Third Quarter 2021

November 9, 2021—11 am EST

YOUR CATALYST FOR POSITIVE CHANGE™

Legal Discussion

Continuing Operations

Financial results for quarterly and nine-month periods are presented on a continuing operations basis, which excludes the Performance Materials business and Performance Chemicals business unless otherwise indicated. Financial results for fiscal 2020A are presented on a pro forma basis to exclude the Performance Materials business and the Performance Chemicals business from all yearly results presented 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, product and service offerings , including the impact of COVID-19 pandemic on such items, expected end use demand trends, and financial 2021 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 the ongoing COVID-19 pandemic, tariffs, and trade disputes, currency exchange rates 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.

Pro Forma Financial Information

Effective on August 1, 2021, Ecovyst Inc. completed the sale of its Performance Chemicals business to Sparta Aggregator L.P., a partnership established by Koch Minerals & Trading, LLC and Cerberus Capital Management, L.P. (the "Purchaser"), pursuant to a Stock Purchase Agreement (the "Purchase Agreement"), dated February 28, 2021, as amended, between the Company and the Purchaser, for a purchase price of $1.1 billion in cash, subject to certain adjustments specified in the Purchase Agreement, including for indebtedness, cash, working capital and transaction expenses of the Performance Chemicals business at the closing of the transaction (the "Transaction"). Upon the close of the Transaction and finalization of net cash proceeds, the Company was required to use portions of the proceeds to repay the Company's outstanding debt, which was estimated to result in a debt reduction of $450 million to $550 million (the "Estimated Required Debt Repayment"). Upon the close of the Transaction, the Company repaid approximately $526.3 million of its outstanding debt. The unaudited pro forma financial information for 2020 was prepared in accordance with Article 11 of Regulation S-X and have been derived from the historical financial statements prepared in accordance with GAAP and are presented based on available information and certain assumptions that management believes are reasonable. Information derived from the unaudited pro forma financials reflect the effect of the Transaction as well as the Estimated Required Debt Repayment. Information derived from the unaudited pro forma condensed consolidated statements of income reflects the effect of the Transaction as if it had occurred on January 1, 2020, the beginning of the earliest period presented. Information derived from the unaudited pro forma condensed consolidated statements of income reflects the effect of the Transaction as if it had occurred on January 1, 2020, the beginning of the earliest period presented. Information derived from the unaudited pro forma condensed consolidated balance sheet reflects the Company's financial position as if the Transaction and the Estimated Required Debt Repayment had occurred on December 31, 2020.

Non-GAAP Financial Measures

This presentation includes certain non-GAAP financial measures, including adjusted EBITDA, adjusted EBITDA margin, and adjusted free cash flow, 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. 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.

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.

Third Quarter Highlights: Portfolio Demonstrates Resilience

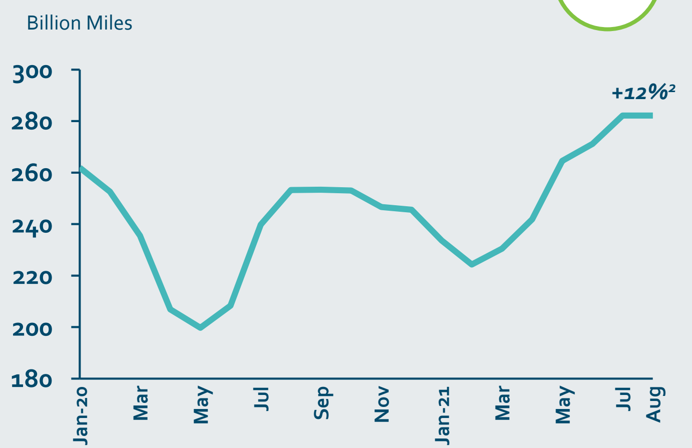
Focus Area	Highlights
OPERATIONAL	• Delivered top tier safety performance with >90% "Perfect Days" YTD • **Ecoservices:** Completed maintenance turnaround in Baton Rouge and returned operations to normal capacity despite interruption by Tropical Storm Ida • **Catalyst Technologies:** Successfully mitigated supply chain disruptions and elevated logistics costs while driving higher margins
COMMERCIAL	• **Ecoservices:** Continued contract wins to supply semiconductor and industrial applications with virgin acid and treatment services • Chem32 volumes grew by ~70% Q-o-Q on strong demand for catalyst activation services from renewable fuels producers and traditional refineries • **Catalyst Technologies:** Stepped up long term volumes for heavy duty diesel emission control catalyst products with multi-year contract
STRATEGIC	• Seamless transition to first standalone quarter as Ecovyst, advancing transformation with the sale of Performance Chemicals • Joined the EU Circular Plastics Alliance to strategically partner and collaborate with key global players as an enabler of product solutions for plastics circularity • Continued to streamline innovation pipeline; near 85% of projects now linked to sustainability • Advanced and integrated sustainability business plans for increased transparency of ESG metrics towards achieving 2025 and 2030 goals

