



BOOK

DATA

2021

CAUTIONARY STATEMENT

The statements in this presentation relating to matters that are not historical facts are forward-looking statements. These forward-looking statements are based upon assumptions of management of LyondellBasell which are believed to be reasonable at the time made and are subject to significant risks and uncertainties. When used in this presentation, the words “estimate,” “believe,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “should,” “will,” “expect,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words. Actual results could differ materially based on factors including, but not limited to, market conditions, the business cyclicality of the chemical, polymers and refining industries; the availability, cost and price volatility of raw materials and utilities, particularly the cost of oil, natural gas, and associated natural gas liquids; uncertainties and impacts related to the extent and duration of the pandemic; competitive product and pricing pressures; labor conditions; our ability to attract and retain key personnel; operating interruptions (including leaks, explosions, fires, weather-related incidents, mechanical failure, unscheduled downtime, supplier disruptions, labor shortages, strikes, work stoppages or other labor difficulties, transportation interruptions, spills and releases and other environmental risks); the supply/demand balances for our and our joint ventures’ products, and the related effects of industry production capacities and operating rates; our ability to manage costs; future financial and operating results; benefits and synergies of any proposed transactions; our ability to identify, evaluate and complete any strategic alternative related to the refinery; legal and environmental proceedings; tax rulings, consequences or proceedings; technological developments, and our ability to develop new products and process technologies; our ability to meet our sustainability goals, including the ability to operate safely, increase production of recycled and renewable-based polymers to meet our targets and forecasts, and reduce our emissions and achieve net zero emissions by the time set in our respective goals; our ability to procure energy from renewable sources; the successful shut down and closure of the Houston Refinery, including within the expected timeframe; potential governmental regulatory actions; political unrest and terrorist acts; risks and uncertainties posed by international operations, including foreign currency fluctuations; and our ability to comply with debt covenants and to repay our debt. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the “Risk Factors” section of our Form 10-K for the year ended December 31, 2021, which can be found at www.LyondellBasell.com on the Investor Relations page and on the Securities and Exchange Commission’s website at www.sec.gov. There is no assurance that any of the actions, events or results of the forward-looking statements will occur, or if any of them do, what impact they will have on our results of operations or financial condition. Forward-looking statements speak only as of the date they were made and are based on the estimates and opinions of management of LyondellBasell at the time the statements are made. LyondellBasell does not assume any obligation to update forward-looking statements should circumstances or management’s estimates or opinions change, except as required by law.

This presentation contains time sensitive information that is accurate only as of the date hereof. Information contained in this presentation is unaudited and is subject to change. We undertake no obligation to update the information presented herein except as required by law.

INFORMATION RELATED TO FINANCIAL MEASURES

This presentation makes reference to certain “non-GAAP” financial measures as defined in Regulation G of the U.S. Securities Exchange Act of 1934, as amended.

We report our financial results in accordance with U.S. generally accepted accounting principles, but believe that certain non-GAAP financial measures, such as EBITDA and EBITDA exclusive of adjustment for “lower of cost or market” (“LCM”) and impairment provide useful supplemental information to investors regarding the underlying business trends and performance of the company’s ongoing operations and are useful for period-over-period comparisons of such operations. Non-GAAP financial measures should be considered as a supplement to, and not as a substitute for, or superior to, the financial measures prepared in accordance with GAAP. We calculate EBITDA as income from continuing operations plus interest expense (net), provision for (benefit from) income taxes, and depreciation and amortization. We also present EBITDA exclusive of adjustments for LCM and impairment. LCM is an accounting rule consistent with GAAP related to the valuation of inventory. Our inventories are stated at the lower of cost or market. Cost is determined using the last-in, first-out (“LIFO”) inventory valuation methodology, which means that the most recently incurred costs are charged to cost of sales and inventories are valued at the earliest acquisition costs. Fluctuation in the prices of crude oil, natural gas and correlated products from period to period may result in the recognition of charges to adjust the value of inventory to the lower of cost or market in periods of falling prices and the reversal of those charges in subsequent interim periods, within the same fiscal year as the charge, as market prices recover. Property, plant and equipment are recorded at historical costs. If it is determined that an asset or asset group’s undiscounted future cash flows will not be sufficient to recover the carrying amount, an impairment charge is recognized to write the asset down to its estimated fair value.

Free cash flow and cash conversion are measures of profitability commonly used by investors to evaluate performance. For purposes of this presentation, free cash flow means net cash provided by operating activities minus capital expenditures. Cash conversion is the ratio of net cash provided by operating activities to EBITDA excluding LCM and impairment.

These measures as presented herein, may not be comparable to similarly titled measures reported by other companies due to differences in the way the measures are calculated. Reconciliations for our non-GAAP measures can be found in the Appendix.

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Investment Thesis
STEPPING UP



LEADING advantaged positions

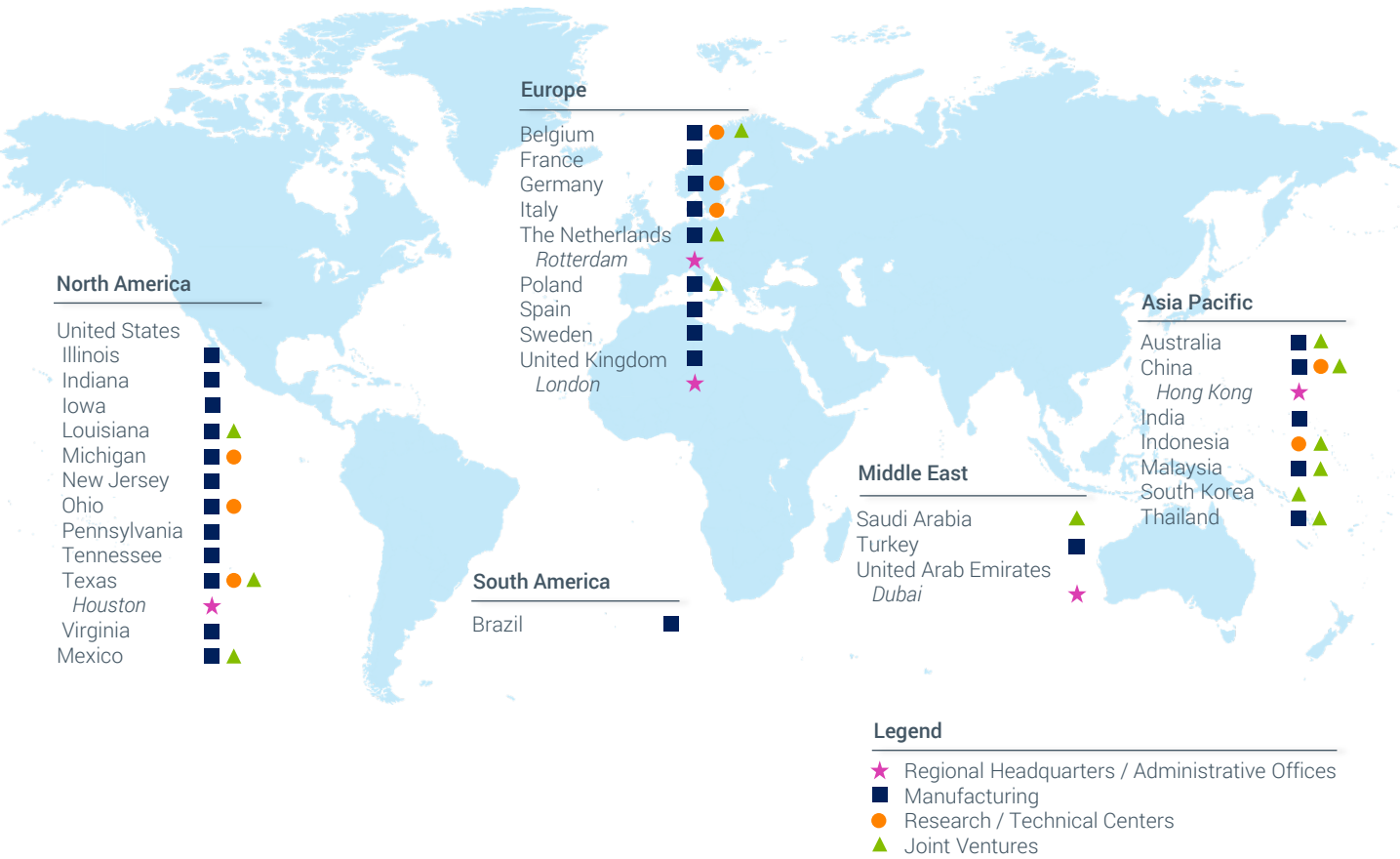


CONSISTENT financial strategy



MAXIMIZING free cash flow

LyondellBasell Global Presence



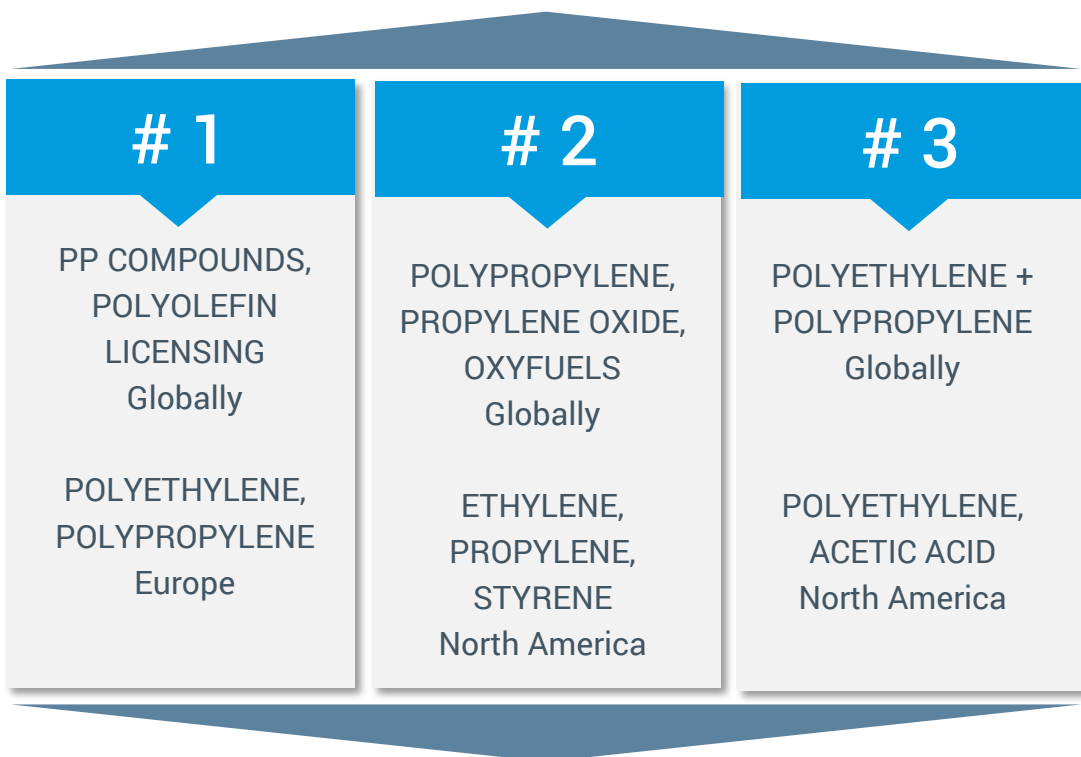
MANUFACTURING SITES
& JOINT VENTURES IN
21
COUNTRIES

19,100
EMPLOYEES

SALES IN
> 100
COUNTRIES

Note: Information as of December 31, 2021.

\$4 Trillion
CHEMICAL INDUSTRY
GLOBAL REVENUES

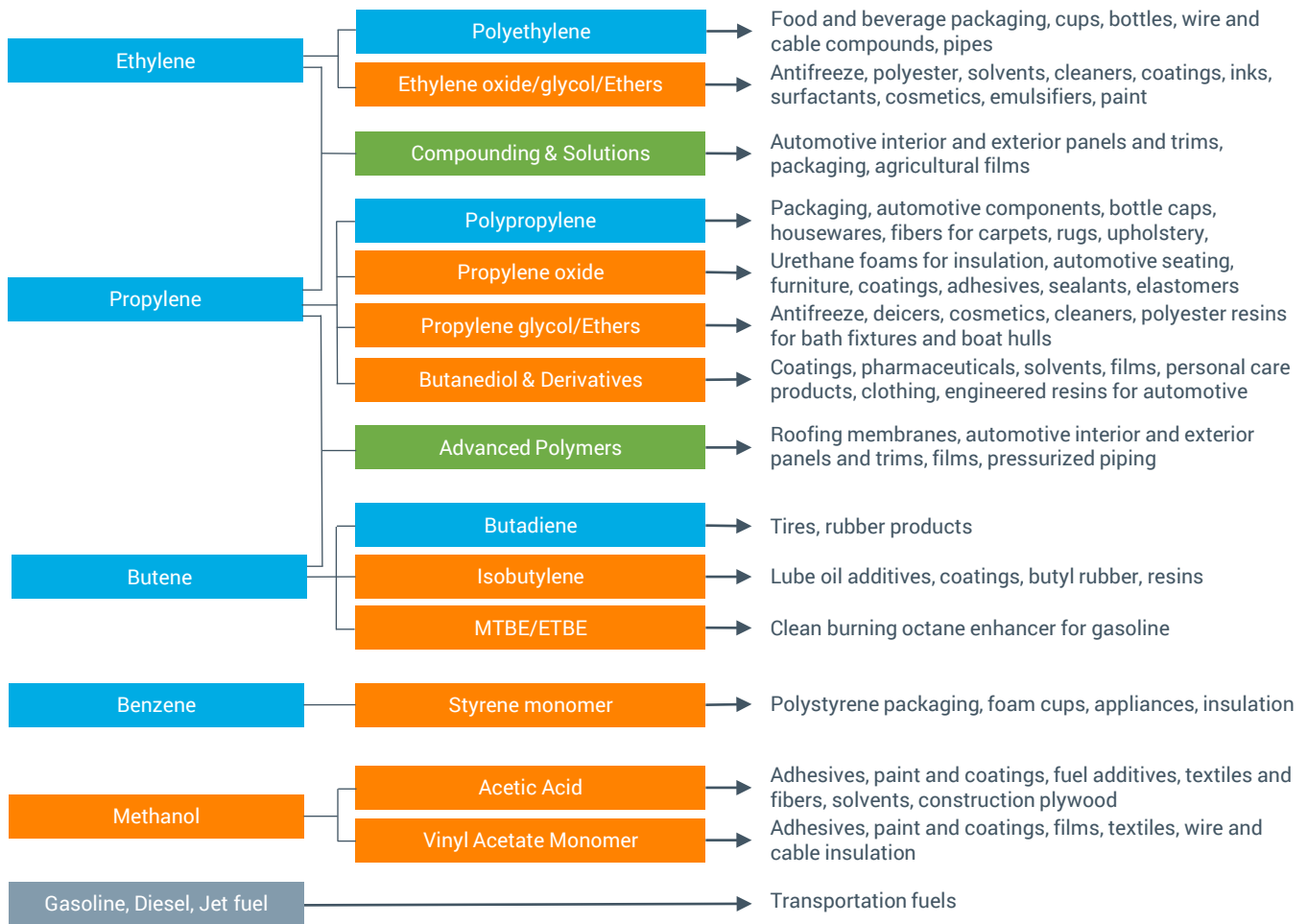


\$46 Billion
LYONDELLBASELL
REVENUES IN 2021

Sources: LyondellBasell, IHS Markit and Cefic. Notes: 1) Product rankings are as of December 31, 2021. Includes all wholly-owned capacity and LyondellBasell's proportional share of joint venture capacities. 2) Global chemical industry revenues for 2020 per Cefic Facts and Figures 2022.

