



Fourth Quarter 2022

February 28, 2023—11 am ET

Legal Discussion



Continuing Operations

Financial results are presented on a continuing operations basis, which excludes the Performance Materials business and Performance Chemicals business unless otherwise indicated.

Forward-Looking Statements

Some of the information contained in this presentation, the conference call during which this presentation is reviewed and any discussions that follow constitutes “forward-looking statements.” Forward-looking statements can be identified by words such as “anticipates,” “intends,” “plans,” “seeks,” “believes,” “estimates,” “expects,” “projects” and similar references to future periods. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Examples of forward looking statements include, but are not limited to, our future results of operations, financial condition, liquidity, prospects, growth, strategies, capital allocation programs (including our share repurchase program), product and service offerings, expected end use demand trends and financial 2023 outlook. Our actual results may differ materially from those contemplated by the forward-looking statements. We caution you, therefore, against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, regional, national or global political, economic, business, competitive, market and regulatory conditions, including tariffs and trade disputes, currency exchange rates, effects of inflation, and other factors, including those described in the sections titled “Risk Factors” and “Management’s Discussion & Analysis of Financial Condition and Results of Operations” in our filings with the SEC, which are available on the SEC’s website at www.sec.gov. Any forward-looking statement made by us in this presentation, the conference call during which this presentation is reviewed and any discussions that follow speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by applicable law.

Non-GAAP Financial Measures

This presentation includes certain non-GAAP financial measures, including adjusted EBITDA, adjusted EBITDA margin, adjusted free cash flow, net debt leverage ratio and cash conversion, which are provided to assist in an understanding of our business and its performance. These non-GAAP financial measures should be considered only as supplemental to, and not as superior to, financial measures prepared in accordance with GAAP. Non-GAAP financial measures should be read only in conjunction with consolidated financials prepared in accordance with GAAP. Reconciliations of non-GAAP measures to the relevant GAAP measures are provided in the appendix of this presentation. In reliance upon the unreasonable efforts exemption provided under Item 10(e)(1)(i)(B) of Regulation S-K, the Company is not able to provide a reconciliation of the Company’s non-GAAP financial guidance to the corresponding GAAP measures without unreasonable effort because of the inherent difficulty in forecasting and quantifying certain amounts necessary for such a reconciliation such as certain non-cash, nonrecurring or other items that are included in net income and EBITDA as well as the related tax impacts of these items and asset dispositions / acquisitions and changes in foreign currency exchange rates that are included in cash flow, due to the uncertainty and variability of the nature and amount of these future charges and costs. Because this information is uncertain, the Company is unable to address the probable significance of the unavailable information, which could be material to future results.

Legal Discussion Continued





Supply Share and Industry Information

Certain statistical information used in this presentation is based on independent industry publications, reports by research firms or other published independent sources. Some statistical information is also based on our good faith estimates which are derived from management's knowledge of our industry and such independent sources referred to above. Certain supply share statistics, ranking and industry information included in this presentation, including the size of certain markets and our estimated supply share position and the supply share positions of our competitors, are based on management estimates. These estimates have been derived from our management's knowledge and experience in the industry and end uses into which we sell our products, as well as information obtained from surveys, reports by research firms, our customers, distributors, suppliers trade and business organizations and other contacts in the industries into which we sell our products. We believe these data to be accurate as of the date of this presentation. However, this information may prove to be inaccurate because this information cannot always be verified with complete certainty due to the limitations on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. Unless otherwise noted, all of our supply share position and industry information presented in this presentation herein is an approximation based on management's knowledge and is based on our, or, in the case supply share position information excludes volume attributable to manufacturers who produce primarily for their own consumption. In addition, references to various end uses into which we sell our products are based on how we define the end uses for our products.

Zeolyst Joint Venture

Zeolyst International and Zeolyst C.V. (our 50% owned joint ventures that we refer to collectively as the "Zeolyst Joint Venture"), are accounted for as an equity method investment in accordance with GAAP. The presentation of the Zeolyst Joint Venture's sales in this presentation represents 50% of the sales of the Zeolyst Joint Venture. We do not record sales by the Zeolyst Joint Venture as revenue and such sales are not consolidated within our results of operations. However, our adjusted EBITDA reflects our share of the earnings of the Zeolyst Joint Venture that have been recorded as equity in net income from affiliated companies in our consolidated statements of income for such periods and includes Zeolyst Joint Venture adjustments on a proportionate basis based on our 50% ownership interest. Accordingly, our adjusted EBITDA margins are calculated including 50% of the sales of the Zeolyst Joint Venture for the relevant periods in the denominator.

Key Messages

-  **1 Strong Q4 2022 results with Sales and Adjusted EBITDA Growth of 8%^{1,2} and 9%^{1,2,3}, respectively**
-  **2 Adjusted EBITDA for FY 2022 exceeded upper end of our raised \$265 - \$275 million guidance range**
-  **3 Successful execution of Secondary Offering of stock, reducing a Private Equity ownership below 10%**
-  **4 Net Debt Leverage Ratio³ of 2.8x, with strong cash generation supporting \$137 million of cash deployed in share repurchase activity in 2022**
-  **5 Achieved a Gold sustainability rating from EcoVadis, placing Ecovyst in the 97th percentile of companies rated in our peer group**

1. Sales change percentage includes proportionate 50% share of sales from Zeolyst Joint Venture, although such sales are not consolidated with our results of operations. Adjusted EBITDA percentage change includes proportionate 50% share of sales from the Zeolyst Joint Venture

2. Percentage growth is compared to Q4 2021

3. See Appendix for Reconciliations of non-GAAP measures

Key Highlights

Q4 2022 Key Highlights

8%

Sales Growth
vs. Q4 2021¹

9%

Adj. EBITDA Growth
vs. Q4 2021^{1,2}

79%

Cash
Conversion^{2,3,4}

2.8x

Net Debt Leverage
Ratio^{2,5}

#1 or #2

Supply Share Position

\$171 Mln

Liquidity⁶



1. Sales change percentage includes proportionate 50% share of sales from Zeolyst Joint Venture, although such sales are not consolidated with our results of operations. Adjusted EBITDA percentage change includes proportionate 50% share of sales from the Zeolyst Joint Venture