FINANCIAL	• Delivered strong sales and Adjusted EBITDA growth with Adjusted EBITDA margin[1,2] of ~35%
	  ◦ Y-o-Y sales up ~27%[3], Adjusted EBITDA up ~44% and margin increase 420 bps
	  ◦ Sequential Q-o-Q sales up ~11%, Adjusted EBITDA up ~32% and margin increase 550 bps

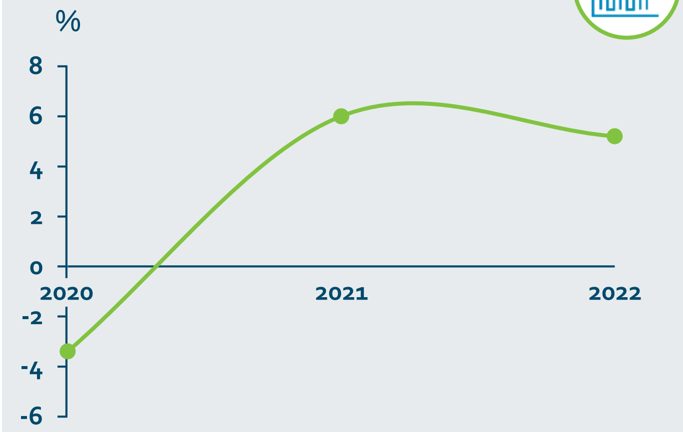
1. See Appendix for Reconciliations of non-GAAP measures.
2. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture
3. Sales change percentages include 50% share of sales from Zeolyst Joint Venture

Economic Recovery Surpassed 2020 Levels and On Track to Outpace 2019

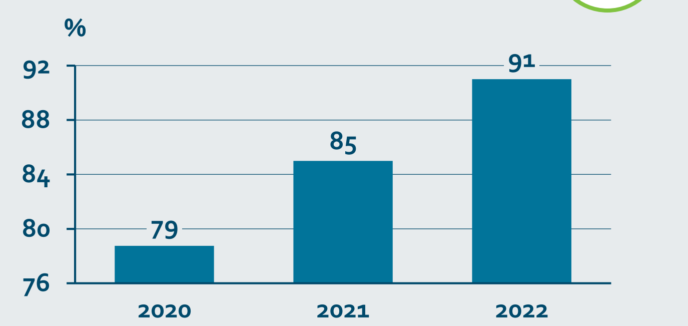
Vehicle Miles Traveled[1]



