

Ecovyst Reports Fourth Quarter 2022 Results

MALVERN, PA, February 28, 2023 -- Ecovyst Inc. (NYSE:ECVT) (“Ecovyst” or the “Company”), a leading integrated and innovative global provider of specialty catalysts and services, today reported results for the fourth quarter and full year ended December 31, 2022.

Full Year 2022 Results & Highlights

- Sales of \$820.2 million, up 34.2% year-over-year
- Net income of \$69.8 million, up \$68.0 million, year-over-year percentage change not meaningful, with a net income margin of 8.5%, with diluted earnings per share of \$0.52; Adjusted net income of \$113.2 million, with Adjusted diluted income per share of \$0.84
- Adjusted EBITDA of \$276.8 million, up 21.6% year-over-year, exceeding upwardly revised company guidance
- Full year net cash from operations of \$186.6 million, Adjusted Free Cash Flow of \$145.8 million, with net debt to net income ratio of 11.1x, and a net debt leverage ratio of 2.8x, compared to 3.3x at year-end 2021
- Full year share repurchases of approximately 16.5 million or \$136.7 million
- Achieved a Gold sustainability rating from EcoVadis, placing Ecovyst in the 97th percentile of companies rated in our peer group

Fourth Quarter 2022 Results & Highlights

- Sales of \$182.8 million, up 7.4% compared to the fourth quarter of 2021
- Net income of \$21.5 million, up 176% period-over-period, with a net income margin of 11.8%, with diluted earnings per share of \$0.17; Adjusted net income of \$31.8 million with Adjusted diluted income per share of \$0.25
- Adjusted EBITDA of \$69.2 million, up 9.4% period-over-period with an Adjusted EBITDA margin of 31.1%
- In connection with a secondary offering of our common stock, returned capital to shareholders by repurchasing 8,000,000 shares at an average price of \$7.88, for a total cost of \$63.0 million, reducing a private equity sponsor’s ownership below 10%

Ecovyst results reflect continuing operations for the Ecoservices and Catalyst Technologies businesses, renamed from Refining Services and Catalysts, respectively. Financial results are on a continuing operations basis, which excludes the Performance Materials and Performance Chemicals businesses due to the divestitures from all quarterly and year-to-date results presented, unless otherwise indicated.

Financial results and outlook include non-GAAP financial measures. These non-GAAP measures are more fully described and are reconciled from the respective measures determined under GAAP in “Presentation of Non-GAAP Financial Measures” and the attached appendix.

“The fourth quarter of 2022 was another quarter of solid financial performance for Ecovyst. Demand trends in the industries we serve remained positive, providing for a strong finish to the year. As a result, full-year 2022 Adjusted EBITDA for Ecovyst was up 22% compared to 2021, and above the high end of our guidance range,” said Kurt J. Bitting, Ecovyst’s Chief Executive Officer. “In addition to delivering on our financial goals, we had other notable achievements in 2022. Exceptional cash generation supported the significant reduction in our net debt leverage ratio to 2.8x and enabled increased shareholder value through \$136.7 million of share repurchases. We were also recognized with EcoVadis’ Gold Sustainability rating for our ongoing efforts to promote more sustainable business practices and a more sustainable future,” said Bitting. “We enter 2023 with positive business momentum, and we currently expect demand fundamentals to remain constructive. With our strong customer relationships, and as a key provider of products and services designed to support the growing demand for low-carbon, greener technologies, we believe Ecovyst remains well-positioned for growth in 2023.”

Fourth Quarter and Full Year 2022 Results

For the year, sales of \$820.2 million increased 34.2% year-over-year as a result of higher average selling prices (inclusive of a 13.9% sales increase, or \$85 million associated with the pass-through of higher sulfur cost) and higher volume for regeneration services and niche custom catalysts. Net income was \$69.8 million, an increase of \$68.0 million, year-over-year percentage change not meaningful, with diluted earnings per share of \$0.52. The increase in net income was driven by higher operating income and the absence of debt extinguishment costs in 2022, partially offset by higher provision for income taxes. Adjusted net income was \$113.2 million with Adjusted diluted earnings per share of \$0.84. Adjusted EBITDA was \$276.8 million, an increase of \$49.2 million or 22% over 2021, driven by higher pricing and higher sales volume that more than offset increases in variable costs.

Sales for the quarter ended December 31, 2022 were \$182.8 million, up 7.4% over the same period in 2021, primarily driven by higher average selling prices in Ecoservices. Net income was \$21.5 million, an increase of \$13.7 million or 176% over the same period in 2021, with diluted earnings per share of \$0.17. The increase in net income over the prior period was driven by higher operating income, additional equity in net income from affiliates and lower provision for income taxes. Adjusted net income was \$31.8 million with Adjusted diluted earnings per share of \$0.25. Adjusted EBITDA was \$69.2 million, an increase of \$6.0 million or 9.4% over the same period in 2021, driven by higher pricing and higher sales volume that more than offset increases in variable costs.