2. See Appendix for Reconciliations of non-GAAP measures.

3. Cash Conversion = Adjusted EBITDA - Capex as a % of Adjusted EBITDA

4. Cash Conversion is calculated on a TTM basis

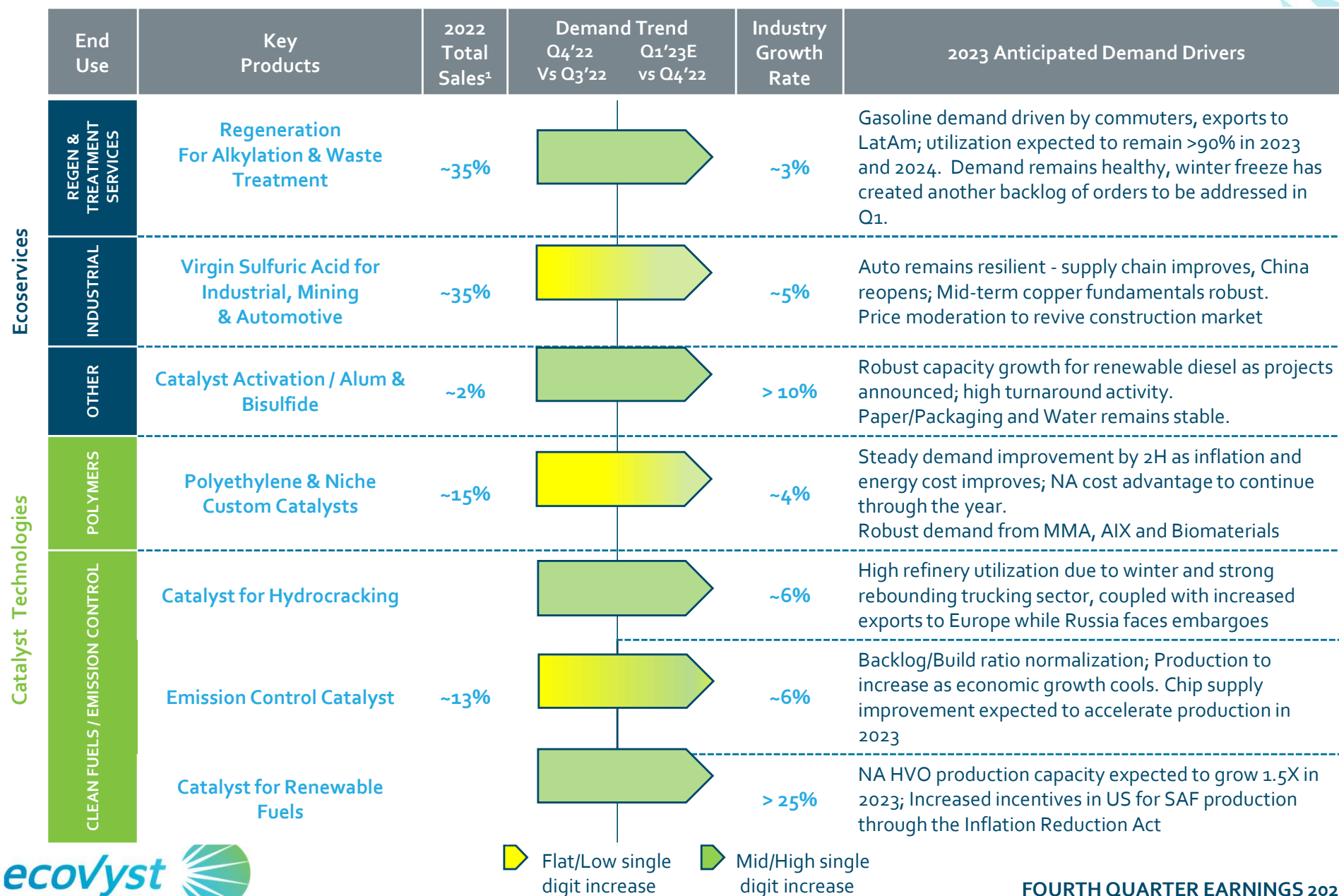
5. Net Debt Leverage Ratio = (Total debt – Cash and cash equivalents) / Adjusted EBITDA

6. Liquidity = \$111 of Cash and Cash equivalents + Availability on revolving ABL facility of \$60 million

Ecovyst Reporting Segments

	Ecoservices				Catalyst Technologies	
2022 Sales	\$703 Million				\$250 Million ²	
2022 Adjusted EBITDA ¹	\$228 Million				\$78 Million	
	Regeneration Services	Virgin Sulfuric Acid	Treatment Services	Catalyst Activation	Silica Catalysts (100% Ownership)	Zeolyst International (50% Ownership) ³
						
Applications	<ul style="list-style-type: none"> • Regeneration services for refinery alkylation • Chemical spent acid regeneration 	<ul style="list-style-type: none"> • Oleum (nylon production) • High strength for mining minerals and metals production • Electrolyte grades (for water treatment, semiconductors, lead acid batteries) 	<ul style="list-style-type: none"> • Hazardous and non-hazardous waste • Beneficial reuse of energy in waste 	Ex-situ activation of catalysts for: <ul style="list-style-type: none"> • Hydro-processing • Renewable fuel production 	<ul style="list-style-type: none"> • HDPE and LLDPE production • Polyethylene anti-blocking agents (films) • Renewable materials • Metal recovery 	<ul style="list-style-type: none"> • Hydrocracking of traditional fuels • Production of renewable fuels • Emission control technologies • Processes for plastic recycling
Expected Growth Drivers	<ul style="list-style-type: none"> • Favorable alkylate demand for high octane fuels • High industry utilization 	<ul style="list-style-type: none"> • Electrification and growing needs for industrial applications (mining, nylon) 	<ul style="list-style-type: none"> • Debottlenecking providing for further growth opportunities 	<ul style="list-style-type: none"> • Growing demand for ex-situ activation in both traditional and renewable fuels 	<ul style="list-style-type: none"> • Strengthening & light weighting of materials • Recycling of materials 	<ul style="list-style-type: none"> • Growing demand for renewable fuels • Increasing regulation driving reduction in emissions

Key Industry trends remain favorable for anticipated growth in 2023 despite volatile macro economics and recessionary concerns



Well Positioned for Future Growth - Meeting Industry Needs for Sustainable Technologies

Ecoservices

- Largest North American recycler of spent sulfuric acid, avoiding 1.5 million tons per year of landfill or deep well disposal.
- One of the largest consumers of refinery spent sulfur, converting for other uses
- Converts by-product steam into 17MW/h of electricity used internally, with excess exported to grid
- Low SO₂ emissions

