45 million due to LIFO inventory valuation changes relative to the prior period. Margins improved driven by an increase in the Maya 2-1-1 industry benchmark from \$12.63 per barrel to \$20.87 per barrel, partially offset by higher RINs cost. Crude throughput averaged 231,000 barrels per day, 8,000 barrels per day higher than 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, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Operating income	\$163	\$144	\$35	\$471	\$287
EBITDA	173	155	45	514	324

Three months ended December 31, 2021 versus three months ended September 30, 2021 - EBITDA increased \$18 million compared to the third quarter 2021 resulting in new quarterly records for catalyst volumes, licensing revenue and segment EBITDA. Catalyst volumes were driven by increased demand in Asia. Licensing improved as a higher number of contracts attained revenue milestones.

Three months ended December 31, 2021 versus three months ended December 31, 2020 - EBITDA increased \$128 million versus the fourth quarter 2020 driven by higher licensing revenue and increased catalyst volumes.

Full year ended December 31, 2021 versus full year ended December 31, 2020 - EBITDA increased \$190 million versus 2020. The record 2021 EBITDA was driven by higher licensing revenue and catalyst results. Catalyst volumes increased due to strong global demand.

Capital Spending and Cash Balances

Capital expenditures, including growth projects, maintenance turnarounds, catalyst and information technology-related expenditures, were \$581 million during the fourth quarter 2021 and \$1.9 billion for the full year 2021. As of December 31, 2021, our cash and liquid investment balance was \$1.5 billion, which includes cash and cash equivalents, restricted cash and short-term investments. We repurchased approximately 5.2 million shares during 2021. There were 330 million common shares outstanding as of December 31, 2021. The company paid dividends of \$1.5 billion during 2021.

Table 7 - Reconciliation of EBITDA to EBITDA Excluding LCM and Impairment by Segment

Millions of U.S. dollars	Three Months Ended			Year Ended	
	December 31, 2021	September 30, 2021	December 31, 2020	December 31, 2021	December 31, 2020
EBITDA:					
Olefins & Polyolefins - Americas	\$ 1,262	\$ 1,568	\$ 722	\$ 5,273	\$ 1,810
Olefins & Polyolefins - EAI	155	474	304	1,749	826
Intermediates & Derivatives	252	348	262	1,378	833
Advanced Polymer Solutions	24	121	152	409	378
Refining	(474)	41	(72)	(624)	(871)
Technology	173	155	45	514	324
Other	3	(16)	—	(10)	(15)
Continuing Operations	<u>\$ 1,395</u>	<u>\$ 2,691</u>	<u>\$ 1,413</u>	<u>\$ 8,689</u>	<u>\$ 3,285</u>
Add: LCM charges (benefits), pre-tax:					
Olefins & Polyolefins - Americas	\$ —	\$ —	\$ —	\$ —	\$ 3
Olefins & Polyolefins - EAI	—	—	(53)	—	—
Intermediates & Derivatives	—	—	(66)	—	10
Advanced Polymer Solutions	—	—	(26)	—	3
Refining	—	—	(2)	—	—
Continuing Operations	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (147)</u>	<u>\$ —</u>	<u>\$ 16</u>
EBITDA excluding LCM:					
Olefins & Polyolefins - Americas	\$ 1,262	\$ 1,568	\$ 722	\$ 5,273	\$ 1,813
Olefins & Polyolefins - EAI	155	474	251	1,749	826
Intermediates & Derivatives	252	348	196	1,378	843
Advanced Polymer Solutions	24	121	126	409	381
Refining	(474)	41	(74)	(624)	(871)
Technology	173	155	45	514	324
Other	3	(16)	—	(10)	(15)
Continuing Operations	<u>\$ 1,395</u>	<u>\$ 2,691</u>	<u>\$ 1,266</u>	<u>\$ 8,689</u>	<u>\$ 3,301</u>
Add: Impairments, pre-tax:					
Refining	\$ 624	\$ —	\$ —	\$ 624	\$ 582
EBITDA excluding LCM and impairment:					
Olefins & Polyolefins - Americas	\$ 1,262	\$ 1,568	\$ 722	\$ 5,273	\$ 1,813
Olefins & Polyolefins - EAI	155	474	251	1,749	826
Intermediates & Derivatives	252	348	196	1,378	843
Advanced Polymer Solutions	24	121	126	409	381
Refining	150	41	(74)	—	(289)
Technology	173	155	45	514	324
Other	3	(16)	—	(10)	(15)
Continuing Operations	<u>\$ 2,019</u>	<u>\$ 2,691</u>	<u>\$ 1,266</u>	<u>\$ 9,313</u>	<u>\$ 3,883</u>