Review of Segment Results and Business Trends

The post-pandemic macroeconomic recovery drove improved demand across most product categories, end-uses and customers throughout 2022, resulting in positive demand fundamentals for the year. Inflationary pressures in 2022, including higher costs for energy, logistics and other raw materials, continued through the fourth quarter. While contractual pass-through mechanisms and targeted price increases have served to mitigate the adverse impacts of higher variable costs on our businesses, supply chain constraints, including limited availability and higher costs for transportation and logistics, primarily in our Catalyst Technologies business, had an adverse impact on margins and profitability. In response, we have continued our efforts to minimize the associated impacts on our businesses through enhanced coordination and planning with customers and suppliers using our strategic network.

Late in the fourth quarter of 2022, our Ecoservices business was adversely affected by Winter Storm Elliott. The storm disrupted operations at a number of our sites, impacting production and resulting in unplanned maintenance. While the storm had a modest impact on fourth quarter 2022 financial results, we expect the majority of the maintenance and repair costs incurred will be realized in the first quarter of 2023. In addition, we expect that the fourth quarter 2022 production outages will translate into lower availability and sales of virgin sulfuric acid in the first quarter of 2023.

Ecoservices

Our regeneration services support the production of alkylate, a high value gasoline component critical for meeting stringent gasoline standards and for producing premium grade gasoline. Tightening of gasoline standards and increased demand for higher-octane premium grade gasoline to power high compression, more fuel efficient engines has resulted in higher utilization for our customers' alkylation units. High U.S. refinery utilization continued through the fourth quarter of 2022 supporting our customers' production of alkylate and translating into robust demand for our regeneration services. Sulfuric acid is a widely used chemicals and it plays a key role in producing a wide array of materials, particularly those supporting green infrastructure. Our sales of virgin sulfuric acid in 2022 continued to benefit from healthy demand in the mining segment for metals and minerals that provide conductivity in low carbon technologies, as well as from strong demand in numerous industrial segments, including construction, auto, and packaging materials. Our catalyst activation services provide for ex-situ sulfiding and pre-activation for hydro-processing catalysts, with demand growing in both traditional and renewable fuel production. We believe sustainability trends will continue to favor our treatment services business as customers seek the sustainability-focused waste solutions offered by Ecoservices.

Fourth quarter 2022 sales for Ecoservices of \$159.8 million were up 12.5% compared to the year-ago quarter. The increase in sales reflects higher contract pricing on the pass-through of higher labor index, energy and freight costs and, higher volume for regeneration services, partially offset by lower virgin sulfuric acid volume on planned customer turnarounds and the impact from Winter Storm Elliott. Adjusted EBITDA of \$54.4 million increased 4.0% year-over-year, with higher average selling prices and higher regeneration volume more than offsetting increases in variable costs, including costs for energy and freight and higher turnaround costs.

For the year, sales of \$702.5 million increased 40.4% over 2021. Sales increased on higher contract pricing, including the pass-through of higher sulfur costs of approximately \$85 million, and higher volume for regeneration services. Adjusted EBITDA of \$227.8 million increased 28.2% year over year, largely due to strong regeneration services demand and favorable pricing that more than offset higher raw material, energy, and freight costs.

Catalyst Technologies

Our silica catalysts business supplies critical catalyst components for the production of high-density polyethylene, a high-strength and high-stiffness plastic used in bottles, containers, and molded applications and linear low-density polyethylene used predominately for films. Growth in demand for polyethylene films and packaging has continued to drive higher sales of polyethylene catalysts. We also supply specialty catalysts to customers for use in refining both traditional and renewable fuels, petrochemicals, and emission control systems for both on-road and non-road diesel engines. Demand for traditional fuels remained strong and demand for renewable fuels has increased. We also supply niche custom catalysts in the refining and petrochemical industries. We continue to expect growth in demand for catalysts used in each of these applications.

During the fourth quarter of 2022, Silica Catalysts sales were \$23.0 million, down \$5.2 million compared to the year-ago quarter, reflecting lower polyethylene catalyst sales from less favorable sales mix and an unfavorable impact from foreign exchange. Zeolyst JV sales of \$39.9 million increased 9.9% over the prior-year quarter, reflecting higher sales of catalysts into renewable fuel and hydrocracking applications, partially offset by lower sales into certain niche custom catalyst applications. Adjusted EBITDA, which includes the Zeolyst Joint Venture, was \$20.3 million down \$3.1 million compared to the year-ago quarter, with the decrease reflecting lower sales volumes and less-favorable mix, coupled with higher variable costs, primarily associated with inflationary pressures.