LyondellBasell Products and Markets

LyondellBasell products serve diverse markets. From fresh food packaging, clean fuels and durable textiles to medical applications, construction materials and automotive parts, LyondellBasell's materials help improve the lives of people around the world.



■ Olefins & Polyolefins
 ■ Intermediates & Derivatives
 ■ Advanced Polymer Solutions
 ■ Refining

LyondellBasell
Best Operator



**SAFETY
LEADERSHIP**



**OPERATIONAL
EXCELLENCE**



**FEEDSTOCK
FLEXIBILITY**



**COMMERCIAL
EXCELLENCE**



**EXPERTISE AND
INNOVATION**

LyondellBasell

Future Focused on Sustainability Goals



ADDRESSING CLIMATE CHANGE

30% CO₂ reduction by 2030

Net zero by 2050

ENDING PLASTIC WASTE

Launched *Circulen* portfolio

2 MM tons of recycled and renewable polymers annually by 2030

SUPPORTING A THRIVING SOCIETY

Focused on GoalZero safety performance

New diversity, equity and inclusion targets

Gender parity across senior leadership by 2032

Notes: Decarbonization goals include scope 1 & 2 emissions. 2030 goal relative to 2020 baseline. Please see our Cautionary Statement for a discussion of the factors that could impact these goals.

LyondellBasell

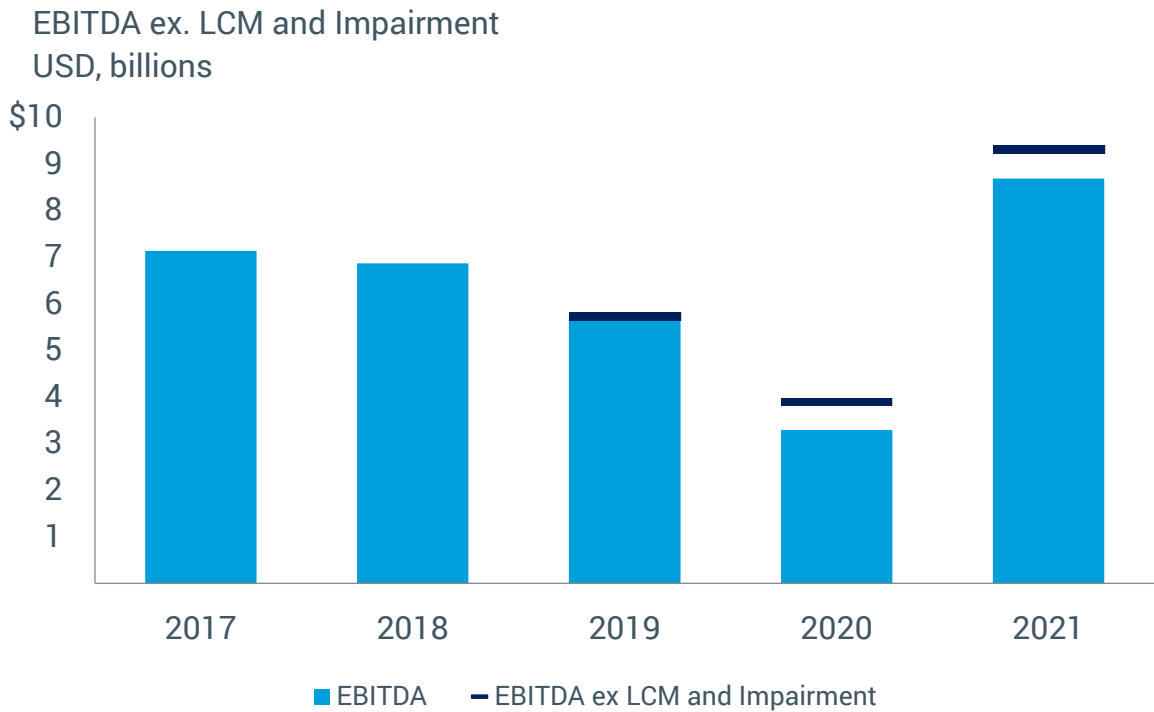
Performance Snapshot

\$5.6 B

NET INCOME
2021

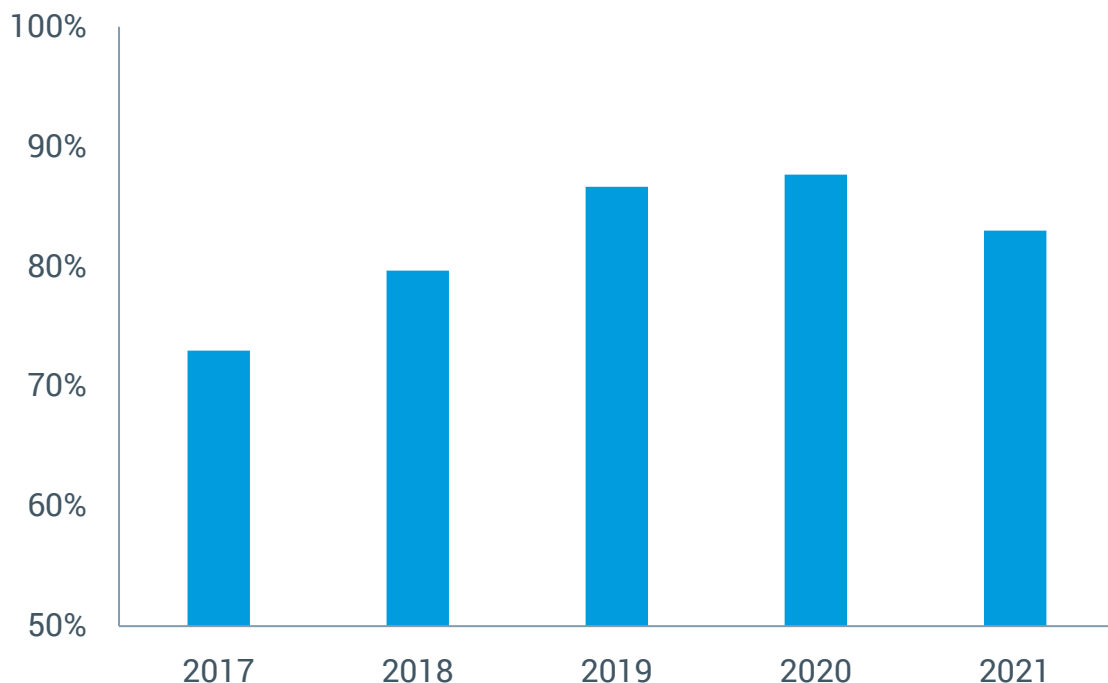
\$8.7 B | \$9.3 B

EBITDA | EBITDA
ex. LCM & IMPAIRMENT
2021



LyondellBasell Financial Highlights

Cash Conversion



83%
CASH
CONVERSION
2021



\$7.7 B
CASH FROM
OPERATING ACTIVITIES
2021



\$5.7 B
FREE CASH FLOW
AS OF DECEMBER 31,
2021

Note: Cash conversion is the ratio of net cash provided by operating activities to EBITDA excluding LCM and impairment.

LyondellBasell

Growing Our Dividend

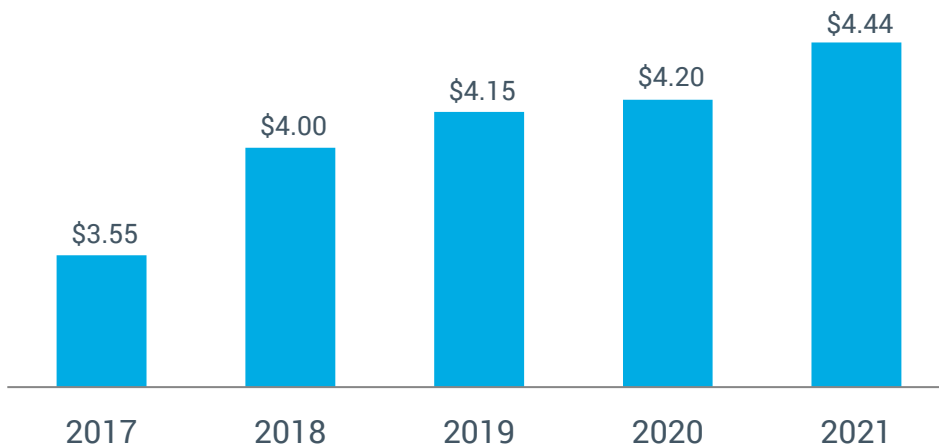


4.8%
DIVIDEND YIELD
2021



\$1.5 B
DIVIDENDS PAID
2021

Annual Dividend
USD per share



Note: Dividend yield is calculated as the ratio of dividends per ordinary share to closing share price.

LyondellBasell Business Segments



O&P–Americas

Our Olefins & Polyolefins – Americas segment produces and markets olefins & co-products, polyethylene and polypropylene. We are the second largest producer of ethylene, propylene and combined polyethylene and polypropylene in North America.

O&P–Europe, Asia, International

Our Olefins & Polyolefins – EAI segment produces and markets olefins & co-products, polyethylene and polypropylene. In Europe, we are the largest producer of both polyethylene and polypropylene.

Intermediates & Derivatives

Our I&D segment produces and markets propylene oxide and its derivatives, oxyfuels and related products and intermediate chemicals such as styrene monomer, acetyls and ethylene oxide and derivatives. We are the second largest producer of propylene oxide and oxyfuels in the world.

Selected Products

Olefins & Co-products
Polyethylene
Polypropylene

Olefins & Co-products
Polyethylene
Polypropylene

Propylene Oxide & Derivatives
Intermediate Chemicals
Oxyfuels & Related Products

Major Markets

Packaging, automotive, films, pipes, textiles, appliances

Packaging, automotive, films, pipes, textiles, appliances

Insulation, home furnishings, coatings, adhesives, automotive, fuel additives

LyondellBasell Business Segments



Advanced Polymer Solutions

Our Advanced Polymers Solutions segment produces and markets in two lines of business: Compounding & Solutions includes polypropylene compounds, engineered plastics, masterbatches, engineered composites, colors and powders; Advanced Polymers consists of our *Catalloy* and polybutene-1 businesses.

Refining

Our Houston Refinery converts heavy high-sulfur crude oil into refined products including ultra-low sulfur diesel, Tier III gasoline and jet fuel. Our significant hydrotreating and coking capacity positions us well to meet more restrictive specifications for sulfur in transportation fuels.

Technology

Our Technology segment develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts. More than 280 polyolefin lines around the world utilize LyondellBasell-licensed technology representing more than 60 million tons of annual production capacity.