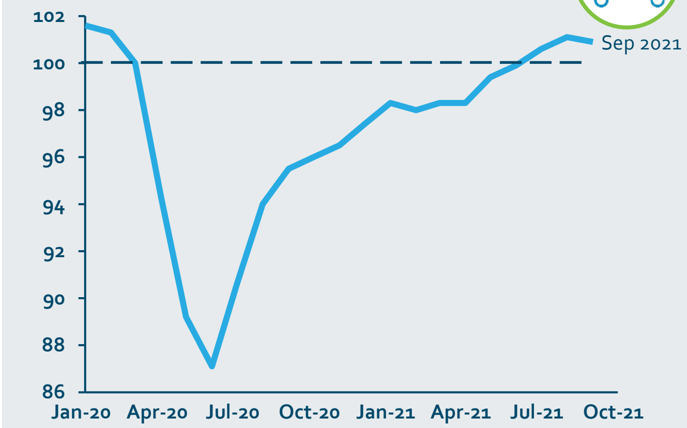
US Real GDP Growth (%)



US Refinery Utilization (%)



US Industrial Production[1,3]

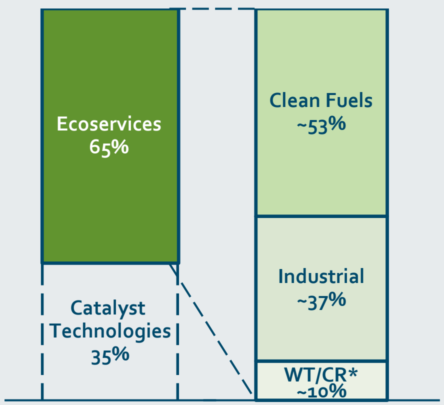


Source: Federal Reserve, IMF, EIA

1. 3 month moving average
2. 2021 vs. 2020 cumulative through August
3. Federal Reserve: 2017=100

Ecoservices: Gasoline Demand Robust with Industrials Demand Expected to Reach Full Recovery by Year-End with Growth in 2022

ECOSERVICES[1]



WT/CR: Waste Treatment & Catalyst regeneration*

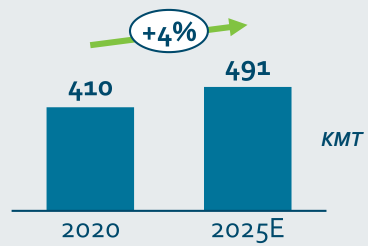
YEAR-ON-YEAR DEMAND TRENDS

	'20A	'21E	'22E
Clean Fuels	Flat or low single digit decline	Mid-High single digit increase	Mid-High single digit increase
Industrial	Flat or low single digit decline	Low-Mid single digit increase	Mid-High single digit increase
WT/CR*	Flat or low single digit decline	Low-Mid single digit increase	Low-Mid single digit increase

Flat or low single digit decline · Low-Mid single digit increase · Mid-High single digit increase

Clean Fuels

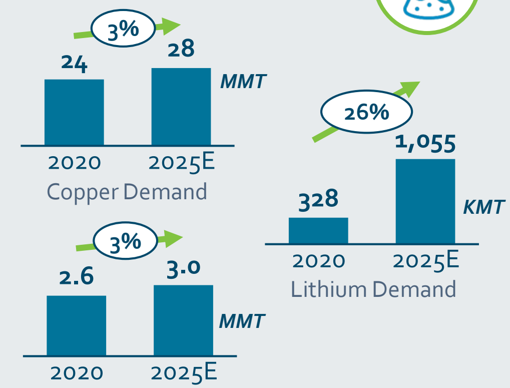
Alkylate Demand



Global Alkylate Consumption

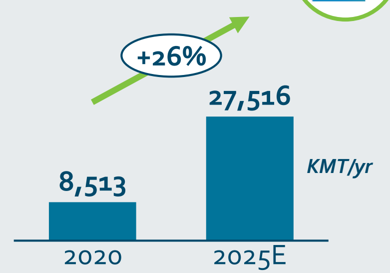
Virgin Acid Supporting Green Infrastructure