For the year, Silica Catalyst sales of \$117.7 million increased 6.3% over 2021, benefiting from higher sales of niche custom catalysts. Zeolyst JV sales of \$132.6 million increased slightly compared to the prior year. Strong demand for hydrocracking catalysts and niche custom catalysts were partially offset by lower sales into renewable fuel and emission control applications. Adjusted EBITDA of \$78.0 million was 11.4% lower than the prior year driven by less favorable sales mix and higher production costs that were not passed through in price to our customers. The higher production costs included increased energy, raw material and other inflationary costs, along with certain one-time freight costs incurred due to supply chain challenges.

Cash Flows and Balance Sheet

Cash flows from operating activities was \$186.6 million for the twelve months ended December 31, 2022, compared to \$129.9 million for the twelve months ended December 31, 2021. At December 31, 2022, the Company had cash and cash equivalents of \$110.9 million, total gross debt of \$886.5 million and availability under the ABL facility of \$59.7 million, after giving effect to \$4.0 million of outstanding letters of credit and no revolving credit facility borrowings, for total available liquidity of \$170.6 million. The net debt to net income ratio was 11.1x as of December 31, 2022 and the net debt leverage ratio was 2.8x as of December 31, 2022.

2023 Financial Outlook

Full year 2023 guidance is as follows:

- Sales of \$760 million to \$790 million¹
- Sales of \$145 million to \$155 million for proportionate 50% share of Zeolyst Joint Venture, which is excluded from GAAP Sales
- Adjusted EBITDA² of \$285 million to \$300 million, up 6% from 2022 at the mid-point of the range, and inclusive of impacts from Winter Storm Elliott
- Adjusted Free Cash Flow² of \$115 million to \$130 million
- Capital expenditures of \$60 million to \$70 million
- Interest expense of \$45 million to \$50 million
- Depreciation & Amortization
 - Ecovyst - \$80 million to \$90 million
 - Zeolyst J.V. - \$14 million to \$16 million

¹Sales outlook for 2023 assumes lower average sulfur prices, compared to 2022, and lower projected pass-through of sulfur costs of approximately \$95 million.

²In 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 its 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.

Stock Repurchase Authorization

In April 2022, the Company's Board of Directors approved a stock repurchase program authorizing the repurchase of up to \$450.0 million of the Company's outstanding common stock over the next four years. Repurchases under the program are expected to be funded using cash on hand and cash generated from operations. Ecovyst primarily expects to conduct the repurchase program through negotiated transactions with Ecovyst's equity sponsors, as well as through open market repurchases or other means, including through Rule 10b-18 trading plans or through the use of other techniques such as accelerated share repurchases.

During the second and third quarters of 2022, the Company repurchased 1,970,763 shares of its common stock on the open market at an average price of \$9.83 per share for a total cost of \$19.4 million.

In connection with a secondary offering of the Company's common stock in August 2022, the Company repurchased 6,500,000 shares of its common stock sold in the offering from the underwriters at a price of \$8.36 per share, for a total of \$54.3 million.

In connection with a secondary offering in November 2022, the Company repurchased 8,000,000 shares of its common stock sold in the offering from the underwriters at a price of \$7.88 per share, for a total of \$63.0 million.

For possible future repurchases, the actual timing, number, and nature of shares repurchased will depend on a variety of factors, including stock price, trading volume, and general business and market conditions. The repurchase program does not obligate the Company to acquire any number of shares in any specific period, or at all, and the repurchase program may be amended, suspended or discontinued at any time at the Company's discretion. As of December 31, 2022, \$313.3 million was available for additional share repurchases under the program.

Conference Call and Webcast Details

On Tuesday, February 28, 2023, Ecovyst management will review the fourth quarter results during a conference call and audio-only webcast scheduled for 11:00 a.m. Eastern Time.

Conference Call: Investors may listen to the conference call live via telephone by dialing **1 (800) 579-2543** (domestic) or **1 (203) 518-9708** (international) and using the participant code ECVTQ422.

Webcast: An audio-only live webcast of the conference call and presentation materials can be accessed at <https://investor.ecovyst.com>. A replay of the conference call/webcast will be made available at <https://investor.ecovyst.com/events-presentations>.

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About Ecovyst Inc.

Ecovyst Inc. and subsidiaries is a leading integrated and innovative global provider of specialty catalysts and services. We support customers globally through our strategically located network of manufacturing facilities. We believe that our products, which are predominantly inorganic, and services contribute to improving the sustainability of the environment.