Selected Products

Compounding & Solutions
Advanced Polymers

Diesel, gasoline, jet fuel

Licensing
Catalysts

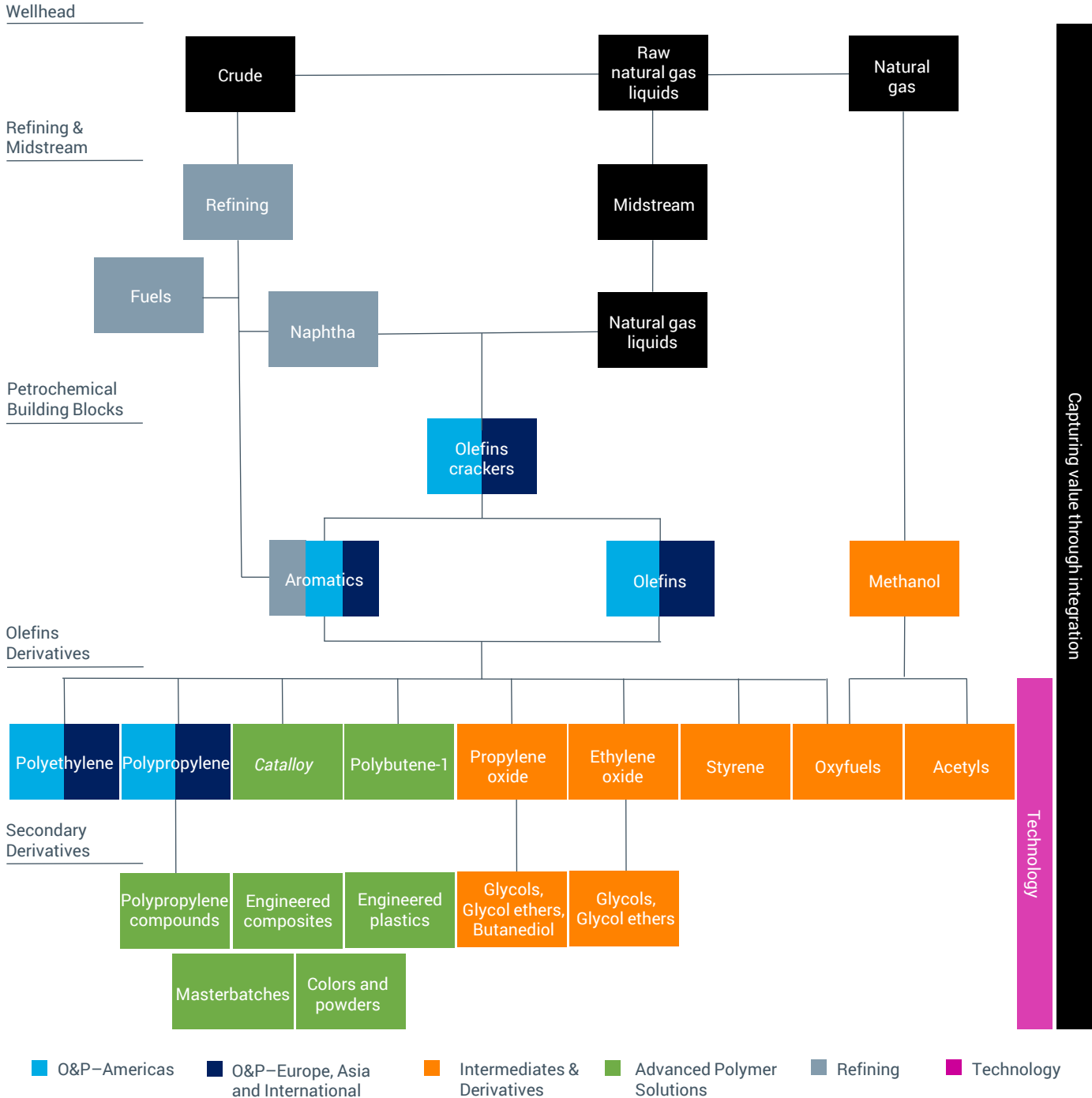
Major Markets

Automotive, packaging,
roofing, films

Transportation fuels, chemical
feedstocks

Polyolefin and chemical
manufacturing

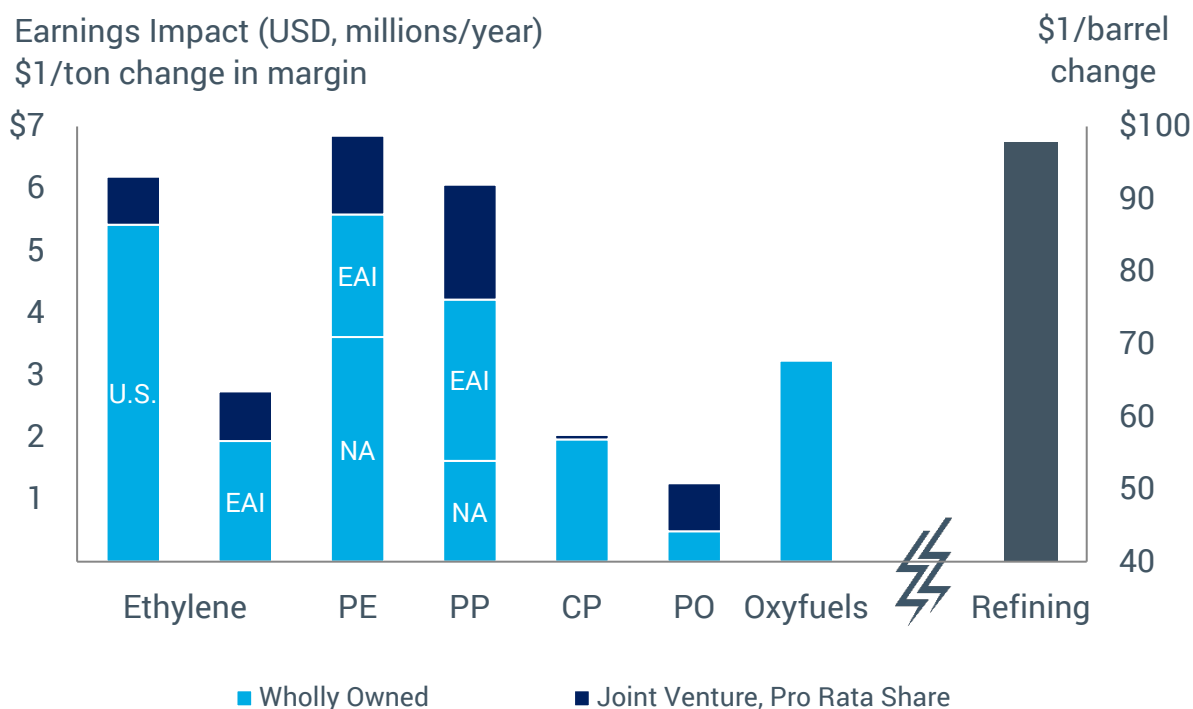
LyondellBasell Vertically Integrated Portfolio



LyondellBasell

Earnings Leverage

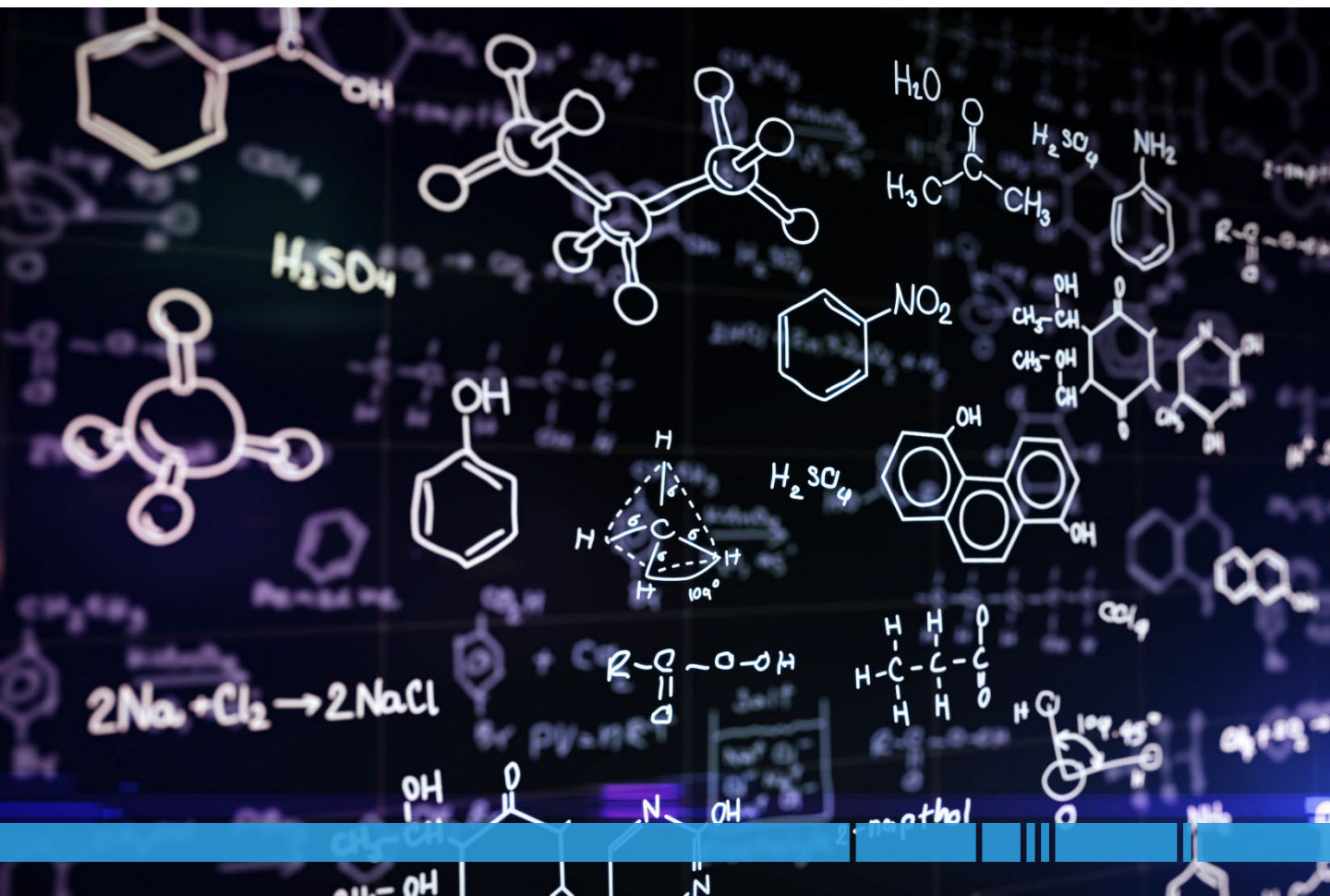
Estimated pre-tax earnings impact from changes in margin for selected products



Notes: Refining uses \$1/barrel on the right axis and the rest use \$1/ton on the left axis. Based on year-end 2021 nameplate capacity, exclusive of specific contract impacts. PP includes polypropylene from the Olefins and Polyolefins segments and *Catalloy* from the Advanced Polymer Solutions segment. CP stands for Compounded Polymers which is polypropylene compounds, engineered plastics, masterbatches and colors from the Advanced Polymers Solutions segment.

Industry and Market

Ethylene Production Economics



Ethylene Production Economics

Ethylene Production Technologies

Ethylene and propylene are the primary products of an ethylene plant, also known as an 'olefin cracker'. Crackers are typically classified by the feedstock.

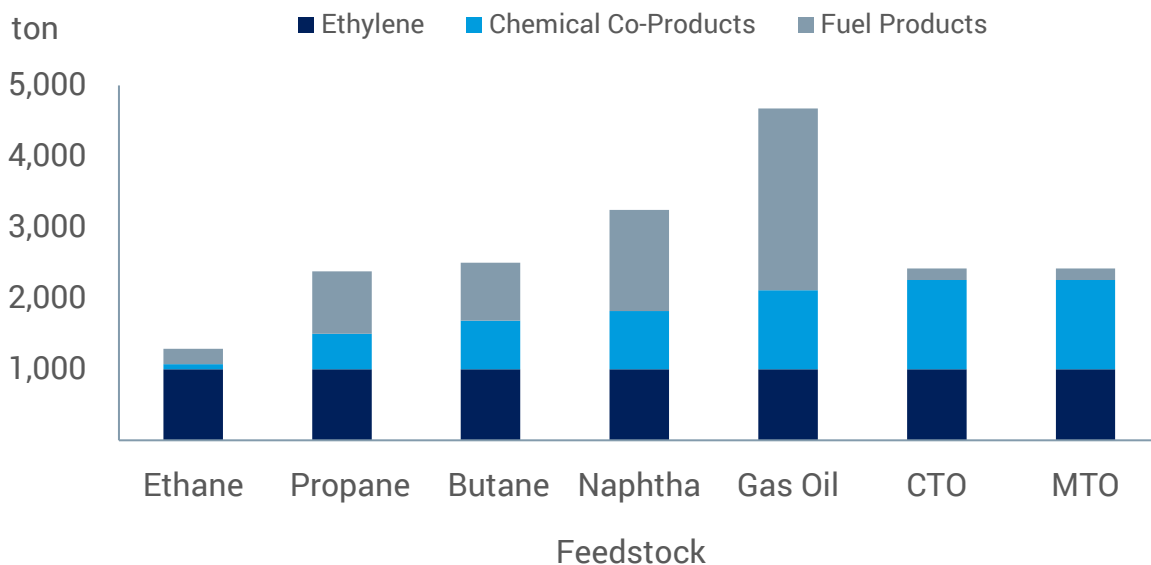
GAS CRACKER	LIQUID CRACKER	MTO / CTO
<p data-bbox="122 855 415 967">Ethane, propane and butane natural gas liquids (NGLs)</p> <p data-bbox="122 1049 415 1122">Lowest construction costs</p> <p data-bbox="122 1300 415 1373">Highest ethylene yield with few co-products</p> <p data-bbox="122 1512 415 1624">Dominant technology in North America and Middle East</p>	<p data-bbox="551 855 872 929">Naphtha, condensates and gas oil liquids</p> <p data-bbox="525 1049 889 1161">Higher construction costs (~2x ethane-only cracker)</p> <p data-bbox="551 1300 872 1450">Produces 1/3 ethylene and 2/3 co-products (propylene, C4's and fuels)</p> <p data-bbox="551 1512 872 1586">Dominant technology in Europe and Asia</p>	<p data-bbox="965 855 1339 929">Methanol-to-Olefins (MTO) Coal-to-Olefins (CTO)</p> <p data-bbox="965 1049 1339 1238">MTO: similar construction costs to gas cracker; CTO: highest construction costs (~2-3x liquid cracker)</p> <p data-bbox="979 1300 1339 1412">Produces 50/50 ethylene and propylene with few other co-products</p> <p data-bbox="1008 1512 1293 1547">Only found in China</p>

Ethylene Production Economics

Ethylene Material Balance

Liquid crackers process oil-based feedstocks and produce considerably more co-products such as propylene, butadiene and fuels than gas crackers.

Product per kiloton of ethylene



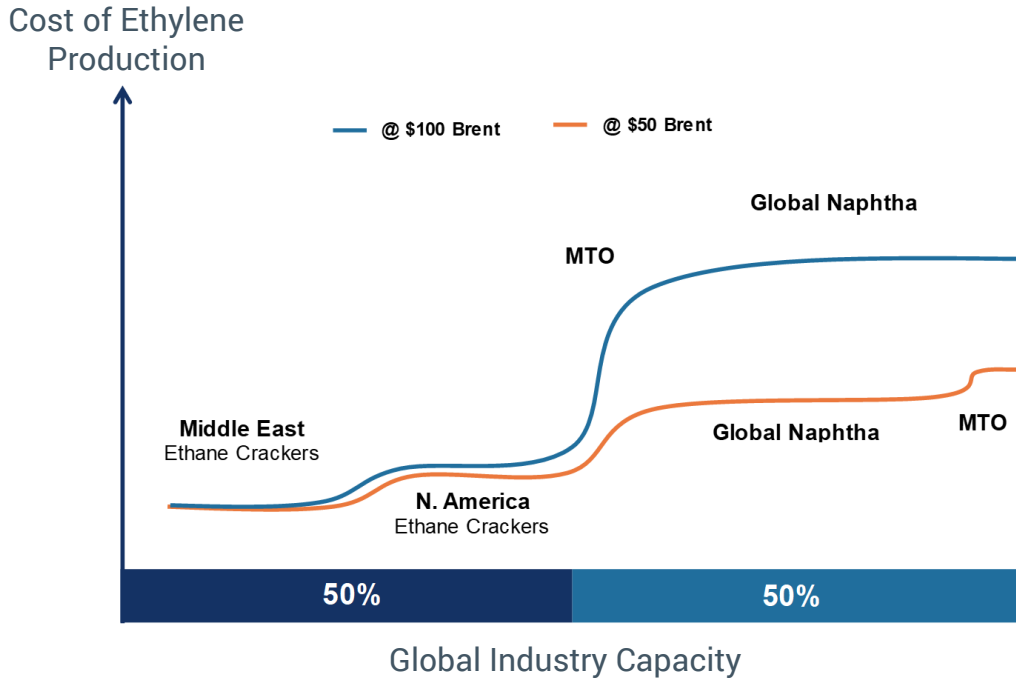
ton FEEDSTOCK	GAS CRACKER			LIQUID CRACKER		CTO	MTO
	Ethane	Propane	Butane	Naphtha	Gas Oil		
	1,289	2,381	2,504	3,247	4,673	9,696	6,060
PRODUCT							
Ethylene	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Chemical Co-Products ⁽¹⁾	72	503	687	823	1,116	1,260	1,260
Fuel Products ⁽²⁾	217	878	817	1,424	2,557	160	160

Sources: IHS Markit. Notes: (1) Chemical co-products include propylene, butadiene, and other C4s and C5s. (2) Fuel products include hydrogen, methane, aromatics and fuel oil.