Green Mining



Catalyst Activation

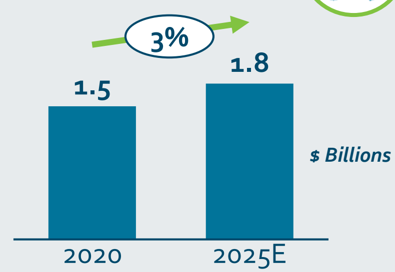
Renewable Diesel



Global Capacity Growth

Waste Treatment

Treatment Services



US Chemical/Refining Hazard Waste Management

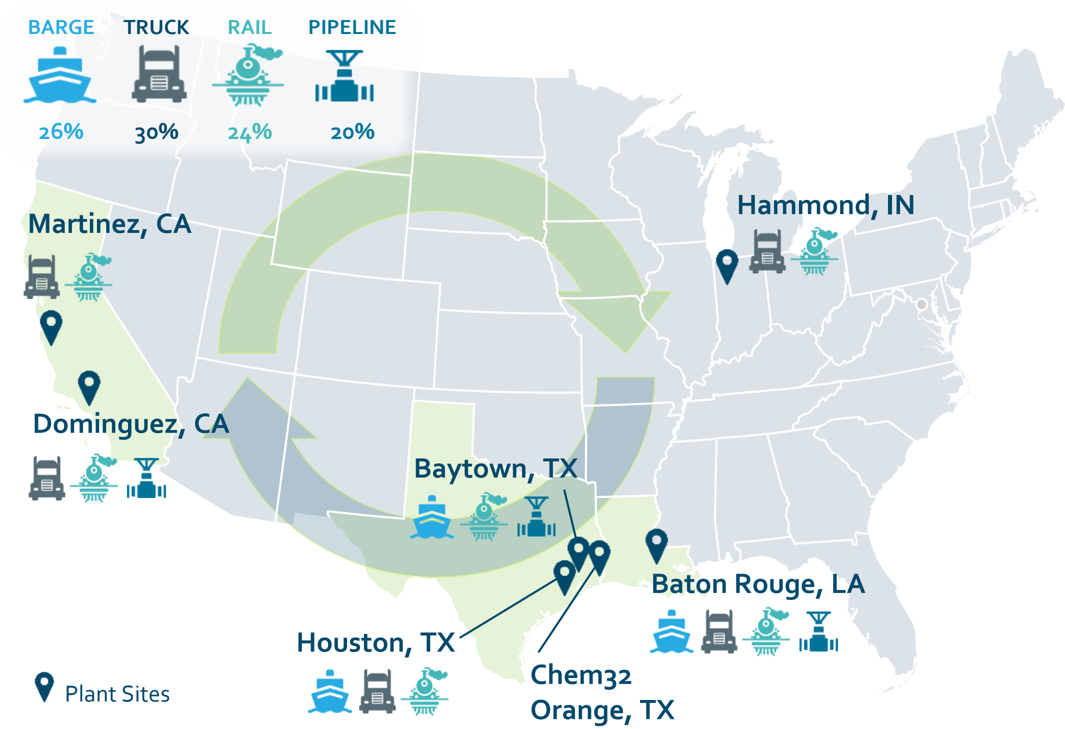
1. %2020 sales

Source: U.S. Energy Information Administration; IH S, EIA, LMC, Global Data, EPA, ICIS, Goldman Sachs, 360 Research Reports, Morgan Stanley, Ecovyst Estimates

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

NEAR-TERM GROWTH FACTORS

- New long-term large customer contract, existing customer re-contracting, and favorable alkylate fundamentals expected to drive mid-to-high single digit volume 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

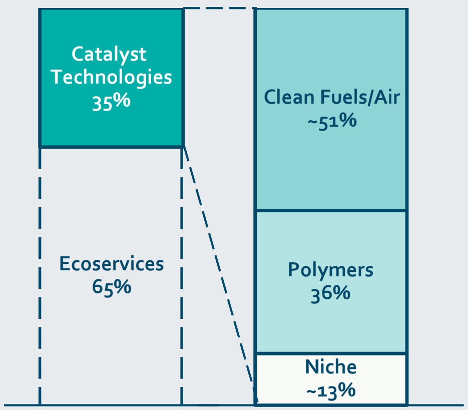
- Managing End to End supply chain & customer inventories
- Production redundancy in key refining locations enables the highest degree of reliability