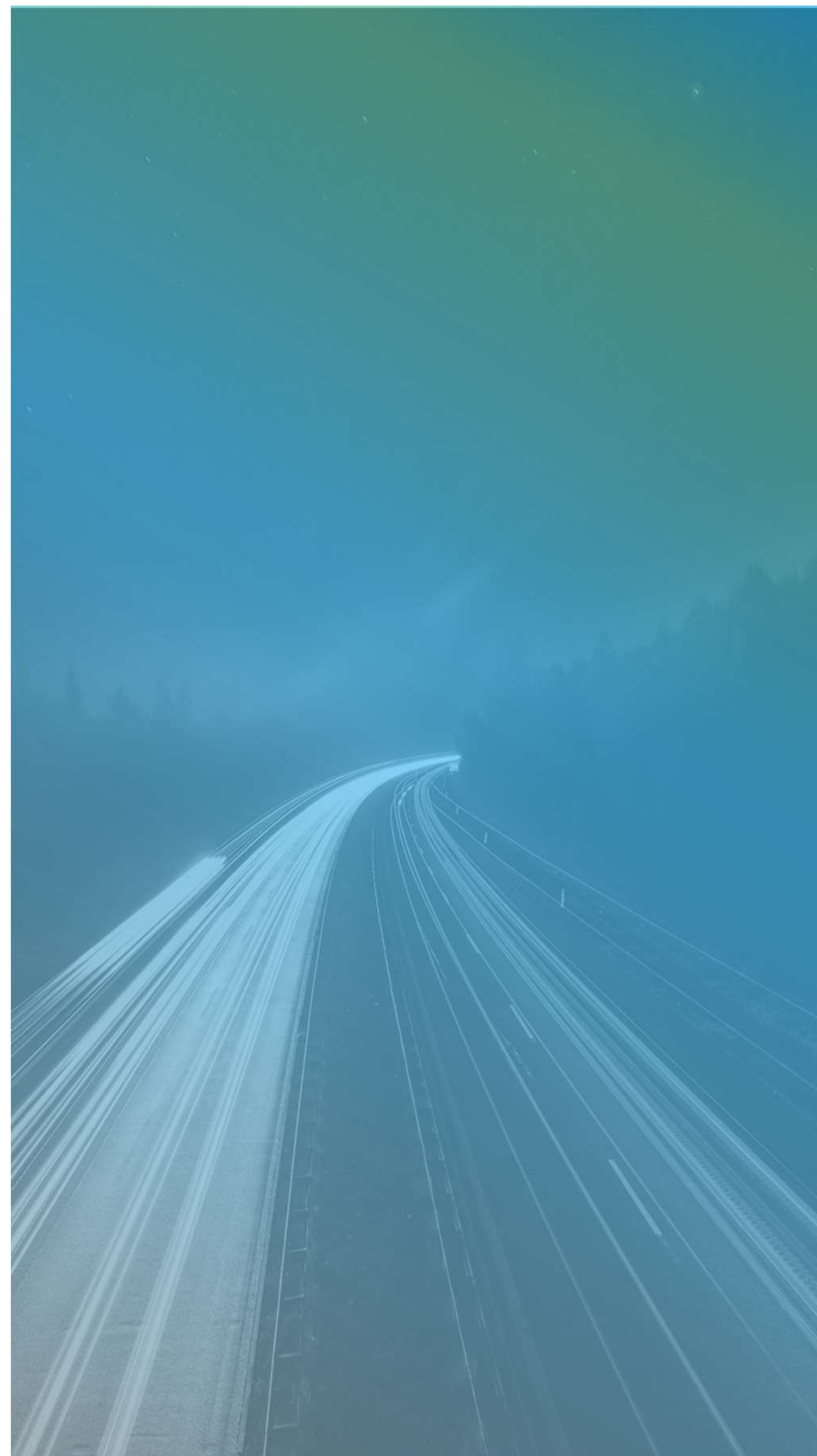
Catalyst Technologies

Leading provider of:

- Technologies to remove sulfur from diesel fuel for land and marine transportation
- Active components for > 90% reduction of NO_x emissions from diesel engines
- Catalyst technologies supporting growth of renewable fuels
- Technologies to support chemical recycling of polyethylene



Fourth Quarter 2022 Financial Performance



Financial Performance – Fourth Quarter and Full Year 2022

Fourth Quarter Financial Results

(\$ in millions)	Fourth Quarter 2022	Fourth Quarter 2021	\$ Change	% Change
Ecovyst Sales	182.8	170.2	12.6	7.4
Zeolyst JV Sales	39.9	36.3	3.6	9.9
Net Income	21.5	7.8	13.7	175.6
Net Income Margin (%)	11.8	4.6		720 bps
Adjusted EBITDA ¹	69.2	63.2	6.0	9.4
Adjusted EBITDA Margin ^{1,2} (%)	31.1	30.6		50 bps

(\$ in millions)	\$ Change	% Change
Sales Change Factors ³		
Volume	(17.6)	(10.3)
Price (ex sulfur pass-through)	33.4	19.6
Price impact of sulfur pass-through	(2.3)	(1.4)
Currency	(1.0)	(0.6)

Full Year Financial Results


(\$ in millions)	Full Year 2022	Full Year 2021	\$ Change	% Change
Ecovyst Sales	820.2	611.2	209.0	34.2
Zeolyst JV Sales	132.6	131.3	1.3	1.0
Net Income	69.8	1.8	68.0	NM
Net Income Margin (%)	8.5	.03		NM
Adjusted EBITDA ¹	276.8	227.6	49.2	21.6
Adjusted EBITDA Margin ^{1,2} (%)	29.0	30.7		(170) bps