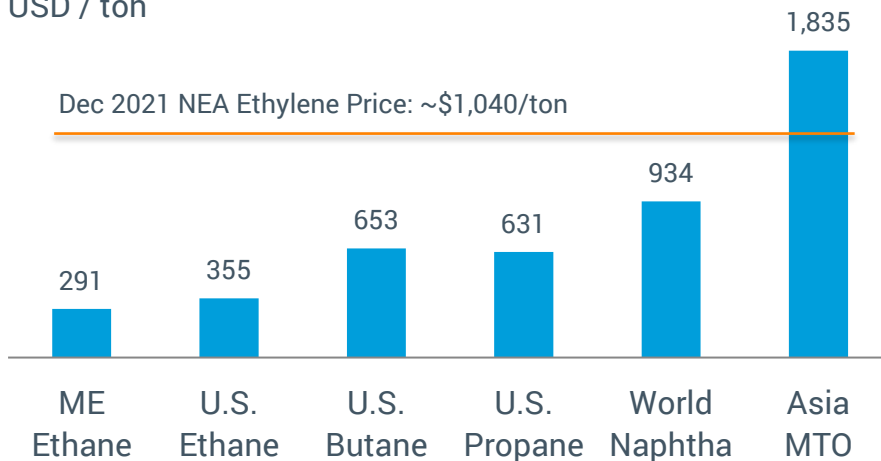
Ethylene Production Economics

Cost of Ethylene Production

Middle Eastern and North American production benefits from locally-sourced natural gas liquid feedstocks such as ethane, propane and butane that typically provide for the lowest cost of ethylene production.



Ethylene Cash Costs (December 2021)
USD / ton



Source: IHS Markit. Notes: ME stands for the Middle East. NEA stands for Northeast Asia.

Ethylene Production Economics

Calculating Cash Cost of Ethylene

The cash cost of ethylene production is the total manufacturing cost to produce ethylene, taking into consideration the value of co-product sales revenue.

$$\frac{\text{Feedstock Costs} + \text{Variable \& Fixed Costs} - \text{Co-product Revenue}}{\text{Ethylene Production}}$$

Example of calculating 2021 cash cost of ethylene:

(USD per ton ethylene)	ETHYLENE BY FEEDSTOCK		
	North America Ethane	North America Naphtha	North East Asia MTO
Feedstock Cost	328	2,233	2,359
+ Variable Cost	138	195	637
+ Fixed Cost	127	127	138
- Co-product Revenue	(280)	(1,722)	(1,299)
Net Ethylene Cost	313	833	1,835

Sources: IHS Markit and LyondellBasell. Notes: 2021 costs and co-product prices. Fixed cost is total cash cost including production cash cost and SG&A. Assumes ethane price of \$250/ton, light naphtha price of \$684/ton, NEA methanol price of \$389/ton and NEA propylene price of \$994/ton.

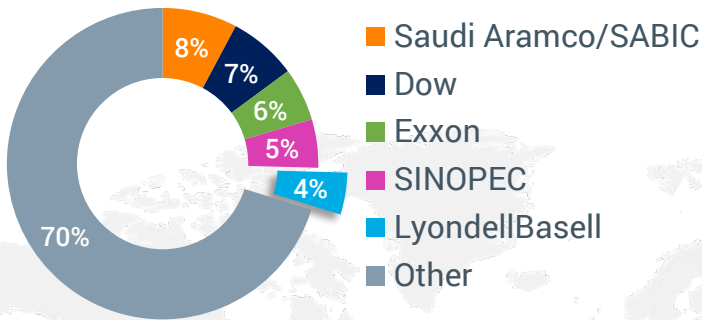
LyondellBasell
Olefins & Polyolefins



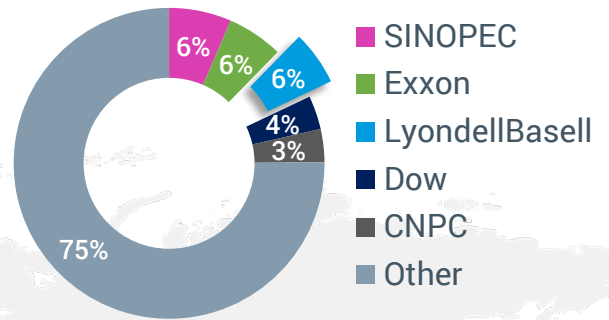
Olefins & Polyolefins

Global Industry Capacity

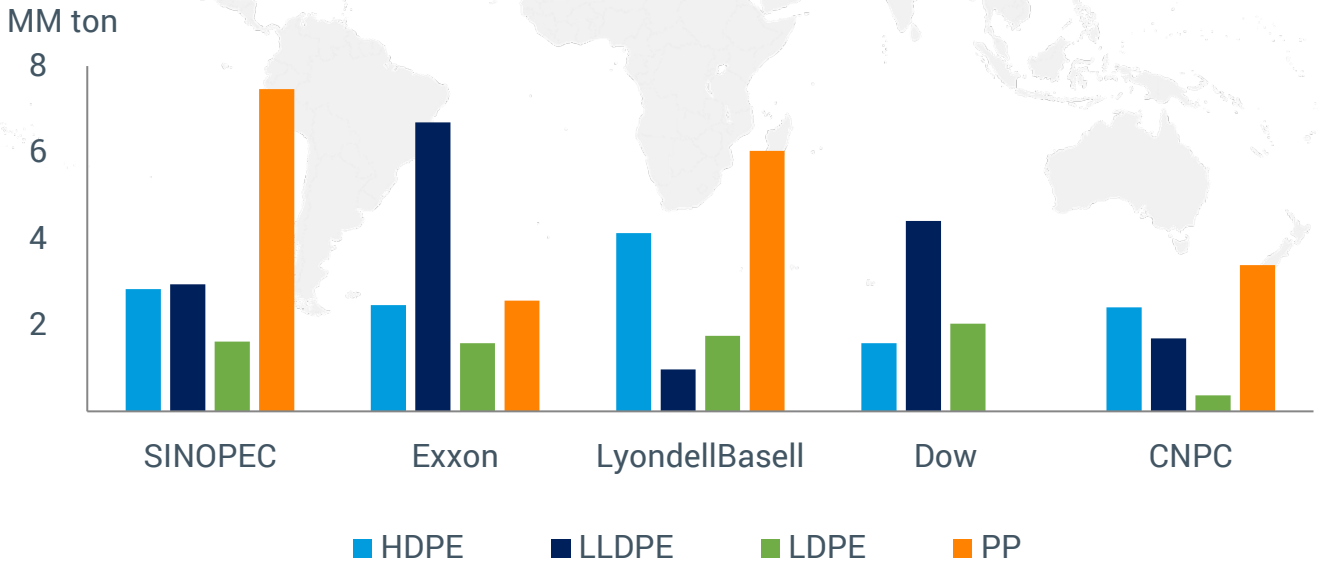
Global Ethylene Producers
Capacity ~206 MM ton/year



Global PE + PP Producers
Capacity ~229 MM ton/year



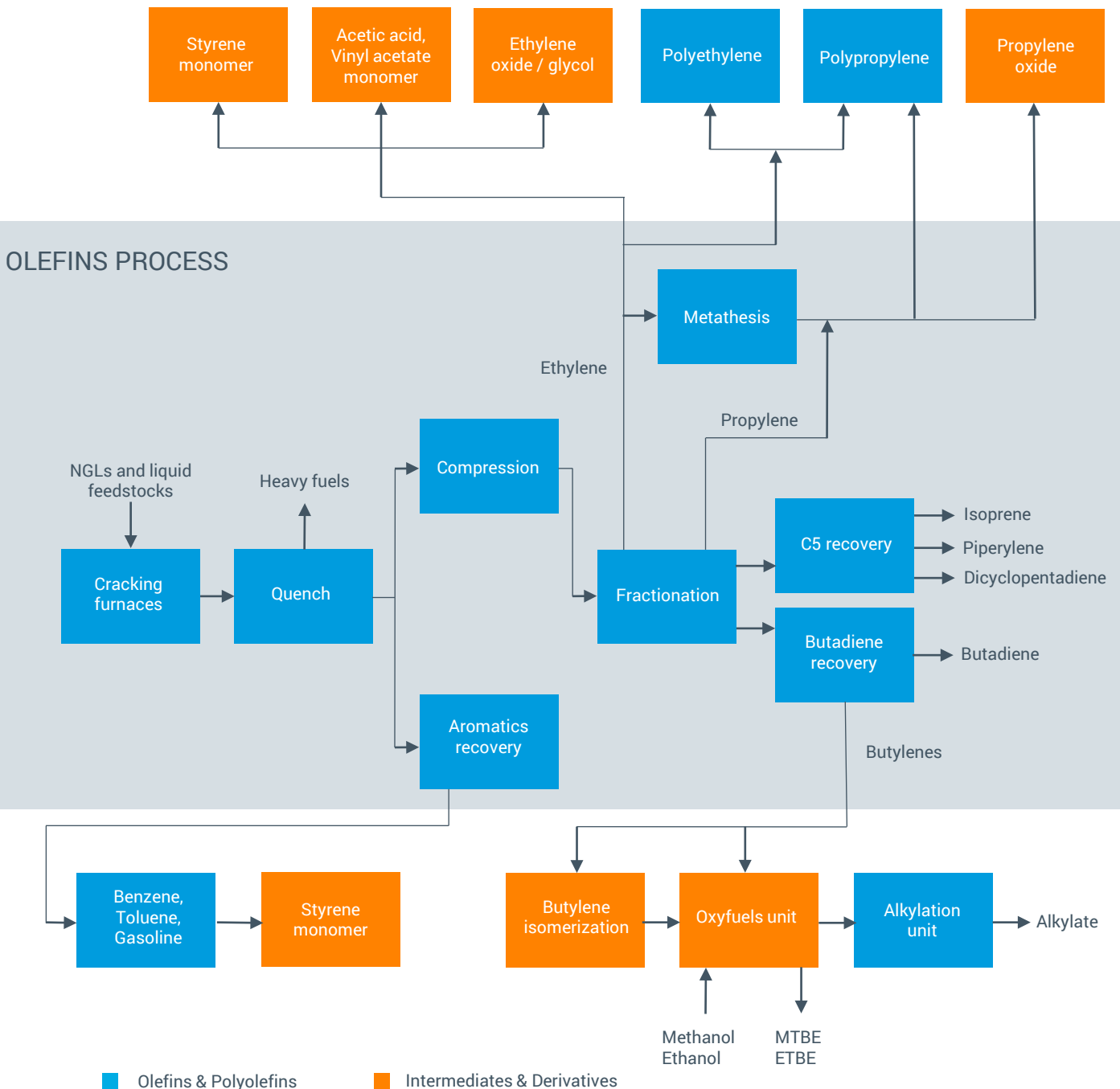
Global PE + PP Producers



Sources: IHS Markit and LyondellBasell. Capacity ranking as of December 31, 2021 includes pro rata shares of joint venture capacity.

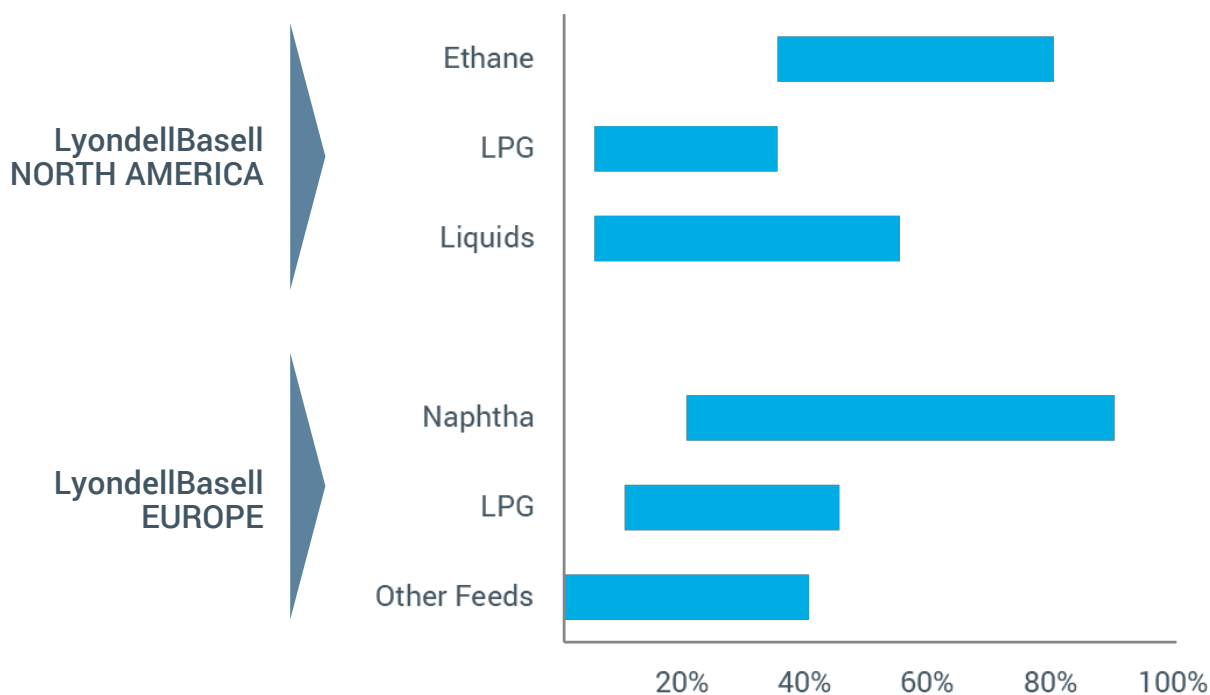
LyondellBasell Olefins & Polyolefins

Production Processes and Derivative Chains



LyondellBasell Olefins & Polyolefins Feedstock Flexibility

LyondellBasell’s global network of crackers utilize ethane, propane, butane, mixed “y-grade” NGLs, naphtha and other advantaged feeds. Our North American assets maximize value by optimizing across a range of cost-advantaged feedstocks available in both the U.S. Gulf Coast and Midwest markets. Our European assets have the capability to displace up to 50% of their naphtha needs with alternative feedstocks such as liquified petroleum gases (LPGs), condensate and hydrowax.



Industry Flexibility	Ethane only	Ethane/Propane only	Full-Range	Naphtha only
NORTH AMERICA	37%	12%	51%	0%
EUROPE	3%	0%	73%	24%

Note: Full-range for industry represents the production that may switch between ethane, propane, butane and other liquids such as naphtha.