We have two uniquely positioned specialty businesses: ***Ecoservices*** provides sulfuric acid recycling to the North American refining industry for the production of alkylate and provides on-purpose virgin sulfuric acid for water treatment, mining, and industrial applications; and ***Catalyst Technologies*** provides finished silica catalysts and catalyst supports necessary to produce high strength and high stiffness plastics and, through its Zeolyst joint venture, supplies zeolites used for catalysts that help produce renewable fuels, remove nitrogen oxides from diesel engine emissions as well as sulfur from fuels during the refining process. For more information, see our website at <https://www.ecovyst.com>.

Presentation of Non-GAAP Financial Measures

In addition to the results provided in accordance with U.S. generally accepted accounting principles (“GAAP”) throughout this press release, the Company has provided non-GAAP financial measures — Adjusted EBITDA, Adjusted EBITDA margin, Adjusted net income, Adjusted free cash flow, Adjusted diluted income per share, and Net Debt Leverage ratio (collectively, “Non-GAAP Financial Measures”) — which present results on a basis adjusted for certain items. The Company uses these Non-GAAP Financial Measures for business planning purposes and in measuring its performance relative to that of its competitors. The Company believes that these Non-GAAP Financial Measures are useful financial metrics to assess its operating performance from period-to-period by excluding certain items that the Company believes are not representative of its core business. These Non-GAAP Financial Measures are not intended to replace, and should not be considered superior to, the presentation of the Company’s financial results in accordance with GAAP. The use of the Non-GAAP Financial Measures terms may differ from similar measures reported by other companies and may not be comparable to other similarly titled measures. These Non-GAAP Financial Measures are reconciled from the respective measures under GAAP in the appendix below.

Zeolyst Joint Venture

The Company's zeolite catalysts product group operates through its Zeolyst Joint Venture, which is accounted for as an equity method investment in accordance with GAAP. The presentation of the Zeolyst Joint Venture's sales represents 50% of the sales of the Zeolyst Joint Venture. The Company does not record sales by the Zeolyst Joint Venture as revenue and such sales are not consolidated within the Company's results of operations. However, the Company's Adjusted EBITDA reflects the share of earnings of the Zeolyst Joint Venture that have been recorded as equity in net income from affiliated companies in the Company's consolidated statements of income for such periods and includes Zeolyst Joint Venture adjustments on a proportionate basis based on the Company's 50% ownership interest. Accordingly, the Company's Adjusted EBITDA margins are calculated including 50% of the sales of the Zeolyst Joint Venture for the relevant periods in the denominator.

Note on Forward-Looking Statements

Some of the information contained in this press release 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, statements regarding our future results of operations, financial condition, liquidity, prospects, growth, strategies, capital allocation program (including the stock repurchase program), product and service offerings, expected demand trends and our 2023 financial 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, the 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. These forward-looking statements speak only as of the date of this release. 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.

ECOVYST INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(in millions, except share and per share amounts)

	<u>Three months ended December 31,</u>		<u>%</u>	<u>Years ended December 31,</u>		<u>%</u>
	<u>2022</u>	<u>2021</u>	<u>Change</u>	<u>2022</u>	<u>2021</u>	<u>Change</u>
Sales	\$ 182.8	\$ 170.2	7.4 %	\$ 820.2	\$ 611.2	34.2 %
Cost of goods sold	133.3	115.7	15.2 %	595.5	434.5	37.1 %
Gross profit	49.5	54.5	(9.2)%	224.7	176.7	27.2 %
Selling, general and administrative expenses	17.5	29.0	(39.7)%	85.3	97.8	(12.8)%
Other operating expense, net	9.9	7.5	32.0 %	35.0	24.3	44.0 %
Operating income	22.1	18.0	22.8 %	104.4	54.6	91.2 %
Equity in net (income) from affiliated companies	(10.3)	(7.0)	47.1 %	(27.7)	(27.7)	— %
Interest expense, net	10.3	8.8	17.0 %	37.2	37.0	0.5 %
Debt extinguishment costs	—	—	— %	—	26.9	(100.0)%
Other (income) expense, net	(2.3)	1.4	(264.3)%	0.2	4.5	(95.6)%
Income before income taxes and noncontrolling interest	24.4	14.8	64.9 %	94.7	13.9	581.3 %
Provision for income taxes	2.9	7.0	(58.6)%	24.9	12.1	105.8 %
<i>Effective tax rate</i>	<i>11.9 %</i>	<i>47.3 %</i>	<i>(74.9)%</i>	<i>26.3 %</i>	<i>87.1 %</i>	
Net income from continuing operations	21.5	7.8	175.6 %	69.8	1.8	NM
Net income (loss) from discontinued operations, net of tax	3.9	17.7	(78.0)%	3.9	(141.4)	(102.8)%
Net income (loss)	25.4	25.5	— %	73.7	(139.6)	(152.8)%
Less: Net income attributable to the noncontrolling interest - discontinued operations	—	—	— %	—	0.3	(100.0)%
Net income (loss) attributable to Ecovyst Inc.	<u>\$ 25.4</u>	<u>\$ 25.5</u>	<u>(0.4)%</u>	<u>\$ 73.7</u>	<u>\$ (139.9)</u>	<u>(152.7)%</u>
Income from continuing operations attributable to Ecovyst Inc.	21.5	7.8		69.8	1.8	
Income (loss) from discontinued operations attributable to Ecovyst Inc.	3.9	17.7		3.9	(141.7)	
Net income (loss) attributable to Ecovyst Inc.	25.4	25.5		73.7	(139.9)	
Earnings per share:						
Basic income per share - continuing operations	\$ 0.17	\$ 0.06		\$ 0.52	\$ 0.01	
Diluted income per share - continuing operations	\$ 0.17	\$ 0.06		\$ 0.52	\$ 0.01	
Weighted average shares outstanding:						
Basic	125,962,111	136,256,601		133,601,322	136,167,384	
Diluted	127,538,343	137,528,028		135,088,172	137,708,931	