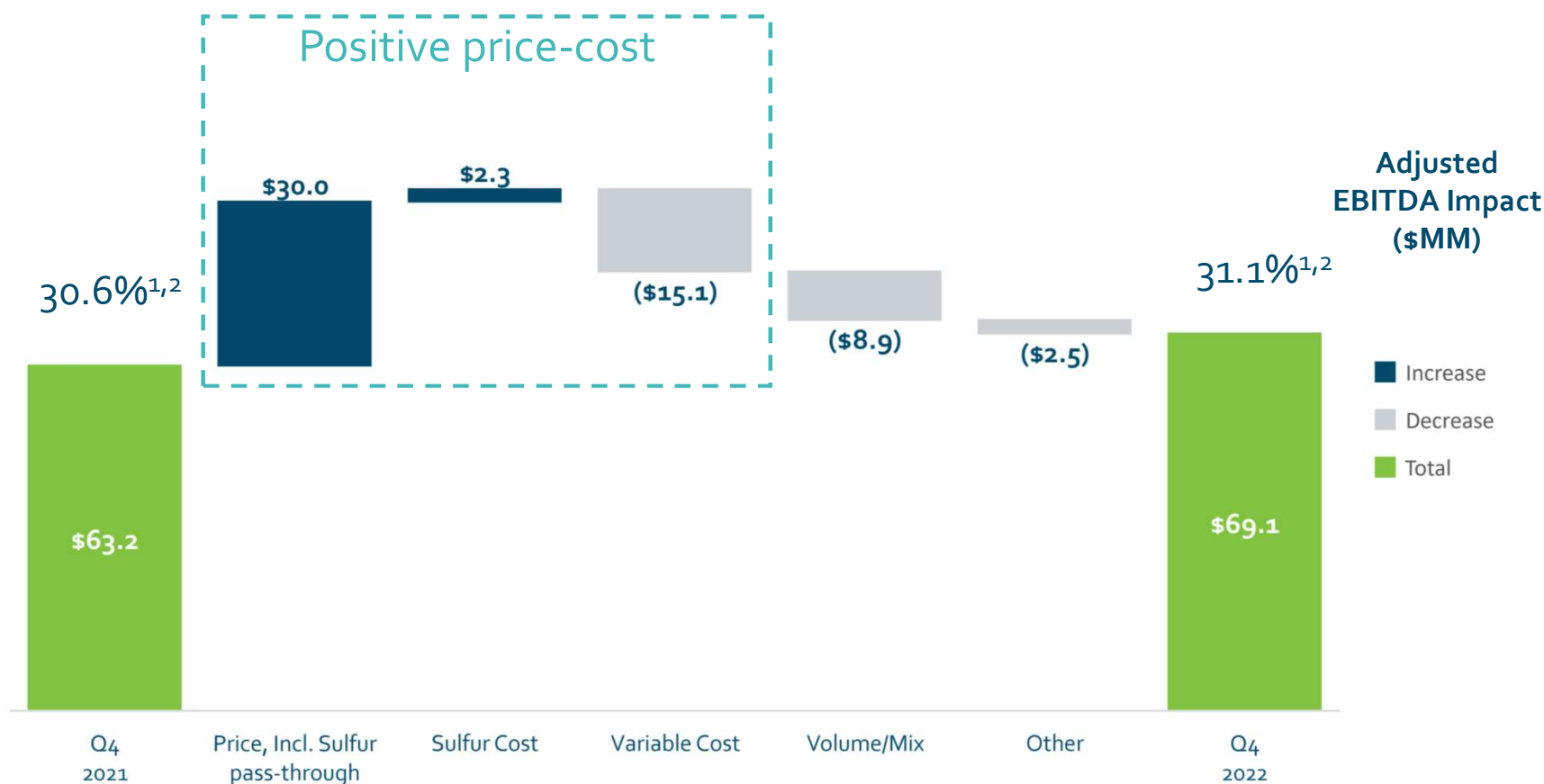
(\$ in millions)	\$ Change	% Change
Sales Change Factors ³		
Volume	30.7	5.0
Price (ex sulfur pass-through)	98.2	16.1
Price impact of sulfur pass-through	84.8	13.9
Currency	(4.7)	(0.8)



1. See Appendix for Reconciliations of non-GAAP measures.
2. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from the Zeolyst Joint Venture
3. Sales Change Factors exclude the Zeolyst Joint Venture

Adjusted EBITDA Bridge – Q4 2022


 Ecoservices unit margins expanded on higher pricing.
 Catalyst Technologies margins pressured by higher variable costs associated with inflationary pressures



Ecoservices – Q4 2022 Financial Performance

(\$ in millions)	Fourth Quarter 2022	Fourth Quarter 2021	\$ Change	% Change
Ecoservices Sales	159.8	142.0	17.8	12.5
Adjusted EBITDA ¹	54.4	52.3	2.0	3.9
Adjusted EBITDA Margin ¹ (%)	34.0	36.8		

Ecoservices Highlights

- Fourth quarter sales reflect higher pricing, including indexed pass-through of variable costs, and higher volume for regeneration services
 - Lower sales volume for virgin sulfuric acid due to planned customer maintenance, the impact of Winter Storm Elliott and lower spot sales
- Adjusted EBITDA up 4% reflecting the effect of the higher sales, partially offset by higher fixed costs, including \$3 million of higher turnaround costs
- Lower Adjusted EBITDA margin of 34% reflects the impact of higher turnaround costs

Catalyst Technologies – Q4 2022 Financial Performance

(\$ in millions)	Fourth Quarter 2022	Fourth Quarter 2021	\$ Change	% Change
Silica Catalysts Sales	23.0	28.2	(5.2)	(18.4)
Zeolyst JV Sales	39.9	36.3	3.6	9.9
Adjusted EBITDA ¹	20.3	23.4	(3.1)	(13.2)
Adjusted EBITDA Margin ^{1,2} (%)	32.3	36.3		

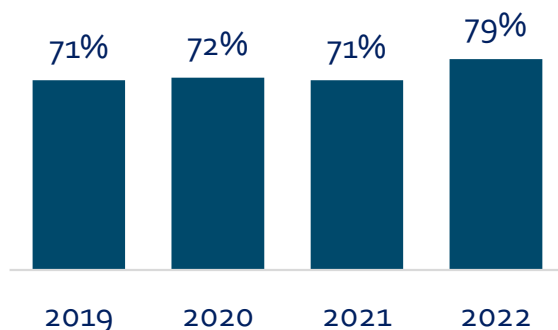
Catalyst Technologies Highlights

- Strong sales growth within the ZI joint venture, driven by higher sales of renewable fuel catalysts
- Silica catalysts sales lower on less-favorable customer and product mix of polyethylene catalysts and negative foreign exchange impact
- The decrease in Adjusted EBITDA and associated margin was primarily driven by the lower sales of polyethylene catalysts and higher costs associated with increased energy costs and other inflationary pressures, partially offset by higher volume in the ZI joint venture

Cash, Leverage & Liquidity

Strong Cash Conversion Provides for Capital Allocation Flexibility and Improving Leverage Profile