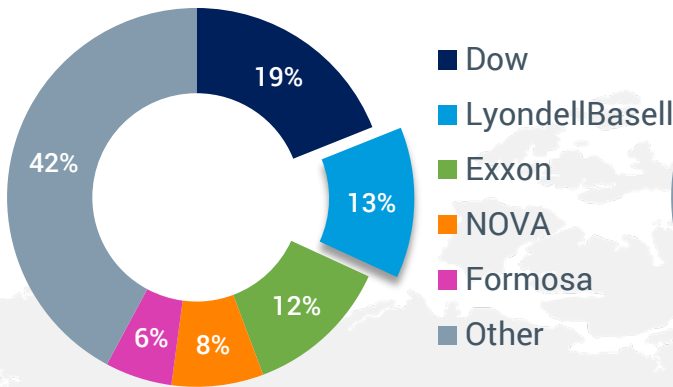
Olefins & Polyolefins— Americas



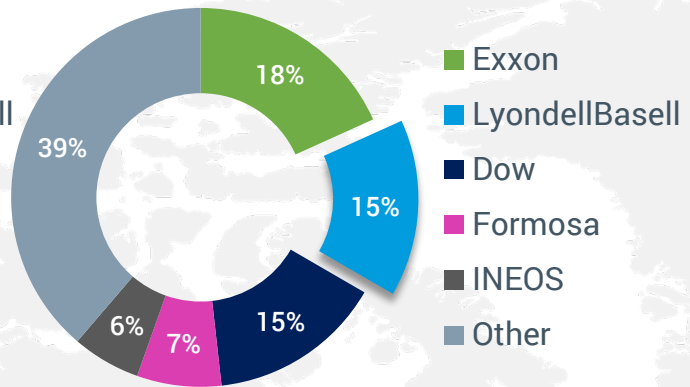
Olefins & Polyolefins–Americas

North America Industry Capacity

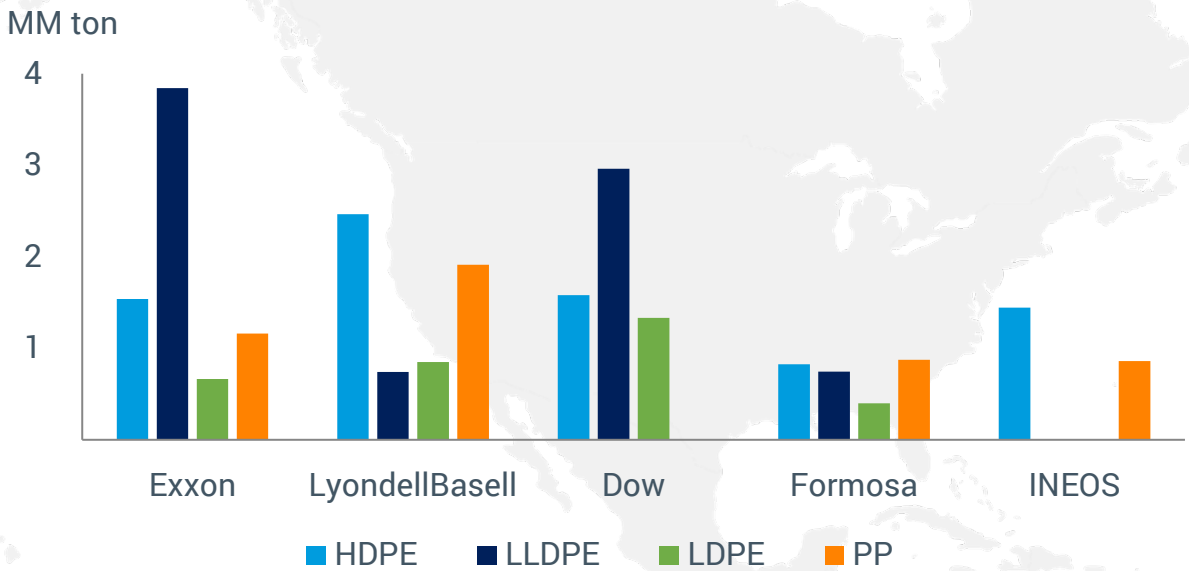
NA Ethylene Producers
Capacity ~48 MM ton/year



NA PE + PP Producers
Capacity ~39 MM ton/year



NA PE + PP Producers



Sources: IHS Markit and LyondellBasell. Capacity ranking as of December 31, 2021 includes pro rata shares of joint venture capacity.

Olefins & Polyolefins—Americas

Product Capacity

2021 Annual Capacity (KT)

OLEFINS	
Ethylene	6,950
Propylene	2,500
Butadiene	400
POLYETHYLENE	
High-density polyethylene	2,450
Low-density polyethylene	1,050
Linear low-density polyethylene	1,000
POLYPROPYLENE	
Polypropylene	2,210

Notes: Total annual nameplate capacity includes capacity owned by third parties through a joint venture arrangement. Polypropylene includes approximately 300 KT of *Catalloy* reported within the Advanced Polymer Solutions segment.

Joint Venture	JV Partner	Location	Product	JV Capacity (KT)	LYB Share (KT)	LYB Share (%)
Indelpro S.A. de C.V.	Alfa	Mexico	PP	600	300	49%
Louisiana Integrated Polyethylene JV LLC	Sasol	U.S.	Ethylene	1,550	775	50%
			Propylene	20	10	
			LDPE	400	200	
			LLDPE	450	225	

Notes: JV capacity represents the joint venture's total annual nameplate capacity. LYB share represents LyondellBasell's proportional share of the joint venture's total annual nameplate capacity.

Olefins & Polyolefins–Americas

Growth Investment: *Hyperzone* HDPE La Porte, Texas



INVESTMENT STRATEGY

500 KT
capacity per year
HDPE

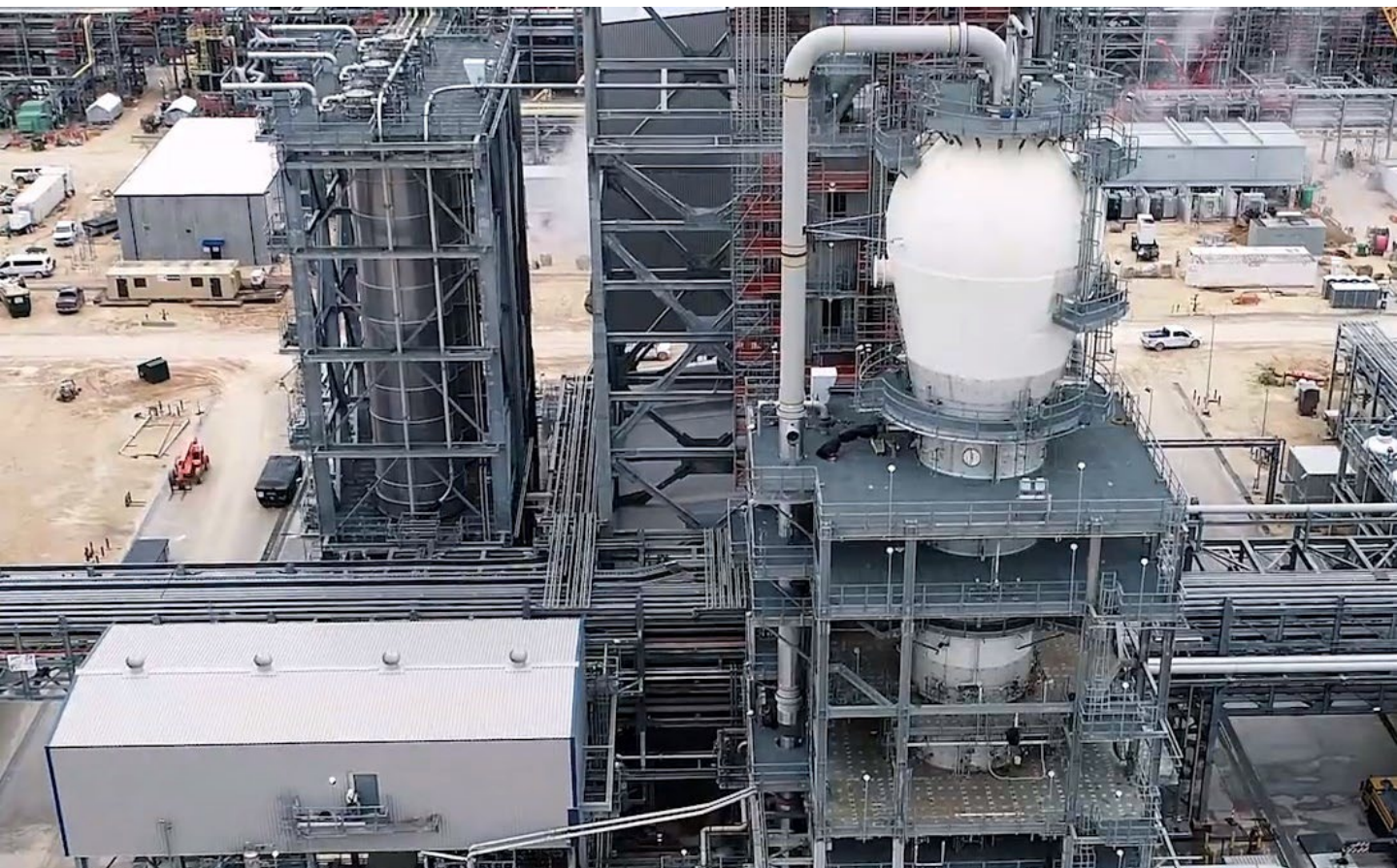
~\$170 MM
per year
ESTIMATED EBITDA

- ✓ Delivering the latest generation of LyondellBasell polymer technology
- ✓ Providing lightweight, crack-resistant polymers with high processability
- ✓ Enabling the production of cost-effective and durable plastics

Notes: Commercial volumes began 1Q 2020. Estimated EBITDA is nameplate capacity multiplied by 2017-2019 average cash margins assuming 40% of the PE from U.S. production exported to Asia.

Olefins & Polyolefins–Americas
Growth Investment:

Louisiana Integrated Polyethylene JV Lake Charles, Louisiana



INVESTMENT STRATEGY

1.5 MM ton
capacity per year
ETHANE CRACKER

0.9 MM ton
capacity per year
LDPE & LLDPE

ALL
associated utilities,
offsites and infrastructure

- ✓ Top-quartile cost positions with established technologies and cyclical upside
- ✓ New, well-built and operational assets derisked from project development uncertainties
- ✓ Synergy benefits from LyondellBasell's proven operational and commercial excellence

Note: Completed joint venture transaction in December 2020.

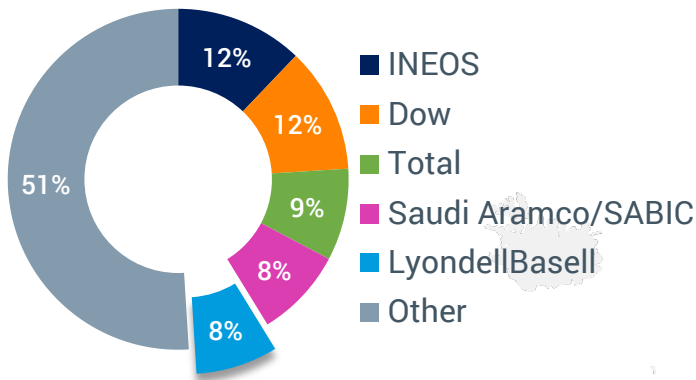
Olefins & Polyolefins– Europe, Asia, International



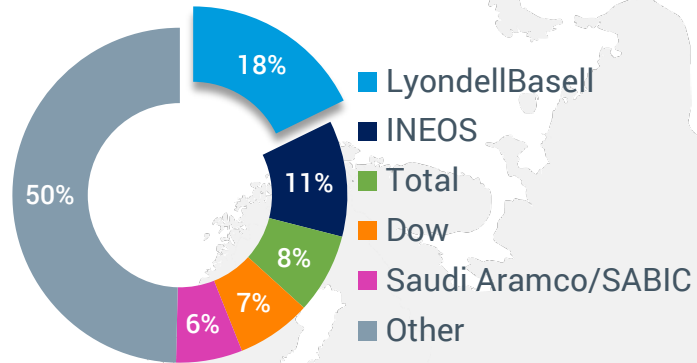
Olefins & Polyolefins – Europe, Asia, International

Europe Industry Capacity

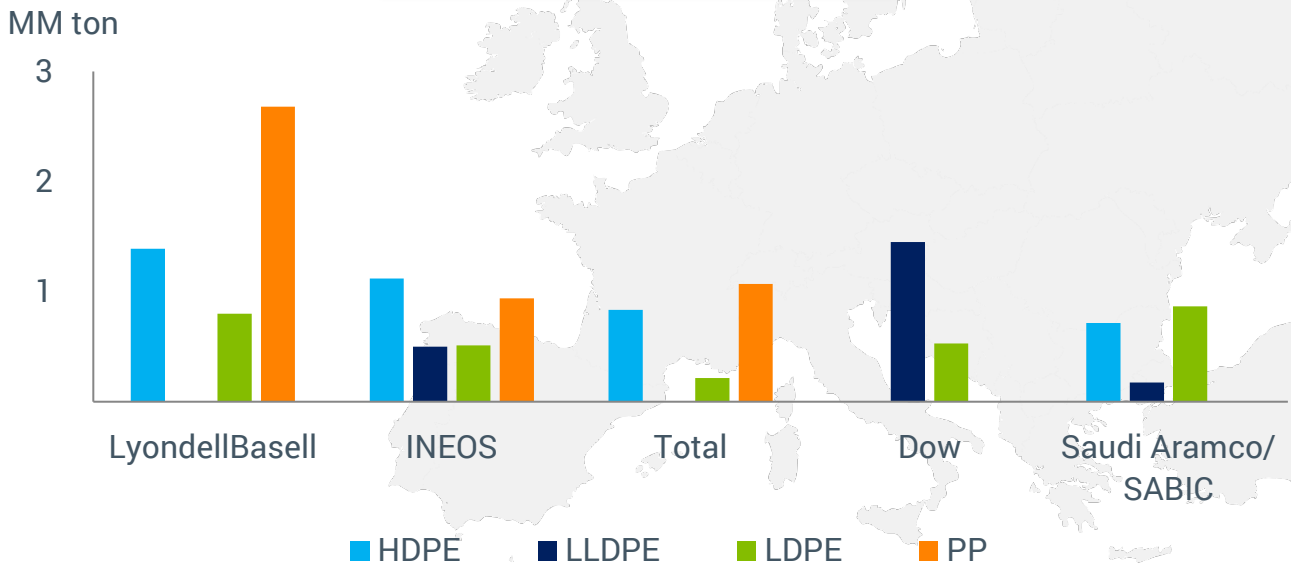
EU Ethylene Producers
Capacity ~25 MM ton/year



EU PE + PP Producers
Capacity ~27 MM ton/year



EU PE + PP Producers



Sources: IHS Markit and LyondellBasell. Capacity ranking as of December 31, 2021 includes pro rata shares of joint venture capacity.

Olefins & Polyolefins—Europe, Asia, International

Product Capacity

2021 Annual Capacity (KT)

OLEFINS

Ethylene	4,050
Propylene	2,750
Butadiene	400

POLYETHYLENE

High-density polyethylene	2,300
Low-density polyethylene	1,250
Linear low-density polyethylene	450

POLYPROPYLENE

Polypropylene	6,850
---------------	-------

Notes: Total annual nameplate capacity includes capacity owned by third parties through a joint venture arrangement. Polypropylene includes approximately 250 KT of *Catalloy* reported within the Advanced Polymer Solutions segment.