ECOVYST INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share amounts)

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
ASSETS		
Cash and cash equivalents	\$ 110.9	\$ 140.9
Accounts receivables, net	74.8	80.8
Inventories, net	44.4	53.8
Derivative assets	18.5	—
Prepaid and other current assets	19.1	16.2
Total current assets	267.7	291.7
Investments in affiliated companies	436.0	446.1
Property, plant and equipment, net	584.9	596.2
Goodwill	403.2	406.1
Other intangible assets, net	129.9	145.6
Right-of-use lease assets	28.3	30.1
Other long-term assets	34.6	15.4
Total assets	<u>\$ 1,884.6</u>	<u>\$ 1,931.2</u>
LIABILITIES		
Current maturities of long-term debt	\$ 9.0	\$ 9.0
Accounts payable	40.0	51.9
Operating lease liabilities—current	8.2	8.3
Accrued liabilities	72.2	75.9
Total current liabilities	129.4	145.1
Long-term debt, excluding current portion	865.9	872.8
Deferred income taxes	136.2	126.7
Operating lease liabilities—noncurrent	20.0	21.7
Other long-term liabilities	25.8	24.2
Total liabilities	1,177.3	1,190.5
Commitments and contingencies		
EQUITY		
Common stock (\$0.01 par); authorized shares 450,000,000; issued shares 139,571,272 and 137,820,971 on December 31, 2022 and 2021, respectively; outstanding shares 122,186,238 and 136,938,758 on December 31, 2022 and 2021, respectively	1.4	1.4
Preferred stock (\$0.01 par); authorized shares 50,000,000; no shares issued or outstanding on December 31, 2022 and 2021, respectively	—	—
Additional paid-in capital	1,091.5	1,073.4
Accumulated deficit	(242.0)	(315.7)
Treasury stock, at cost; shares 17,385,034 and 882,213 on December 31, 2022 and 2021, respectively	(149.6)	(12.6)
Accumulated other comprehensive loss	6.0	(5.8)
Total equity	707.3	740.7
Total liabilities and equity	<u>\$ 1,884.6</u>	<u>\$ 1,931.2</u>

ECOVYST INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years ended December 31,	
	2022	2021
	(in millions)	
Cash flows from operating activities:		
Net income (loss)	\$ 73.7	\$ (139.6)
Net (income) loss from discontinued operations	(3.9)	141.4
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation	65.1	66.0
Amortization	14.0	13.8
Amortization of deferred financing costs and original issue discount	2.0	1.9
Debt extinguishment costs	—	21.2
Foreign currency exchange loss	1.0	4.7
Pension and postretirement healthcare benefit	(1.0)	(0.3)
Deferred income tax provision (benefit)	1.7	4.5
Net loss on asset disposals	3.6	5.7
Stock compensation	20.6	31.8
Equity in net income from affiliated companies	(27.7)	(27.7)
Dividends received from affiliated companies	35.0	35.0
Other, net	(1.6)	(3.0)
Working capital changes that provided (used) cash, excluding the effect of acquisitions and dispositions:		
Receivables	5.5	(33.5)
Inventories	9.9	0.6
Prepays and other current assets	—	(7.8)
Accounts payable	(10.1)	10.0
Accrued liabilities	(7.4)	12.6
Net cash provided by operating activities, continuing operations	180.3	137.3
Net cash provided by (used in) operating activities, discontinued operations	6.3	(7.4)
Net cash provided by operating activities	186.6	129.9
Cash flows from investing activities:		
Purchases of property, plant and equipment	(58.9)	(60.0)
Proceeds from business divestiture, net of cash and indebtedness	—	978.4
Payments for business divestiture	(3.7)	—
Business combinations, net of cash acquired	(0.5)	(42.6)
Other, net	0.1	(0.1)
Net cash (used in) provided by investing activities, continuing operations	(63.0)	875.7
Net cash used in investing activities, discontinued operations	—	(40.0)
Net cash (used in) provided by investing activities	(63.0)	835.7
Cash flows from financing activities:		
Issuance of long-term debt, net of original issue discount and financing fees	—	897.8
Debt issuance costs	—	(1.3)
Debt prepayment fees	—	(8.5)
Repayments of long-term debt	(9.0)	(1,430.9)