Cash Conversion¹



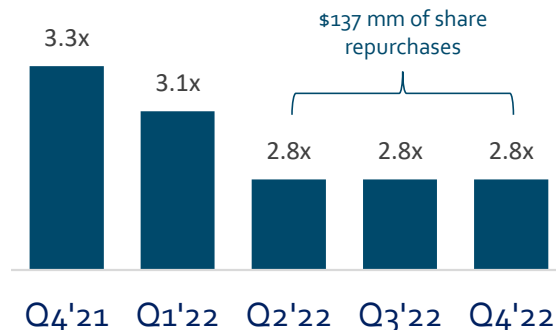
Cash Generation

- Historically modest capital spending
- Continued improvement in conversion ratio with growth in Adjusted EBITDA

Share repurchase authorization

- \$450 million / 4 years
- Returned capital to shareholders via \$137 million of share repurchases in 2022

Net Debt Leverage Ratio²

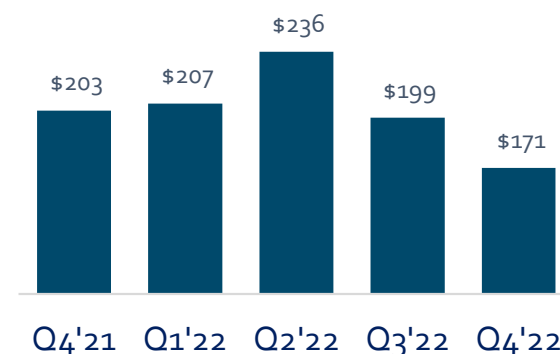


Leverage Ratio and Debt Profile

- Robust cash generation capability has provided for annual reduction in leverage
- No significant debt maturities until 2028
- No maintenance covenants on leverage
- Interest caps limit rate exposure

(\$ millions)

Liquidity³



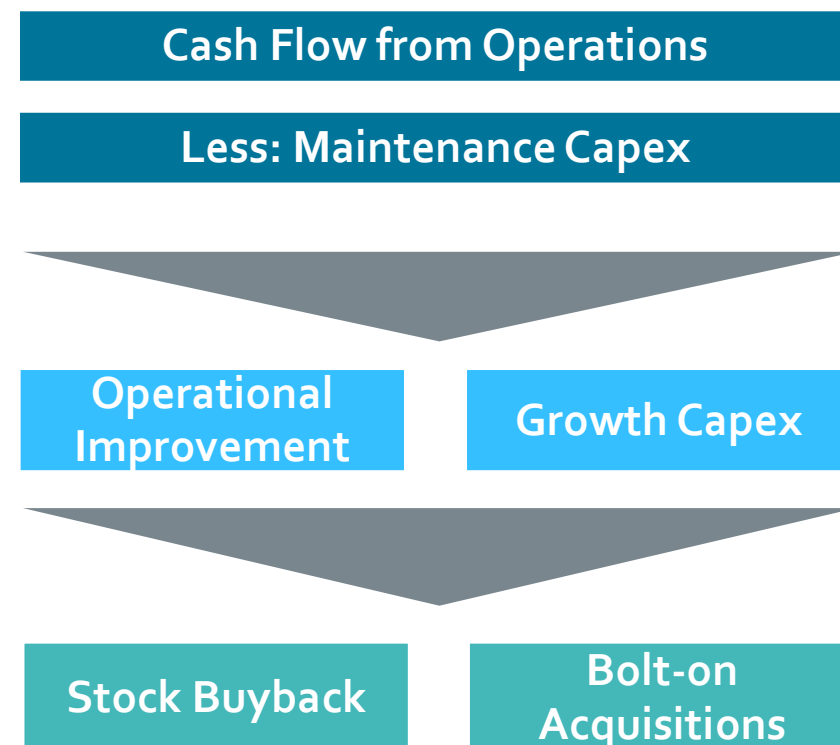
Liquidity

- At 12/31/2022, Liquidity of \$171 million was comprised of cash and cash equivalents of \$111 million and availability under the Revolving ABL facility of \$60 million
- Liquidity can support capital allocation strategy including potential organic growth initiatives, additional bolt-on acquisitions, and in conjunction with strong cash generation capability, the share repurchase authorization

Balanced Capital Allocation Strategy to Support Growth Initiatives and Drive Shareholder Return

Strong free cash flow generation provides financial flexibility and supports a balanced capital allocation strategy focused on:

- Operational improvements & organic growth initiatives
- Accretive bolt-on opportunities
- Share repurchase program
 - For full-year 2022, repurchased 1,970,763 shares via open market purchases at an average price of \$9.82 per share, and repurchased 14,500,000 shares in conjunction with secondary offerings at an average price of \$8.09 per share



Ecovyst 2023 Outlook

Ecovyst		
(\$ in millions, except per share)	2022 Actual	2023 Outlook
Sales ¹	\$820	\$760 - \$790
Zeolyst JV Sales	\$133	\$145 - \$155
Adjusted EBITDA ²	\$277	\$285 - \$300
Adjusted Free Cash Flow ²	\$146	\$115 - \$130
Capital Expenditures	\$56	\$60 - \$70
Interest Expense	\$37	\$45 - \$50
Depreciation & Amortization		
Ecovyst	\$79	\$80 - \$90
Zeolyst JV	\$16	\$14 - \$16

Adjusted EBITDA Growth of 6%
In 2023 from 2022
Assuming midpoint of guidance

- Sales decrease reflects the pass-through of lower average sulfur prices of approximately \$95 million

1. GAAP sales only; Excludes proportionate 50% share of the Zeolyst Joint Venture sales
2. See Appendix for Reconciliations of non-GAAP measures

Summary



- | | | |
|---|--|--|
| 1 | Stable business performance and margin resilience provided for robust Adjusted EBITDA growth in 2022 despite inflationary pressures and challenging global market fundamentals | |
| 2 | Strong cash generation capability provided for net debt leverage ratio reduction while supporting significant share repurchase activity | |
| 3 | Believe portfolio remains well-positioned to serve expanding needs for more sustainable technologies | |
| 4 | Anticipate positive demand fundamentals to continue in 2023 providing for incremental organic growth opportunities | |