Olefins & Polyolefins—Europe, Asia, International

Joint Venture Product Capacity

Joint Venture	JV Partner	Location	Product	JV Capacity (KT)	LYB Share (KT)	LYB Share (%)
Al-Waha Petrochemicals Ltd.	Sahara Petrochemical, et al.	Saudi Arabia	Propylene	450	115	25%
			PP	450	115	
Basell Orlen Polyolefins Sp. Z.o.o.	Orlen	Poland	HDPE	300	150	50%
			LDPE	100	50	
			PP	500	250	
Bora LyondellBasell Petrochemical Co. Ltd.	Liaoning Bora Enterprise Group	China	Ethylene	1,100	550	50%
			Butadiene	100	50	
			HDPE	350	175	
			LLDPE	450	225	
			PP	600	300	
HMC Polymers Company Ltd.	PTT	Thailand	Propylene	300	85	29%
			PP	800	230	
Polymirae Company Ltd.	Daelim	South Korea	PP	950 (a)	475	50%
Quality Circular Polymer Holdings	SUEZ (b)	The Netherlands & Belgium	HDPE	20	10	50%
			PP	40	20	
Saudi Ethylene & Polyethylene Company Ltd.	Tasnee and Sahara Petrochemical	Saudi Arabia	Ethylene	1,000	250	25%
			Propylene	300	75	
			HDPE	400	100	
Saudi Polyolefins Company	Tasnee	Saudi Arabia	LDPE	400	100	25%
			Propylene	450	115	
			PP	750	190	
			PPC	40	10	

Notes: JV capacity represents the joint venture's total annual nameplate capacity. LYB share represents LyondellBasell's proportional share of the joint venture's total annual nameplate capacity.

(a) Includes proportional share of joint venture capacity.

(b) Veolia acquired SUEZ on January 7, 2022.

Olefins & Polyolefins – Europe, Asia, International
**Growth Investment: Bora Integrated
Cracker JV
Panjin, China**



INVESTMENT STRATEGY

1.1 MM ton

capacity per year
FLEXIBLE CRACKER
NAPHTHA / LPG

0.8 / 0.6 MM ton

capacity per year
PE / PP

- ✓ Low-cost investment in China: the world's fastest-growing market for petrochemicals
- ✓ Leveraging LyondellBasell's licensed process technologies and catalyst sales
- ✓ Flexible feedstock sourced from partner's adjacent world scale refinery

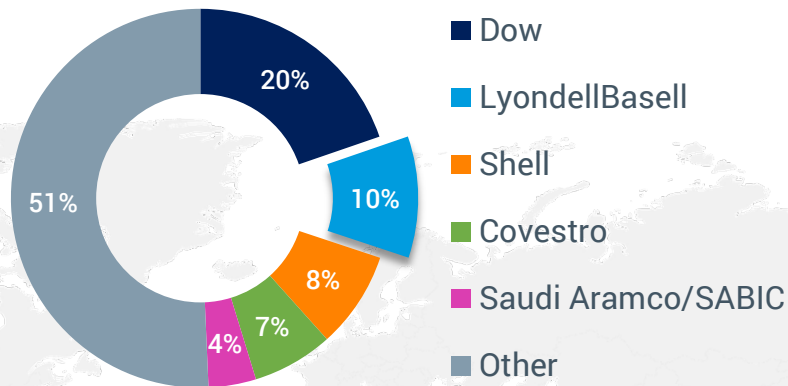
Intermediates & Derivatives



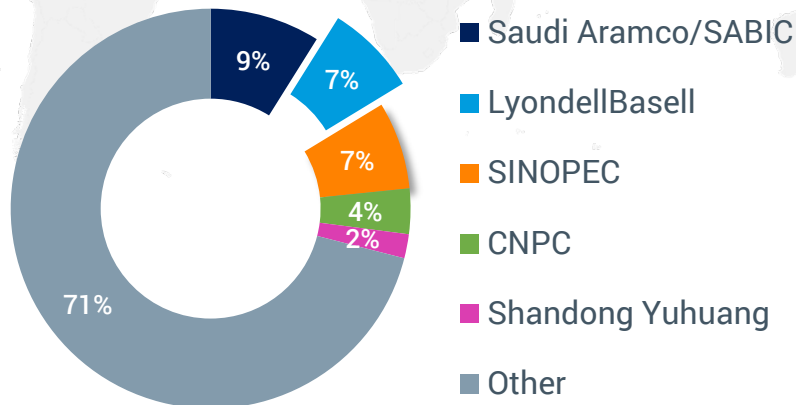
Intermediates & Derivatives

Global Industry Capacity

Global Propylene Oxide (PO) Producers
Capacity ~12 MM ton/year



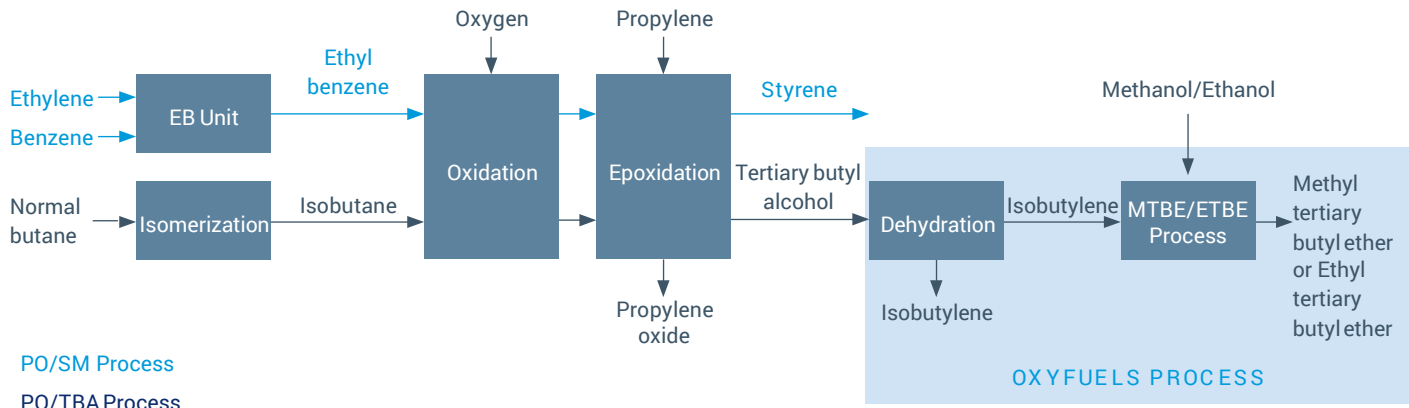
Global Oxyfuels (MTBE/ETBE) Producers
Capacity ~44 MM ton/year



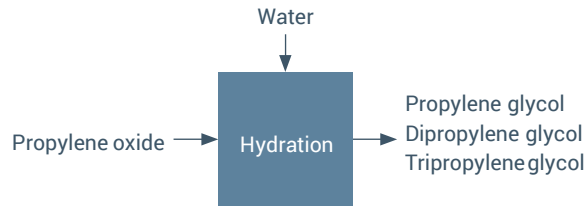
Sources: IHS Markit and LyondellBasell. Capacity ranking as of December 31, 2021 includes pro rata shares of joint venture capacity.

Intermediates & Derivatives Production Process

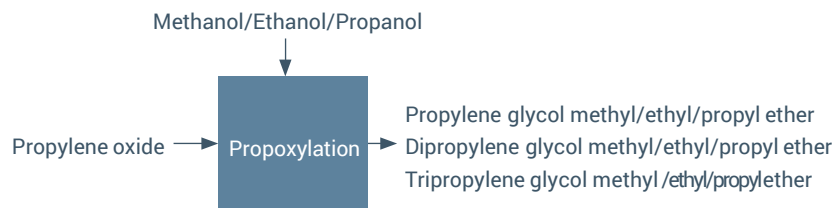
Propylene Oxide Process



Propylene Glycol Production



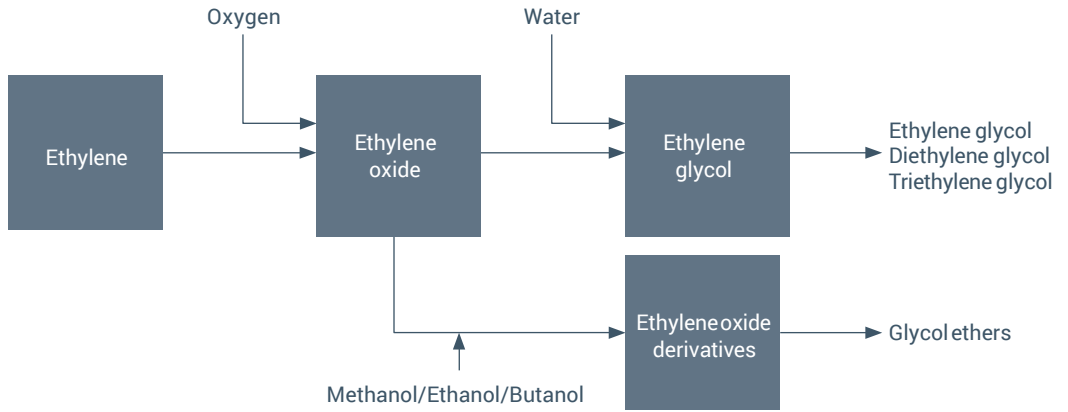
Propylene Glycol Ethers Production



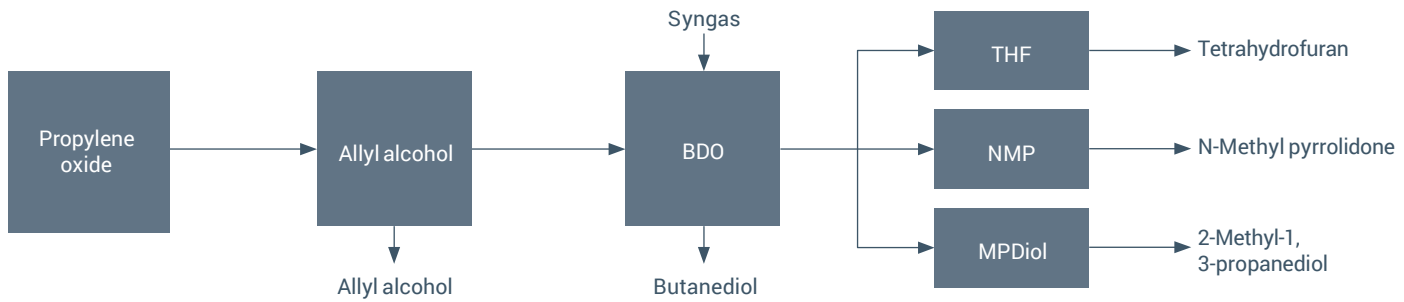
Intermediates & Derivatives

Production Process

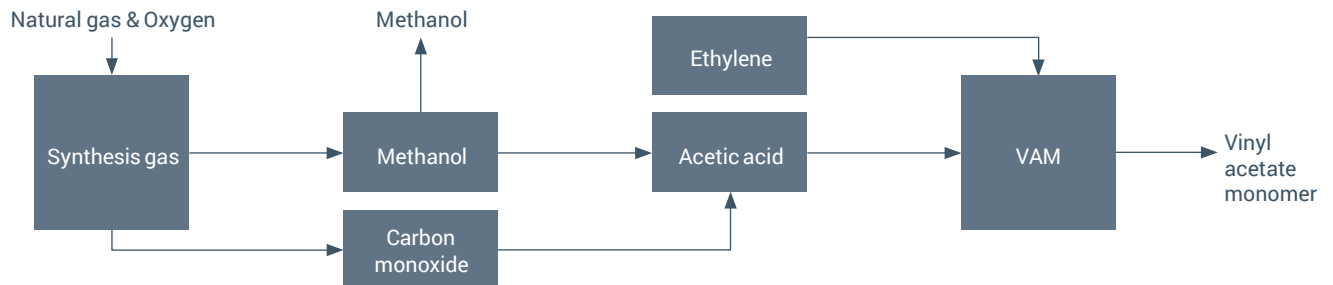
Ethylene Oxide/Ethylene Glycol



Butanediol & Derivatives



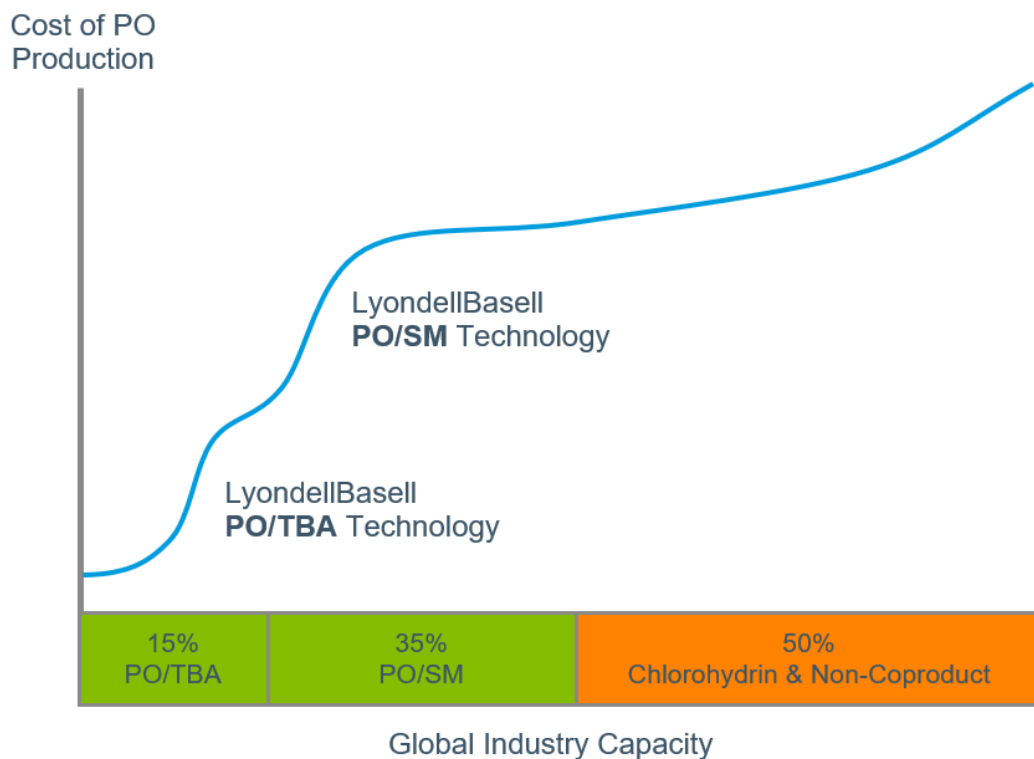
Acetyls



Production and Economics

Cost of Propylene Oxide Production

LyondellBasell's proprietary propylene oxide (PO) / tertiary butyl alcohol (TBA) and propylene oxide (PO) / styrene monomer (SM) process technologies provide the lowest cost of production.



Sources: IHS Markit, ICIS, Argus and LyondellBasell based on 2022 production cost.