	Years ended December 31,	
	2022	2021
Proceeds from financing obligation	—	16.0
Dividends paid to stockholders	—	(435.6)
Repurchases of common shares	(136.7)	—
Tax withholdings on equity award vesting	(0.3)	(1.5)
Proceeds from stock options exercised	0.6	0.7
Repayments of finance lease obligations	(2.7)	(1.4)
Other	—	1.5
Net cash used in financing activities, continuing operations	(148.1)	(963.1)
Net cash used in financing activities, discontinued operations	—	(1.1)
Net cash used in financing activities	(148.1)	(964.2)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(5.5)	2.3
Net change in cash, cash equivalents and restricted cash	(30.0)	3.7
Cash, cash equivalents and restricted cash at beginning of period	140.9	137.2
Cash, cash equivalents and restricted cash at end of period	\$ 110.9	\$ 140.9

Appendix Table A-1: Reconciliation of Net Income to Adjusted EBITDA

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
	(in millions)			
Reconciliation of net income to Adjusted EBITDA				
Net income from continuing operations	\$ 21.5	\$ 7.8	\$ 69.8	\$ 1.8
Provision for income taxes	2.9	7.0	24.9	12.1
Interest expense, net	10.3	8.8	37.2	37.0
Depreciation and amortization	20.4	19.6	79.2	79.7
EBITDA	55.1	43.2	211.1	130.6
Joint venture depreciation, amortization and interest ^(a)	4.0	4.2	16.0	15.6
Amortization of investment in affiliate step-up ^(b)	1.6	1.6	6.4	6.5
Debt extinguishment costs	—	—	—	26.9
Net loss on asset disposals ^(c)	2.4	1.2	3.6	5.7
Foreign currency exchange (gain) loss ^(d)	(0.8)	(0.1)	1.4	4.7
LIFO (benefit) expense ^(e)	(0.2)	0.1	(0.2)	(1.9)
Transaction and other related costs ^(f)	0.1	0.4	7.0	2.0
Equity-based compensation	3.2	9.0	20.6	31.8
Restructuring, integration and business optimization expenses ^(g)	5.2	0.6	11.6	3.9
Other ^(h)	(1.4)	3.0	(0.7)	1.8
Adjusted EBITDA	\$ 69.2	\$ 63.2	\$ 276.8	\$ 227.6

Descriptions to Ecovyst Non-GAAP Reconciliations

- (a) We use Adjusted EBITDA as a performance measure to evaluate our financial results. Because our 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 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).