APPENDIX

Annual Segment Sales, Adjusted EBITDA and Margins

(\$ in millions, except %)	Year Ended December 31,			
	2022	2021	2020	2019
Sales:				
Ecoservices	702.5	500.5	401.9	447.1
Silica Catalysts	117.7	110.7	94.0	85.7
Total sales	820.2	611.2	495.9	532.8
Zeolyst Joint Venture sales	132.6	131.3	128.6	170.3
Adjusted EBITDA¹:				
Ecoservices	227.8	177.7	157.2	175.6
Catalyst Technologies	78.0	88.0	74.5	107.8
Unallocated corporate expenses	(29.0)	(38.1)	(39.1)	(43.3)
Total Adjusted EBITDA	276.8	227.6	192.6	240.1
Adjusted EBITDA Margin¹:				
Ecoservices	32.4%	35.5%	39.1%	39.3%
Catalyst Technologies	31.2%	36.4%	33.5%	42.1%
Total Adjusted EBITDA Margin^{1,2}	29.0%	30.7%	30.8%	34.1%

1. See Appendix for Reconciliations of non-GAAP measures.

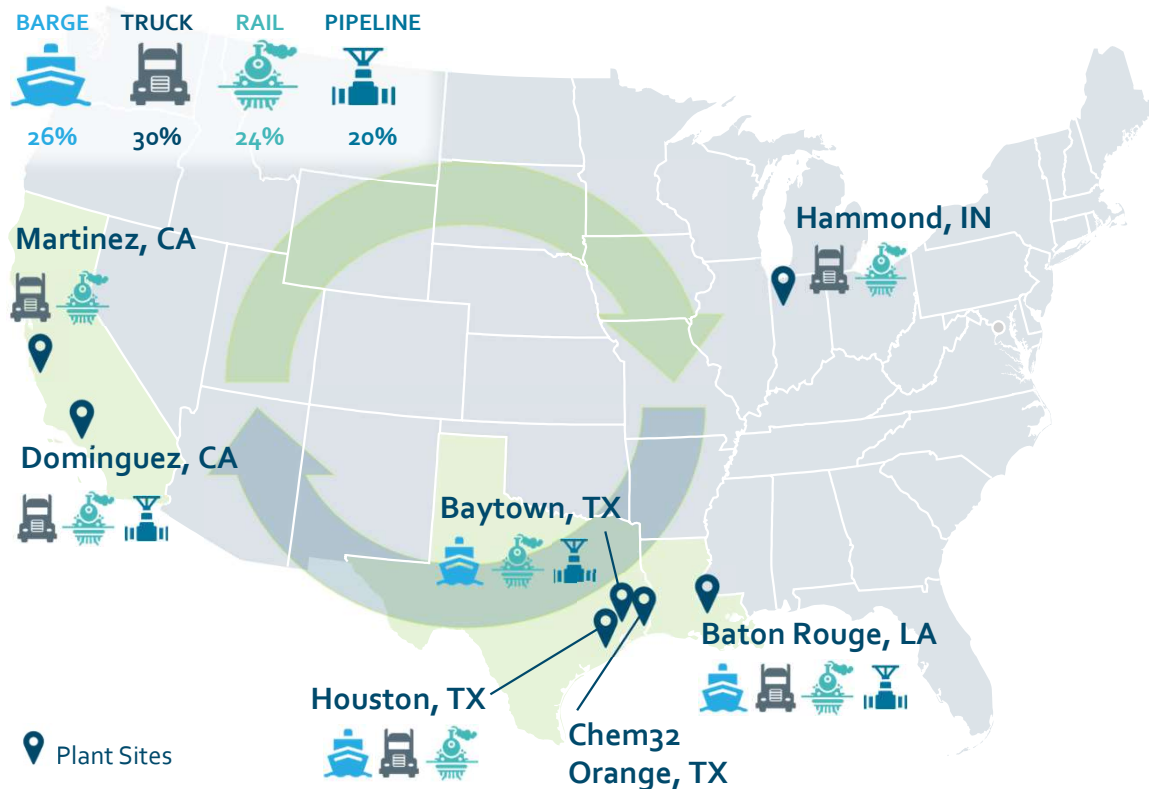
2. Totals include corporate costs

* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

Ecoservices: North American Leader in Sulfuric Acid Recycling and Related Services with Key Competitive Position in Gulf Coast and California

NEAR-TERM GROWTH FACTORS

- Existing customer re-contracting, and favorable alkylate fundamentals expected to drive growth for regeneration services
- Rising virgin acid consumption for electrification and green infrastructure enabling materials mining
- Increasing demand for sustainable waste solutions from industrials benefitting Treatment Services
- Accelerating off site Catalyst Activation demand from renewable fuels producers and traditional refineries



UNRIVALED SUPPLY INFRASTRUCTURE

- Managing end to end supply chain & customer inventories
- Production redundancy in key refining locations enables the highest degree of reliability

FAVORABLE CUSTOMER POSITIONS

- Long-term contracts with cost pass-through
- Typically, 100% of supply for customer sites
- Take-or-pay and capacity reservation fees

Catalyst Technologies: Global Leader in Tailored Catalyst Solutions

NEAR-TERM GROWTH FACTORS

- Preferred technology and increasing product offerings for strengthening & light weighting of materials projected to drive growth in polyethylene catalysts
- Growing demand for renewable fuels
- Increasing regulation driving reduction in vehicle emissions
- New product launches supporting the ongoing product development and collaboration with customers



FLEXIBLE MANUFACTURING NETWORK

- Improved manufacturing network efficiencies
- Continued debottlenecking production capacity for sold out product lines

FAVORABLE CUSTOMER POSITIONS

- Believe growing faster than market with existing polyethylene customers
- Strong growth in custom catalysts; diversified across multiple chemical processes
- Collaborating on multiple product development projects for new offerings in renewable fuels and materials and recycling of polymers

Quarterly Segment Sales, Adjusted EBITDA and Margins

(\$ in millions, except %)	Three Months Ended				Twelve Months Ended	Three Months Ended				Twelve Months Ended
	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022	December 31, 2022	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021	December 31, 2021
Sales:										
Ecoservices	154.0	193.0	195.7	159.8	702.5	100.2	120.8	137.5	142.0	500.5
Silica Catalysts	25.7	32.2	36.8	23.0	117.7	26.4	26.2	29.9	28.2	110.7
Total sales	179.7	225.2	232.5	182.8	820.2	126.6	147.0	167.4	170.2	611.2
Zeolyst Joint Venture sales	29.0	35.9	27.8	39.9	132.6	29.0	33.2	32.8	36.3	131.3
Adjusted EBITDA¹:										
Ecoservices	49.3	60.0	64.1	54.4	227.8	33.0	40.5	51.9	52.3	177.7
Catalyst Technologies	17.0	21.4	19.3	20.3	78.0	18.5	20.6	25.5	23.4	88.0
Unallocated corporate expenses	(7.1)	(8.5)	(8.0)	(5.5)	(29.0)	(9.2)	(8.4)	(8.0)	(12.5)	(38.1)
Total Adjusted EBITDA	59.2	72.9	75.4	69.2	276.8	42.3	52.7	69.4	63.2	227.6
Adjusted EBITDA Margin¹:										
Ecoservices	32.0%	31.1%	32.8%	34.0%	32.4%	32.9%	33.5%	37.7%	36.8%	35.5%
Catalyst Technologies	31.1%	31.4%	29.9%	32.3%	31.2%	33.4%	34.7%	40.7%	36.3%	36.4%
Total Adjusted EBITDA Margin^{1,2}	28.4%	27.9%	29.0%	31.1%	29.0%	27.2%	29.3%	34.7%	30.6%	30.7%