FAVORABLE CUSTOMER POSITIONS

- Long-term contracts with cost pass-through
- 100% of customer requirements
- Take-or-pay and capacity reservation fees

Catalyst Technologies: Recovery and Secular Trends Expected to Drive Growth Acceleration into 2022

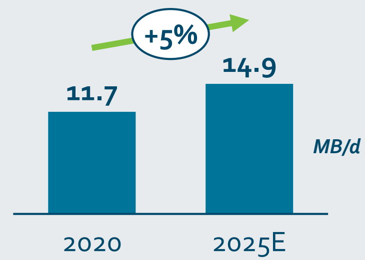
CATALYST TECHNOLOGIES[1]



YEAR-ON-YEAR DEMAND TRENDS

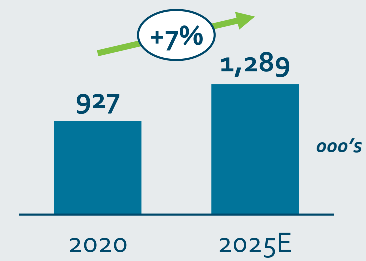
Clean Fuels & Air

Hydrocracking Capacity



Global Capacity Growth

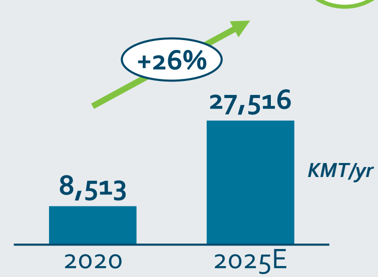
N.A./EU HDD Production



NA/EU HDD Truck Production

Clean Fuels & Air

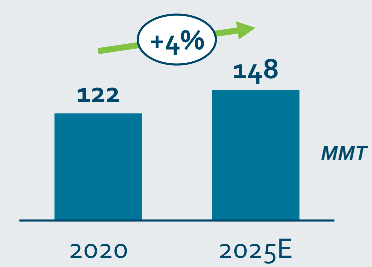
Renewable Diesel



Global Capacity Growth

Engineered Polymers

Polyethylene Demand



Global Polyethylene Consumption

1. %2020 sales. Sales percentage includes proportionate 50% share of sales from Zeolyst JV

Source: U.S. Energy Information Administration; IH S, EIA, LMC, Global Data, EPA, ICIS, Goldman Sachs, 360 Research Reports, Morgan Stanley, Ecovyst Estimates

Catalyst Technologies: Global Leader in Tailored Catalyst Solutions

NEAR-TERM GROWTH FACTORS

- Preferred technology and increasing product offerings projected to drive high single digit growth in Clean Fuels & Air, Engineered Polymers, and Custom Catalyst
- New product launches planned in 2022 supporting the ongoing product development and collaboration with customers
- Disruptions caused by COVID-19 expected to be fully recovered across all business lines by 2H 2022

FLEXIBLE MANUFACTURING NETWORK

- Improved manufacturing network efficiencies following 2020/2021 disruption returning segment margins to high 30%s
- Continued debottlenecking production capacity for sold out product lines

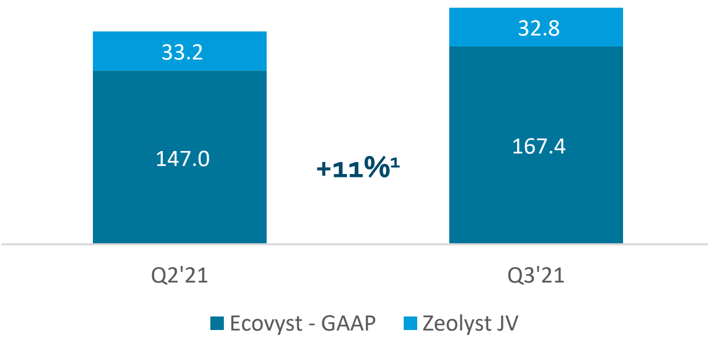
FAVORABLE CUSTOMER POSITIONS

- Growing faster than market with existing polyethylene customers
- Strong growth in custom catalysts expected in 2022; diversified across multiple chemical processes
- Collaborating on multiple product development projects for new offerings in renewable fuels and materials and recycling of polymers