Appendix Table A-2: Reconciliation of Net Income to Adjusted Net Income⁽¹⁾

	Three months ended December 31,					
	2022			2021		
	Pre-tax	Tax expense (benefit)	After-tax	Pre-tax	Tax expense (benefit)	After-tax
	(in millions)					
Net income from continuing operations	\$ 24.4	\$ 2.9	\$ 21.5	\$ 14.8	\$ 7.0	\$ 7.8
Earnings per share:						
Basic income per share - continuing operations			\$ 0.17			\$ 0.06
Diluted income per share - continuing operations			\$ 0.17			\$ 0.06
Net income from continuing operations	24.4	2.9	21.5	14.8	7.0	7.8
Amortization of investment in affiliate step-up ^(b)	1.6	0.2	1.4	1.6	0.2	1.4
Debt extinguishment costs	—	—	—	—	(0.9)	0.9
Net loss on asset disposals ^(c)	2.4	0.5	1.9	1.1	0.1	1.0
Foreign currency exchange gain ^(d)	(0.8)	(0.1)	(0.7)	—	—	—
LIFO benefit ^(e)	(0.2)	(0.1)	(0.1)	—	—	—
Transaction and other related costs ^(f)	0.1	(0.6)	0.7	0.4	(0.1)	0.5
Equity-based compensation	3.2	(0.7)	3.9	9.0	1.3	7.7
Restructuring, integration and business optimization expenses ^(g)	5.1	0.9	4.2	0.6	0.1	0.5
Other ^(h)	(1.3)	(0.3)	(1.0)	3.2	0.9	2.3
Adjusted net income, includes Impact of Discrete Tax Items	34.5	2.7	31.8	30.7	8.6	22.1
Impact of Discrete Tax Items ⁽²⁾	—	—	—	—	(0.8)	0.8
Adjusted net income ⁽¹⁾	<u>\$ 34.5</u>	<u>\$ 2.7</u>	<u>\$ 31.8</u>	<u>\$ 30.7</u>	<u>\$ 7.8</u>	<u>\$ 22.9</u>
Adjusted net income per share:						
Basic income per share			\$ 0.25			\$ 0.17
Diluted income per share			\$ 0.25			\$ 0.17
Weighted average shares outstanding:						
Basic			125,962,111			136,256,601
Diluted			127,538,343			137,528,028

See Appendix Table A-1 for Descriptions to Ecovyst Non-GAAP Reconciliations in the table above. The adjustments to net income attributable to Ecovyst Inc. are shown net of each applicable statutory tax rates.

	Years ended December 31,					
	2022			2021		
	Pre-tax	Tax expense (benefit)	After-tax	Pre-tax	Tax expense (benefit)	After-tax
	(in millions)					
Net income from continuing operations	\$ 94.7	\$ 24.9	\$ 69.8	\$ 13.9	\$ 12.1	\$ 1.8
Earnings per share:						
Basic income per share - continuing operations			\$ 0.52			\$ 0.01
Diluted income per share - continuing operations			\$ 0.52			\$ 0.01
Net income attributable to Ecovyst Inc.	94.7	24.9	69.8	13.9	12.1	1.8
Amortization of investment in affiliate step-up ^(b)	6.4	1.5	4.9	6.5	1.6	4.9
Debt extinguishment costs	—	—	—	26.9	6.6	20.3
Net loss on asset disposals ^(c)	3.6	0.9	2.7	5.7	1.4	4.3
Foreign currency exchange loss ^(d)	1.4	0.4	1.0	4.7	1.0	3.7
LIFO benefit ^(e)	(0.2)	(0.1)	(0.1)	(1.9)	(0.5)	(1.4)
Transaction and other related costs ^(f)	7.0	1.1	5.9	2.0	0.5	1.5
Equity-based compensation	20.6	(0.1)	20.7	31.8	7.7	24.1
Restructuring, integration and business optimization expenses ^(g)	11.6	2.8	8.8	3.9	0.7	3.2
Other ^(h)	(0.7)	(0.2)	(0.5)	1.8	0.7	1.1
Adjusted net income, includes Impact of Discrete Tax Items	144.4	31.2	113.2	95.3	31.8	63.5
Impact of Discrete Tax Items ⁽²⁾	—	—	—	—	(6.1)	6.1
Adjusted net income ⁽¹⁾	<u>\$ 144.4</u>	<u>\$ 31.2</u>	<u>\$ 113.2</u>	<u>\$ 95.3</u>	<u>\$ 25.7</u>	<u>\$ 69.6</u>
Adjusted net income per share:						
Basic income per share			\$ 0.85			\$ 0.51
Diluted income per share			\$ 0.84			\$ 0.51
Weighted average shares outstanding:						
Basic			133,601,322			136,167,384
Diluted			135,088,172			137,708,931

(1) We define adjusted net income as net income attributable to Ecovyst adjusted for non-operating income or expense and the impact of certain non-cash or other items that are included in net income that we do not consider indicative of our ongoing operating performance. Adjusted net income is presented as a key performance indicator as we believe it will enhance a prospective investor's understanding of our results of operations and financial condition. Adjusted net income may not be comparable with net income or adjusted net income as defined by other companies.

(2) Represents intraperiod allocation rules related to a change in the UK legislature, which increased the UK corporate rate as well as the German Uncertain Tax Position.