1. See Appendix for Reconciliations of non-GAAP measures.
2. Totals include corporate costs
- * Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

Sales and Adjusted EBITDA Major Change Factors

Sales

Sales (in \$ millions and %)	Three Months Ended December 31, 2022						Twelve Months Ended December 31, 2022					
	Ecovyst		Ecoservices		Silica Catalysts		Ecovyst		Ecoservices		Silica Catalysts	
Sales:	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Volume	(17.6)	(10.3)	(14.1)	(9.9)	(3.5)	(12.4)	30.7	5.0	23.6	4.7	7.1	6.4
Price/Mix	31.1	18.3	31.9	22.4	(0.8)	(2.8)	183.0	29.9	178.3	35.6	4.6	4.2
Currency	(1.0)	(0.6)	—	—	(1.0)	(3.4)	(4.7)	(0.8)	—	—	(4.7)	(4.2)
Sales Change	12.6	7.4	17.8	12.5	(5.2)	(18.4)	209.0	34.2	201.9	40.3	7.0	6.3

Adjusted EBITDA¹

Adj. EBITDA (in \$ millions and %)	Three Months Ended December 31, 2022						Twelve Months Ended December 31, 2022					
	Ecovyst		Ecoservices		Catalyst Technologies		Ecovyst		Ecoservices		Catalyst Technologies	
Adj EBITDA:	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Volume/Mix	(8.9)	(14.1)	(7.6)	(14.5)	(1.3)	(5.6)	17.8	7.8	14.0	7.9	3.7	4.3
Price	30.0	47.5	31.8	60.9	(1.8)	(7.7)	181.5	79.7	178.3	100.4	3.2	3.6
Variable Cost	(12.8)	(20.2)	(14.1)	(27.0)	1.3	5.6	(135.4)	(59.5)	(120.7)	(67.9)	(14.7)	(16.6)
Currency	(0.9)	(1.4)	—	—	(0.9)	(3.7)	(1.8)	(0.8)	—	—	(1.8)	(2.1)
Other	(1.7)	(2.7)	(8.1)	(15.5)	(0.5)	(2.1)	(13.0)	(5.7)	(21.6)	(12.1)	(0.5)	(0.6)
Adj EBITDA Change	5.8	9.1	2.0	3.9	(3.1)	(13.2)	49.1	21.6	50.1	28.2	(10.1)	(11.5)

1. See Appendix for Reconciliations of non-GAAP measures

* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

Reconciliation of Net Income (Loss) to Adjusted EBITDA

	Year Ended			
(\$ in millions)	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019
Reconciliation of net income (loss) from continuing operations to Adjusted EBITDA				
Net income (loss) from continuing operations	69.8	1.8	54.3	31.1
Provision (benefit) for income taxes	24.9	12.1	(52.1)	12.3
Interest expense, net	37.2	37.0	50.4	66.9
Depreciation and amortization	79.2	79.7	76.9	74.8
EBITDA	211.1	130.6	129.5	185.1
Joint venture depreciation, amortization and interest(a)	16.0	15.6	14.7	14.7
Amortization of investment in affiliate step-up(b)	6.4	6.5	6.6	7.5
Debt extinguishment costs	—	26.9	25.0	3.4
Net loss on asset disposals(c)	3.6	5.7	4.7	4.6
Foreign currency exchange losses (gains)(d)	1.4	4.7	(5.3)	1.2
LIFO expense (benefit)(e)	(0.2)	(1.9)	(5.3)	6.5
Transaction and other related costs(f)	7.0	2.0	1.1	0.2
Equity-based compensation	20.6	31.8	17.2	13.3
Restructuring, integration and business optimization expenses(g)	11.6	3.0	2.0	2.6
Defined benefit plan pension benefit(h)		(0.9)	(0.6)	0.6
Other(j)	(0.7)	3.6	3.0	0.4
Adjusted EBITDA	276.8	227.6	192.6	240.1