Intermediates & Derivatives

Product Capacity

2021 Annual Capacity (KT)	NA	EU	Asia	Global
PROPYLENE OXIDE & DERIVATIVES				
Propylene oxide	1,250	800	250	2,300
Propylene glycol	300	150	--	450
Propylene glycol ethers	50	150	--	200
Butanediol	50	150	--	200
INTERMEDIATE CHEMICALS				
Acetyls:				
Methanol	1,450	--	--	1,450
Acetic acid	550	--	--	550
Vinyl acetate monomer	300	--	--	300
Ethylene Derivatives:				
Ethylene oxide	400	--	--	400
Ethylene glycol	300	--	--	300
Other - ethers, amines	150	--	--	150
Propylene oxide co-product:				
Styrene monomer	1,400	700	950	3,050
OXYFUELS & RELATED PRODUCTS				
Propylene oxide co-product:				
Tertiary butyl alcohol	1,550	1,200	--	2,750
Isobutylene	550	200	--	750
Oxyfuels	2,000	1,250	--	3,250

Notes: Annual capacity includes capacity owned by third parties through a joint venture arrangement. Styrene monomer includes capacity from the Bora LyondellBasell Petrochemical Co. Ltd. joint venture reported within the Olefins & Polyolefins–EAI segment.

Intermediates & Derivatives

Joint Venture Product Capacity

Joint Venture	JV Partner	Location	Product	JV Capacity (KT)	LYB Share (KT)	LYB Share (%)
Ningbo ZRCC LCC Ltd.	ZRCC	China	PO	250	50	19%
			SM	550	0	0%
PO (U.S.) Joint Venture	Covestro	U.S.	PO	1,250	(a)	(a)
PO (EU) Joint Venture	Covestro	The Netherlands	PO	300	150	50%
			SM	700	350	50%

Notes: JV capacity represents the joint venture's total annual nameplate capacity. LYB share represents LyondellBasell's proportional share of the joint venture's total annual nameplate capacity.

(a) The parties' rights in the joint venture are based on off take volumes as opposed to ownership percentages. Covestro's interest represents ownership of an in-kind portion of the propylene oxide production of 0.7 million tons per year. LyondellBasell takes, in-kind, the remaining propylene oxide production and all co-product (styrene monomer and tertiary butyl alcohol) production.



Intermediates & Derivatives

Growth Investment: PO/TBA

Houston, Texas



INVESTMENT STRATEGY

470 / 1,000 KT

capacity per year
PO / TBA

~\$450 MM

per year
ESTIMATED EBITDA

- ✓ Meeting rising global demand for energy-saving polyurethanes and clean-burning oxyfuels
- ✓ Capturing cost-advantaged U.S. Gulf Coast feedstocks

Note: Planned start 1Q 2023. Estimated EBITDA is nameplate capacity multiplied by 2017-2019 average cash margins.

Intermediates & Derivatives

Growth Investment: Sinopec PO/SM JV Ningbo, China



INVESTMENT STRATEGY

275 KT
capacity per year
PROPYLENE OXIDE

600 KT
capacity per year
STYRENE

- ✓ Leveraging LyondellBasell's leading PO/SM technology
- ✓ Serving Chinese domestic market through LyondellBasell's marketing network

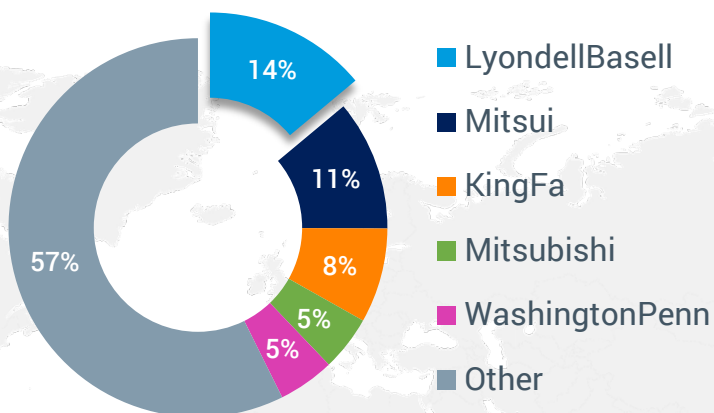
Advanced Polymer Solutions



Advanced Polymer Solutions

Global Industry Capacity

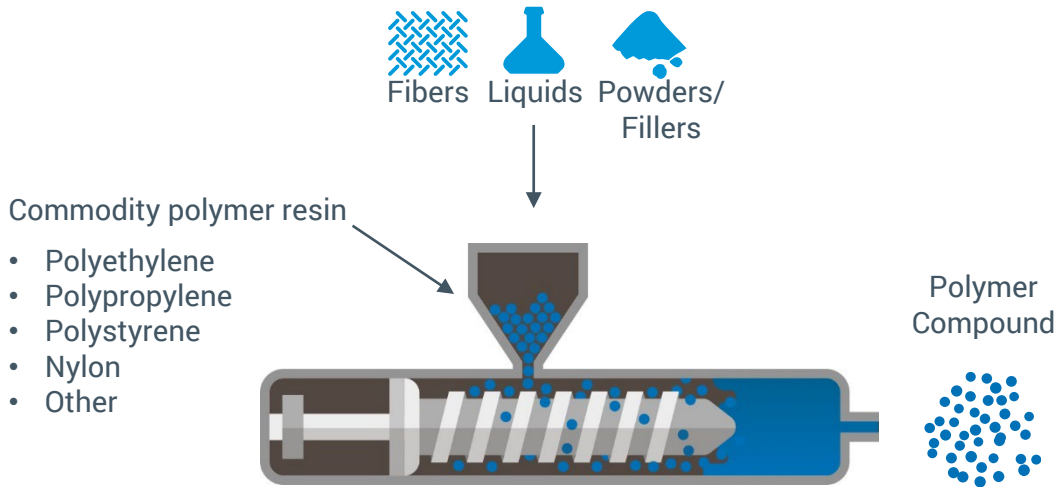
Global Polypropylene Compounds Producers
Capacity ~9 MM ton/year



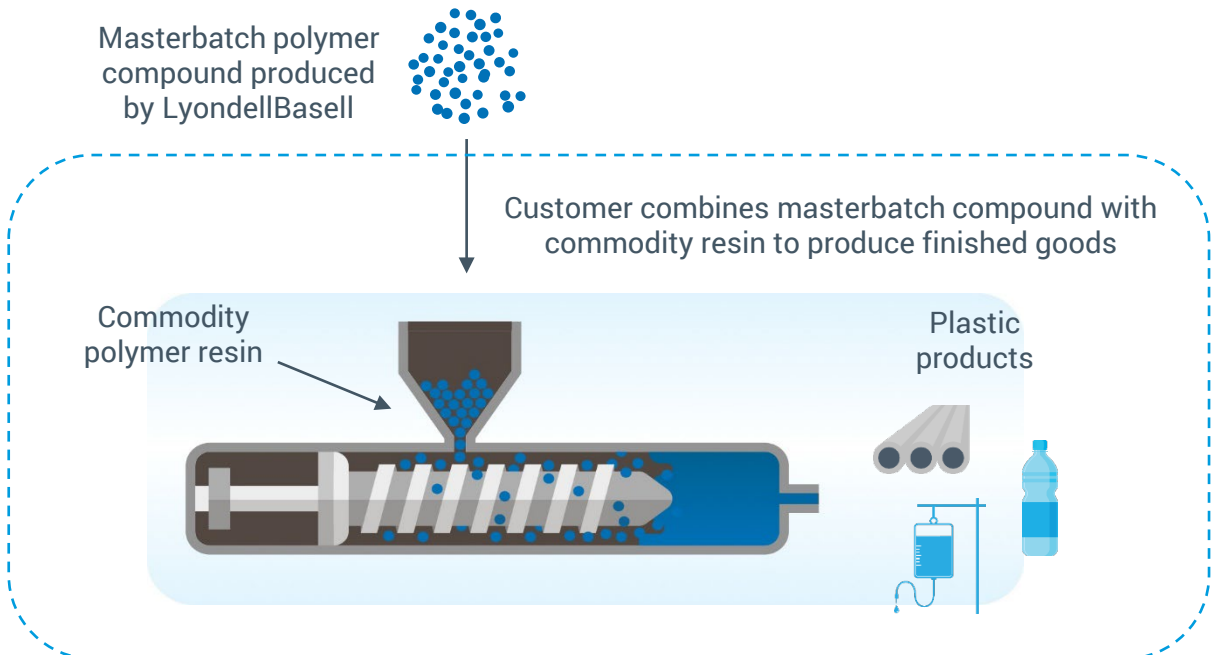
Sources: AMI Consulting and LyondellBasell. Capacity ranking as of December 31, 2021 and includes pro rata shares of joint venture capacity.

Advanced Polymer Solutions Production Process

Polymer Compounding

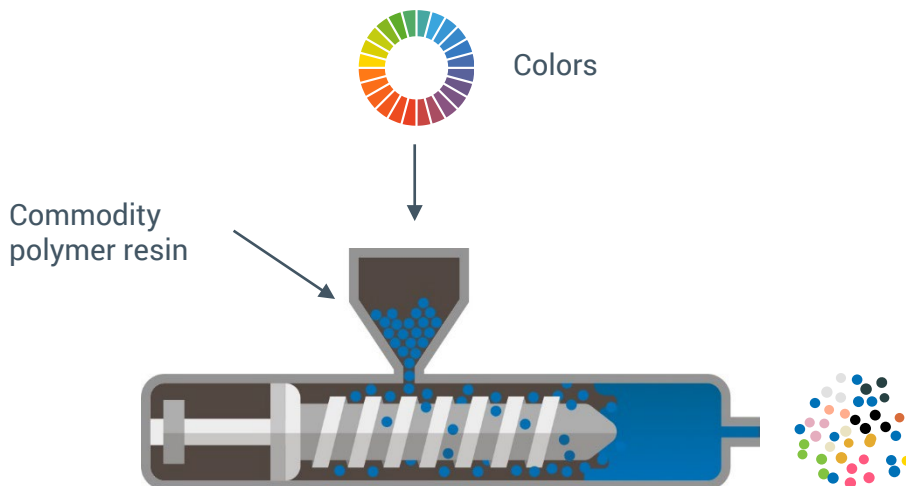


Masterbatch

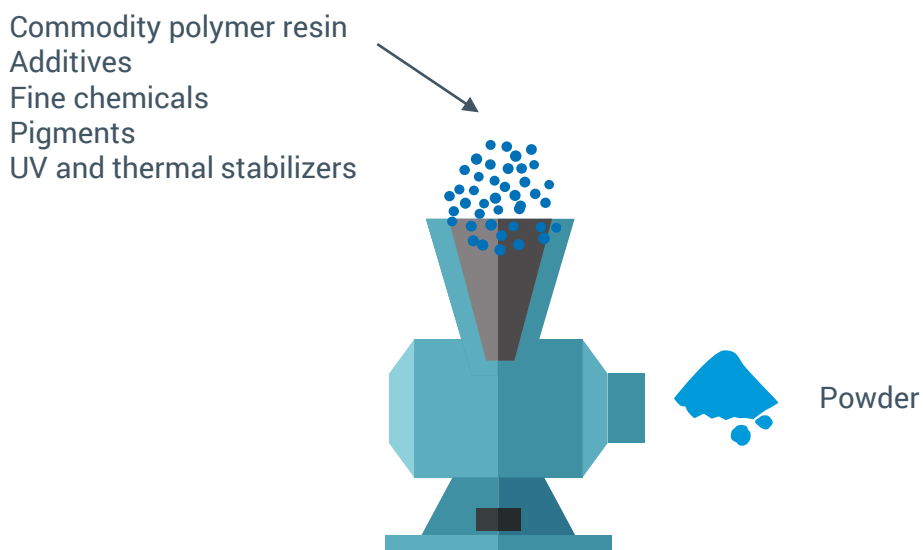


Advanced Polymer Solutions Production Process

Custom Performance Colors



Specialty Powders



Advanced Polymer Solutions

Product Capacity

2021 Annual Capacity (KT)

COMPOUNDING & SOLUTIONS

Polypropylene compounds	1,350
Engineered plastics	350
Masterbatch	350
Colors	40

ADVANCED POLYMERS

<i>Catalloy</i>	550
Polybutene-1	50

Notes: Annual capacity includes capacity owned by third parties through a joint venture arrangement. Polypropylene compounds includes capacity from the Saudi Polyolefins Company joint venture reported within the Olefins & Polyolefins–EAI segment.





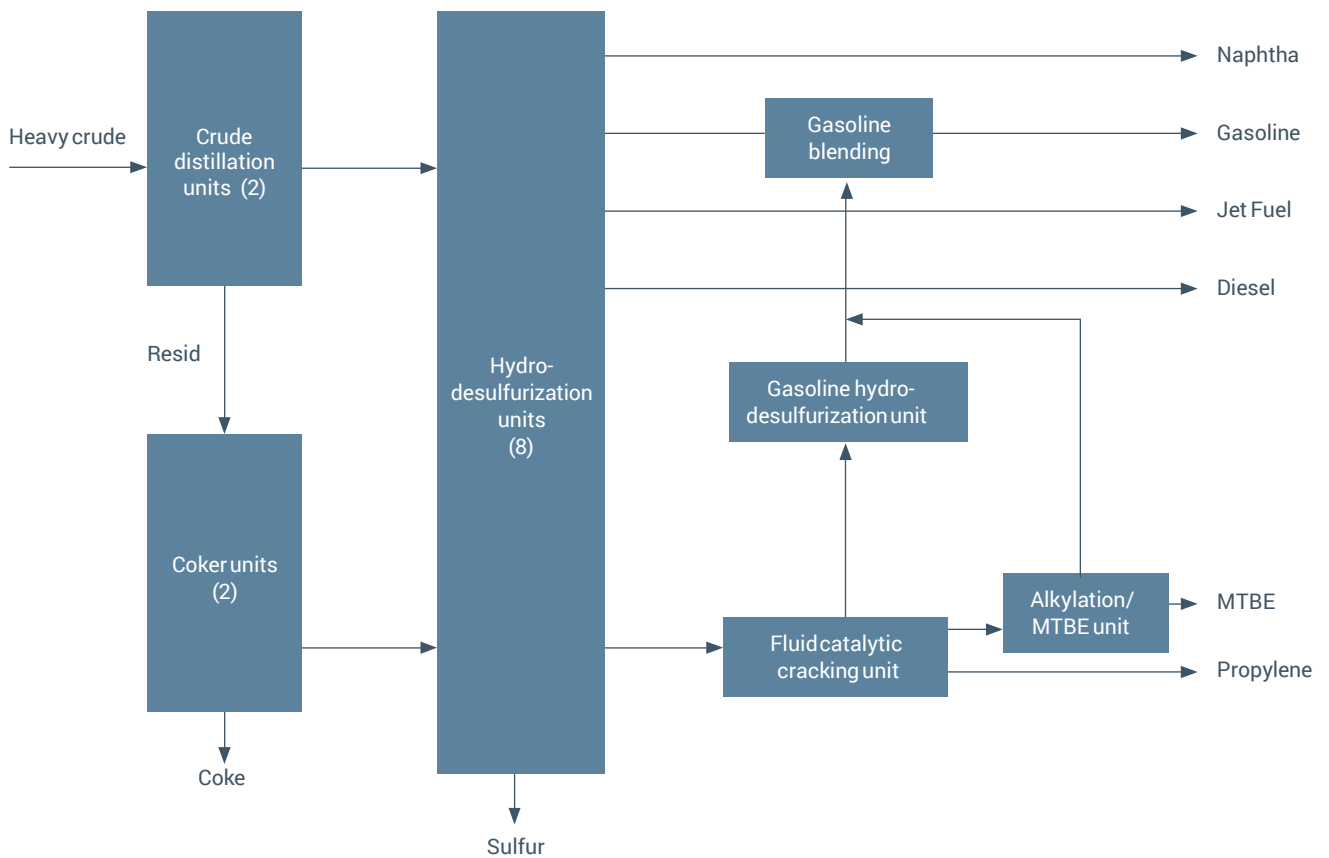
Refining

12.5
NELSON
COMPLEXITY

50%
DISTILLATE
YIELD

PRODUCES TIER 3
GASOLINE AND
ULTRA LOW
SULFUR DIESEL

Refining Production Process



Note: Gasoline hydro-desulfurization unit is capable of meeting the Tier III sulfur specification (10 ppm).