Appendix Table A-3: Business Segment Sales and Adjusted EBITDA

	Three months ended December 31,			Years ended December 31,		
	2022	2021	% Change	2022	2021	% Change
Sales:						
Ecoservices	\$ 159.8	\$ 142.0	12.5 %	\$ 702.5	\$ 500.5	40.4 %
Catalyst Technologies	23.0	28.2	(18.4)%	117.7	110.7	6.3 %
Total sales	<u>\$ 182.8</u>	<u>\$ 170.2</u>	<u>7.4 %</u>	<u>\$ 820.2</u>	<u>\$ 611.2</u>	<u>34.2 %</u>
Zeolyst International sales	\$ 39.9	\$ 36.3	9.9 %	\$ 132.6	\$ 131.3	1.0 %
Adjusted EBITDA:						
Ecoservices	\$ 54.4	\$ 52.3	4.0 %	\$ 227.8	\$ 177.7	28.2 %
Catalyst Technologies	20.3	23.4	(13.2)%	78.0	88.0	(11.4)%
Unallocated corporate expenses	(5.5)	(12.5)	(55.7)%	(29.0)	(38.1)	(24.0)%
Total Adjusted EBITDA	<u>\$ 69.2</u>	<u>\$ 63.2</u>	<u>9.4 %</u>	<u>\$ 276.8</u>	<u>\$ 227.6</u>	<u>21.6 %</u>
Adjusted EBITDA Margin:						
Ecoservices	34.0 %	36.8 %		32.4 %	35.5 %	
Catalyst Technologies ⁽¹⁾	32.3 %	36.3 %		31.2 %	36.4 %	
Total Adjusted EBITDA Margin⁽¹⁾	<u>31.1 %</u>	<u>30.6 %</u>		<u>29.0 %</u>	<u>30.7 %</u>	

⁽¹⁾ Adjusted EBITDA margin calculation includes proportionate 50% share of sales from the Zeolyst Joint Venture.

Appendix Table A-4: Adjusted Free Cash Flow

	Years ended December 31,	
	2022	2021
	(in millions)	
Net cash provided by operating activities, continuing operations	\$ 180.3	\$ 137.3
Net cash (used in) provided by operating activities, discontinued operations	6.3	(7.4)
Net cash provided by operating activities	186.6	129.9
Less:		
Purchases of property, plant and equipment, continuing operations	(58.9)	(60.0)
Purchases of property, plant and equipment, discontinued operations	—	(31.0)
Purchases of property, plant and equipment ⁽¹⁾	(58.9)	(91.0)
Free cash flow	127.7	38.9
Adjustments to free cash flow:		
Proceeds from sale of assets	—	0.3
Net interest proceeds on currency swaps	—	2.3
Cash paid for costs related to segment disposals	18.1	46.0
Cash paid for debt financing costs included in cash from operating activities	—	5.7
Adjusted free cash flow ⁽²⁾	\$ 145.8	\$ 93.2
Net cash provided by investing activities ⁽³⁾	\$ (63.0)	\$ 835.7
Net cash used in financing activities	\$ (148.1)	\$ (964.2)

⁽¹⁾ Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst joint venture.

⁽²⁾ We define adjusted free cash flow as net cash provided by operating activities less purchases of property, plant and equipment, adjusted for proceeds from sale of assets and net interest proceeds on swaps designated as net investment hedges and the cash paid for costs related to segment disposals. Adjusted free cash flow is a non-GAAP financial measure that we believe will enhance a prospective investor's understanding of our ability to generate additional cash from operations, including the reduction in cash paid for interest related to our cross-currency interest rate swaps, and is an important financial measure for use in evaluating our financial performance. Our presentation of adjusted free cash flow is not intended to replace, and should not be considered superior to, the presentation of our net cash provided by operating activities determined in accordance with GAAP. Additionally, our definition of adjusted free cash flow is limited, in that it does not represent residual cash flows available for discretionary expenditures, due to the fact that the measure does not deduct the payments required for debt service and other contractual obligations or payments made for business acquisitions. Therefore, we believe it is important to view adjusted free cash flow as a measure that provides supplemental information to our consolidated statements of cash flows.

⁽³⁾ Net cash used in investing activities includes purchases of property, plant and equipment, proceeds from sale of assets, and net interest proceeds on swaps designated as net investment hedges, which are also included in our computation of adjusted free cash flow.

Appendix Table A-5: Net Debt Leverage Ratio

	December 31, 2022	December 31, 2021
In millions, except ratios		
Total Debt	\$ 886.5	\$ 895.5
Less:		
Cash and cash equivalents	110.9	140.9
Net Debt	<u>\$ 775.6</u>	<u>\$ 754.6</u>
Net Income	69.8	1.8
Adjusted EBITDA ⁽¹⁾	276.8	227.6
Net Debt to Net Income Ratio	11.1 x	419.2 x
Net Debt Leverage Ratio	2.8 x	3.3 x

⁽¹⁾ Refer to the Reconciliation of Net Income to Adjusted EBITDA schedule for the reconciliation to the most comparable GAAP financial measure.