Reconciliation of Net Income (Loss) to Adjusted EBITDA



	Three Months Ended				Twelve Months Ended	Three Months Ended				Twelve Months Ended
(\$ in millions, except %)	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022	December 31, 2022	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021	December 31, 2021
Reconciliation of net income (loss) from continuing operations to Adjusted EBITDA										
Net income (loss) from continuing operations	7.9	19.2	21.3	21.5	69.8	(2.8)	(7.9)	4.7	7.8	1.8
Provision (benefit) for income taxes	5.7	7.3	9.0	2.9	24.9	(5.2)	7.7	2.6	7.0	12.1
Interest expense, net	8.5	8.9	9.5	10.3	37.2	10.5	8.7	9.0	8.8	37.0
Depreciation and amortization	19.5	19.7	19.6	20.4	79.2	19.5	20.0	20.6	19.6	79.7
EBITDA	41.6	55.1	59.4	55.1	211.1	22.0	28.5	36.9	43.2	130.6
Joint venture depreciation, amortization and interest(a)	4.1	4.0	3.9	4.0	16.0	3.6	3.7	4.1	4.2	15.6
Amortization of investment in affiliate step-up(b)	1.6	1.6	1.6	1.6	6.4	1.7	1.6	1.6	1.6	6.5
Debt extinguishment costs	—	—	—	—	—	—	11.7	15.2	—	26.9
Net loss on asset disposals(c)	0.1	0.6	0.5	2.4	3.6	0.8	1.6	2.2	1.2	5.7
Foreign currency exchange loss (gain)(d)	0.6	0.5	1.0	(0.8)	1.4	5.1	(1.2)	0.9	(0.1)	4.7
LIFO expense (benefit)(e)	0.2	0.2	(0.4)	(0.2)	(0.2)	(0.3)	(0.5)	(1.3)	0.1	(1.9)
Transaction and other related costs(f)	4.3	0.8	1.8	0.1	7.0	0.5	0.6	0.5	0.4	2.0
Equity-based compensation	7.3	5.4	4.7	3.2	20.6	6.3	6.3	10.2	9.0	31.8
Restructuring, integration and business optimization expenses(g)	0.4	4.7	1.3	5.2	11.6	2.3	0.1	0.1	0.6	3.9
Other(h)	(1.0)	—	1.6	(1.4)	(0.7)	0.3	0.3	(1.0)	3.0	1.8
Adjusted EBITDA¹	59.2	72.9	75.4	69.2	276.8	42.3	52.7	69.4	63.2	227.6
EBITDA Adjustments by Line Item										
EBITDA	41.6	55.1	59.4	55.1	211.2	22.0	28.5	36.9	43.2	130.6
Cost of goods sold	(0.6)	(0.6)	(1.2)	(0.9)	(3.3)	(0.3)	(0.5)	(1.8)	(0.8)	(3.4)
Selling, general and administrative expenses	7.5	5.4	4.7	3.2	20.8	6.3	6.3	10.2	9.0	31.8
Other operating expense, net	4.9	7.0	5.0	7.2	24.1	3.8	2.9	2.9	4.7	14.3
Equity in net (income) from affiliated companies	1.6	1.6	1.6	1.6	6.4	1.7	1.6	1.6	1.6	6.5
Other expense, net ⁽²⁾	0.1	0.4	2.0	(1.0)	1.6	5.2	10.2	15.5	1.3	32.2
Joint venture depreciation, amortization and interest (a)	4.1	4.0	3.9	4.0	16.0	3.6	3.7	4.1	4.2	15.6
Adjusted EBITDA	59.2	72.9	75.4	69.2	276.8	42.3	52.7	69.4	63.2	227.6

1. For additional information with respect to each adjustment, see Description of "Reconciliation of Non-GAAP Financial Measures"

2. Other expense (income), net includes debt extinguishment costs

* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

Descriptions for Reconciliation of Non-GAAP Financial Measures

- a) We use Adjusted EBITDA as a performance measure to evaluate our financial results. Because the Catalyst Technologies segment includes our 50% interest in the Zeolyst Joint Venture, we include an adjustment for our 50% proportionate share of depreciation, amortization and interest expense of the Zeolyst Joint Venture.
- b) Represents the amortization of the fair value adjustments associated with the equity affiliate investment in the Zeolyst Joint Venture as a result of the combination of the businesses of Ecovyst Inc. and Eco Services Operations LLC in May 2016. We determined the fair value of the equity affiliate investment and the fair value step-up was then attributed to the underlying assets of the Zeolyst Joint Venture. Amortization is primarily related to the fair value adjustments associated with fixed assets and intangible assets, including customer relationships and technical know-how.
- c) When asset disposals occur, we remove the impact of net gain/loss of the disposed asset because such impact primarily reflects the non-cash write-off of long-lived assets no longer in use.
- d) Reflects the exclusion of the foreign currency transaction gains and losses in the statements of income primarily related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.
- e) Represents non-cash adjustments to the Company's LIFO reserves for certain inventories in the U.S. that are valued using the LIFO method, which we believe provides a means of comparison to other companies that may not use the same basis of accounting for inventories.
- f) Relates to certain transaction costs, including debt financing, due diligence and other costs related to transactions that are completed, pending or abandoned, that we believe are not representative of our ongoing business operations.
- g) Includes the impact of restructuring, integration and business optimization expenses which are incremental costs that are not representative of our ongoing business operations.
- h) Other costs consist of adjustments for defined benefit pension plan (benefit) costs and certain expenses that are not core to our ongoing business operations, including environmental remediation-related costs, capital and franchise taxes. All of our defined benefit pension plan obligations are under defined benefit pension plans that are frozen. Included in this line-item are rounding discrepancies that may arise from rounding from dollars (in thousands) to dollars (in millions).

Adjusted Free Cash Flow

(\$ in millions)	Full Year 2021 ¹	Full Year 2022
Cash Flow from Operations before interest and tax	200.7	247.5
Less: Cash paid for taxes	11.8	25.5
Less: Cash paid for interest ²	59.0	35.4
Cash Flow from Operations	129.9	186.6
Less: Purchases of property, plant and equipment ³	91.0	58.9
Free Cash Flow	38.9	127.7
Plus: Proceeds from sale of assets	0.3	—
Plus: Net interest proceeds on currency swaps	2.3	—
Plus: Cash paid for costs related to segment disposals	46.0	18.1
Plus: Cash paid for debt financing costs included in cash from operating activities	5.7	—
Adjusted Free Cash Flow	93.2	145.8

1. Includes proportionate shares of cash generation from discontinued operations for the period presented. 2021 actual includes Performance Chemicals through transaction close date of August, 1, 2021
2. Excludes net interest proceeds on swaps designated as net investment hedges
3. Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst Joint Venture
- * Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

Cash Conversion, Liquidity, Leverage

Cash Conversion

(\$ in millions, except %)	2019	2020	2021	2022
Adjusted EBITDA	240.2	192.6	227.6	276.8
Less: Capex ¹	70.3	54.5	66.4	58.4
Cash Conversion	169.9	138.1	161.2	218.4
Cash Conversion %²	71%	72%	71%	79%

Liquidity

(\$ in millions)	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Cash and cash equivalents	140.9	129.7	151.2	121.4	110.9
Availability on revolving ABL facility	61.6	76.8	84.8	77.6	59.7
Liquidity³	202.5	206.5	236.0	199.0	170.6

Leverage Ratio

(\$ in millions, except ratio)	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Total debt	895.5	893.2	891.0	888.8	886.4
Less: Cash and cash equivalents	140.9	129.7	151.2	121.4	110.9
Net debt	754.6	763.5	739.8	767.4	775.5
Net income	1.8	12.4	39.5	56.2	69.8
Adjusted EBITDA	227.6	244.5	264.7	270.7	276.8
Net Debt to Net Income Ratio	419.2x	61.6x	18.7x	13.7x	11.1x
Net Debt Leverage Ratio	3.3x	3.1x	2.8x	2.8x	2.8x



1. Capex for cash conversion includes 50% of spend for Zeolyst joint venture
2. Cash Conversion % = (Adjusted EBITDA-Capex)/(Adjusted EBITDA)
3. Liquidity = Cash and cash equivalents + Availability on revolving ABL facility



Growing + Greening