Refining Product Capacity

2021 Annual Capacity (barrels per day)

HOUSTON REFINERY

Crude distillation	268,000
Gasoline and components	120,000
Ultra low-sulfur diesel	95,000
Jet fuel	25,000
Naphtha	30,000

Note: On April 21, 2022, LyondellBasell announced the decision to cease operation of Houston Refinery no later than December 31, 2023.

Technology



Technology Expertise and Innovation

Our products and technologies have driven growth in the petrochemical industry for over 65 years.



1953-1954
Ziegler and Natta breakthroughs in **PE** and **PP**



1969
Commercialized our proprietary **PO/TBA** process



1982
Introduced **Spheripol**, the most widely-used polyolefins process



2002
Introduced **Spherizone** PP process technology



2020
Start-up of first world-scale **Hyperzone** HDPE plant



1955
Introduced **Hostalen** HDPE process



1973
Launched our proprietary **PO/SM** process



1990
Developed **Catalloy** process technology for advanced resins



2018
Partnered with SUEZ to create **Quality Circular Polymers (QCP)**

CATALYSTS

> 60

CATALYST
PRODUCTS

TECHNOLOGY
SERVICES

CONTINUOUS PLANT
OPTIMIZATION SUPPORT

LICENSING

> 300

POLYOLEFIN
LICENSES SOLD

Technology Portfolio of Licensed Technologies

POLYOLEFIN PROCESS TECHNOLOGIES

<i>Spherizone</i>	PP	Multi-zone circulating reactor with flexible operating conditions which manufactures high-performance PP with enhanced properties
<i>Spheripol</i>	PP	Modular liquid propylene and optional gas-phase copolymerization reactor with outstanding reliability and leading operating and investment costs
<i>Lupotech</i>	LDPE EVA	High-pressure tubular reactor offering the lowest operating and investment costs for premium market applications
<i>Hostalen</i>	HDPE	Multimodal slurry process with leading stiffness-toughness balance, impact resistance, high stress cracking resistance and processing advantages
<i>Spherilene</i>	HDPE LLDPE	Single gas-phase reactor process for the production of a wide range of PE products with low investment costs

CHEMICAL PROCESS TECHNOLOGIES

OLEFINS CONVERSION & RECOVERY

Trans4m S – Isobutylene
Trans4m BD – Butadiene
Trans4m C5 – DCPD, isoprene

AROMATICS EXTRACTION

Trans4m BTX – Benzene, toluene, xylenes

ACETYLS

Glacido⁽¹⁾ – Acetic acid
Vacido – VAM

OXIRANES & DERIVATIVES

PO/SM⁽²⁾ & PO/TBA⁽²⁾
 BDO, THF, NMP and GBL

Notes: (1) Restricted offering. (2) Available to LyondellBasell joint ventures only.

Appendix



Glossary of Acronyms

Acronym	Definition	Acronym	Definition
APS	Advanced Polymer Solutions	LLDPE	Linear low-density polyethylene
B	Billion	LPG	Liquefied petroleum gas
Bbl	Barrel	MM	Million
BDO	Butanediol	MPDiol	2-Methyl-1, 3-propanediol
BTU	British thermal unit	MTBE	Methyl tertiary butyl ether
COE	Cost of Ethylene	MTO	Methanol-to-olefins
CP	Compounded Polymers	MS	Masterbatch solutions
CTO	Coal-to-olefins	NA	North America
DCPD	Dicyclopentadiene	NGL	Natural gas liquid
EAI	Europe, Asia, International	NMP	N-methyl pyrrolidone
EBITDA	Earnings before interest, taxes, depreciation and amortization	O&P	Olefins & Polyolefins
EC	Engineered composites	PB-1	Polybutene-1
EG	Ethylene glycol	PE	Polyethylene
EO	Ethylene oxide	PO	Propylene oxide
ETBE	Ethyl tertiary butyl ether	PO&D	Propylene oxide and derivatives
EU	Europe	PO/SM	Propylene oxide/Styrene monomer
EUR	Euros	PO/TBA	Propylene oxide/Tertiary butyl alcohol
GAAP	Generally accepted accounting principles	PP	Polypropylene
GBL	Gamma-butyrolactone	PPC	Polypropylene compounds
HDPE	High-density polyethylene	SM	Styrene monomer
I&D	Intermediates & Derivatives	SP	Specialty powders
Lb	Pound	TBA	Tertiary butyl alcohol
HPPO	Hydrogen Peroxide to Propylene Oxide	THF	Tetrahydrofuran
JV	Joint venture	Ton	Metric ton
Kiloton	Thousand metric tons	U.S.	United States
KT	Thousand metric tons	USD	U.S. dollars
LDPE	Low-density polyethylene	VAM	Vinyl acetate monomer

Selected Benchmark Market Prices and Margins

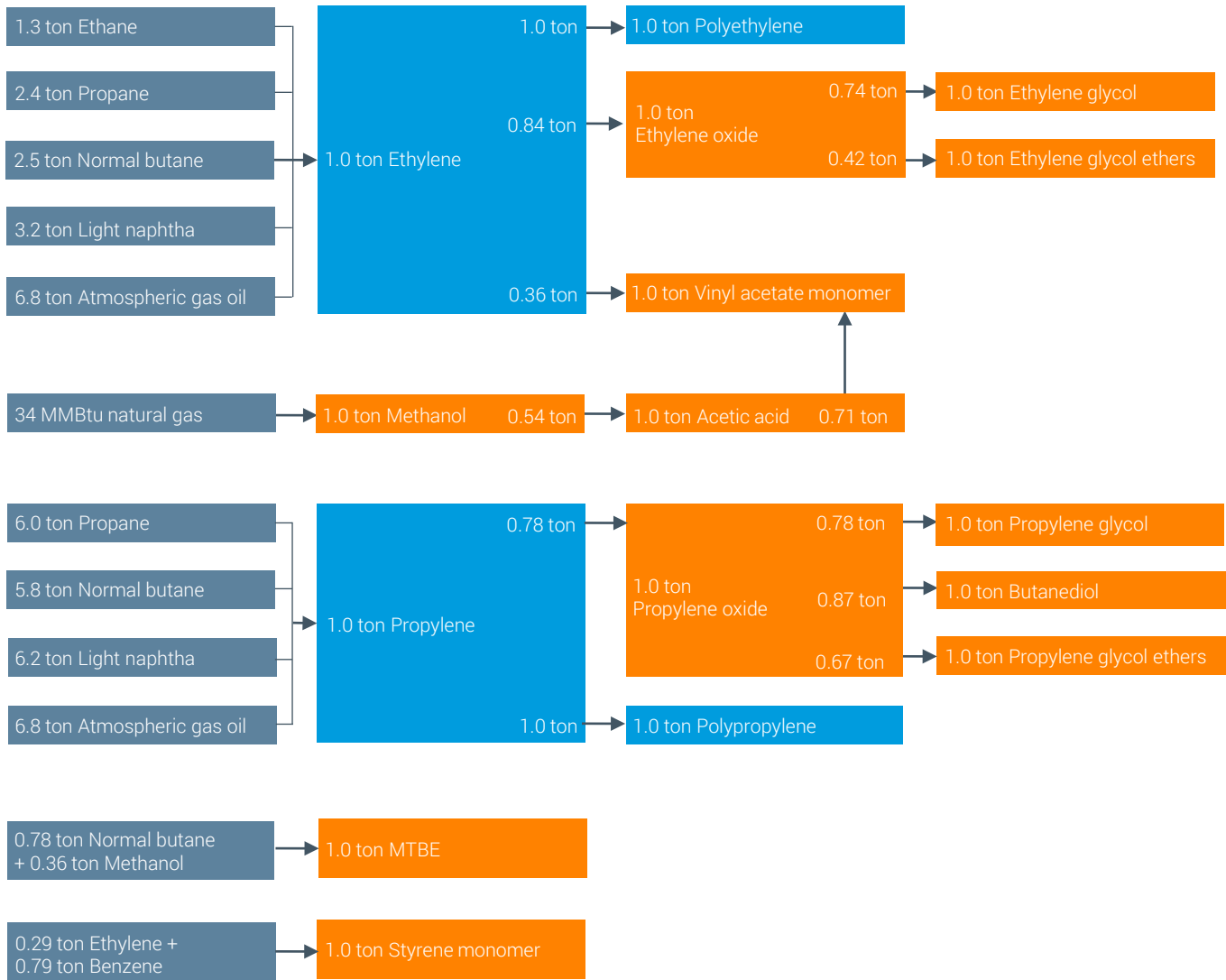
		2019	2020	2021
Olefins and Polyolefins—Americas				
Benchmark Market Prices				
West Texas Intermediate crude oil	USD/Bbl	57.02	39.54	67.97
Brent crude oil	USD/Bbl	64.18	43.21	70.79
Houston Ship Channel natural gas	USD/MMBTUs	2.46	1.99	3.61
U.S. weighted average COE production	USD/ton	273	258	344
U.S. ethylene	USD/ton	591	579	912
U.S. polyethylene [high density]	USD/ton	1,146	1,073	1,863
U.S. propylene	USD/ton	820	734	1,587
U.S. polypropylene [homopolymer]	USD/ton	1,291	1,122	2,568
Olefins and Polyolefins—Europe, Asia, International				
Benchmark Market Prices				
Western Europe weighted average COE production	EUR/ton	492	342	537
Western Europe ethylene	EUR/ton	1,007	797	1,098
Western Europe polyethylene [high density]	EUR/ton	1,135	995	1,457
Western Europe propylene	EUR/ton	915	726	1,082
Western Europe polypropylene [homopolymer]	EUR/ton	1,203	1,022	1,632
Intermediates and Derivatives				
Benchmark Market Margin				
MTBE - Northwest Europe	USD/ton	266	84	100
Refining				
Benchmark Market Margins				
Brent - 2-1-1	USD/Bbl	10.94	5.74	14.39
Brent - Maya differential	USD/Bbl	6.58	6.89	6.48

Sources: IHS Markit, Bloomberg and Platts. Note: Benchmark market prices for U.S. and Western Europe polyethylene and polypropylene reflect discounted prices.

Conversion Factors

General Conversions				
	1	metric ton	2,205	pound
	1	barrel	42	gallon
Product Density				
Benzene	7.4	lb / gallon	883	kg / cubic meter
Ethane	3.0	lb / gallon	355	kg / cubic meter
Ethanol	6.6	lb / gallon	791	kg / cubic meter
Gas oil	7.2	lb / gallon	857	kg / cubic meter
Methanol	6.6	lb / gallon	794	kg / cubic meter
MTBE/ETBE	6.2	lb / gallon	745	kg / cubic meter
Naphtha (light)	5.6	lb / gallon	665	kg / cubic meter
Normal butane	4.9	lb / gallon	585	kg / cubic meter
Propane	4.2	lb / gallon	508	kg / cubic meter

Major Product Yield Factors



■ Olefins & Polyolefins

■ Intermediates & Derivatives

Non-GAAP Reconciliation

Reconciliation of Net Income to EBITDA, including and excluding LCM and impairment

<u>Millions of dollars</u>	Year Ended December 31,				
	2017	2018	2019	2020	2021
Net income	\$ 4,877	\$ 4,690	\$ 3,397	\$ 1,427	\$ 5,617
Loss from discontinued operations, net of tax	18	8	7	2	6
Income from continuing operations	4,895	4,698	3,404	1,429	5,623
Provision for (benefit from) income taxes	598	613	648	(43)	1,163
Depreciation and amortization	1,174	1,241	1,312	1,385	1,393
Interest expense, net	467	315	328	514	510
add: LCM charges, pre-tax	—	—	33	16	—
add: Impairments, pre-tax	—	—	—	582	624
EBITDA excluding LCM and impairment	7,134	6,867	5,725	3,883	9,313
less: LCM charges, pre-tax	—	—	(33)	(16)	—
less: Impairments, pre-tax	—	—	—	(582)	(624)
EBITDA	<u>\$ 7,134</u>	<u>\$ 6,867</u>	<u>\$ 5,692</u>	<u>\$ 3,285</u>	<u>\$ 8,689</u>

Cash Conversion

<u>Millions of dollars</u>	Year Ended December 31,				
	2017	2018	2019	2020	2021
Net cash provided by operating activities	\$ 5,206	\$ 5,471	\$ 4,961	\$ 3,404	\$ 7,695
Divided by:					
EBITDA excluding LCM and impairment ^(a)	\$ 7,134	\$ 6,867	\$ 5,725	\$ 3,883	\$ 9,313
Cash conversion ^(b)	<u>73%</u>	<u>80%</u>	<u>87%</u>	<u>88%</u>	<u>83%</u>

(a) See table above for reconciliation of net Income to EBITDA, including and excluding LCM and impairment.

(b) Cash conversion is the ratio of net cash provided by operating activities to EBITDA excluding LCM and impairment.

Non-GAAP Reconciliation

Free Cash Flow

	<u>Year Ended</u> <u>December 31,</u> <u>2021</u>
Millions of dollars	
Net cash provided by operating activities	\$ 7,695
Less:	
Capital expenditures	<u>1,959</u>
Free cash flow	<u>\$ 5,736</u>

Dividend Yield

	<u>Year Ended</u> <u>December 31,</u> <u>2021</u>
Dividend yield:	
Dividend per ordinary share	\$ 4.44
Closing share price, end of period	<u>92.23</u>
Dividend yield	<u>4.8%</u>

lyondellbasell

Advancing Possible

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United Kingdom
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ROTTERDAM

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Netherlands
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HOUSTON

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Ste 300
Houston, TX 77010
Tel: +1 713 309 7200

HONG KONG

32/F, Dorset House
Taikoo Place
979 King's Road
Quarry Bay, Hong Kong
China
Tel: +852 2577 3855



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