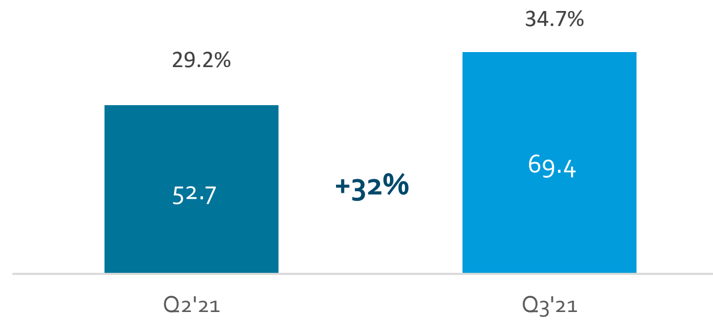
Third Quarter 2021 Financial Results

SEQUENTIAL

Sales ($MM)

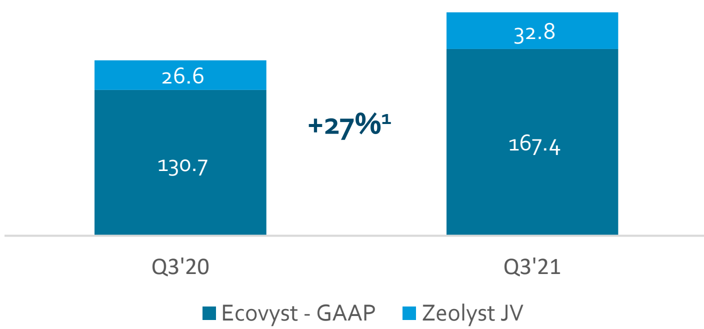


Adjusted EBITDA ($MM) & Margin[2,3]

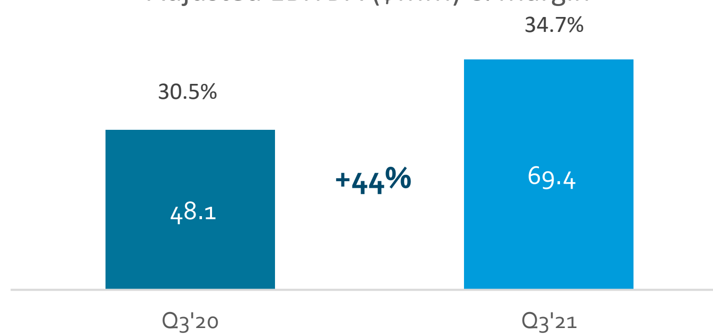


YEAR-ON-YEAR

Sales ($MM)



Adjusted EBITDA ($MM) & Margin[2,3]



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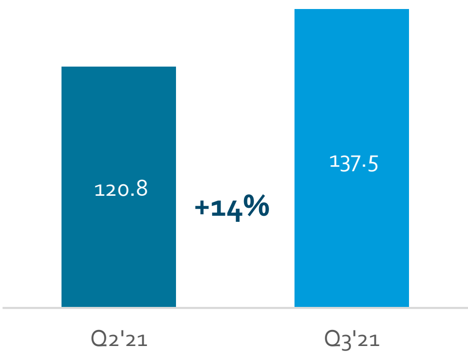
1. Sales change percentages include 50% share of sales from Zeolyst Joint Venture
2. See Appendix for Reconciliations of non-GAAP measures.
3. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

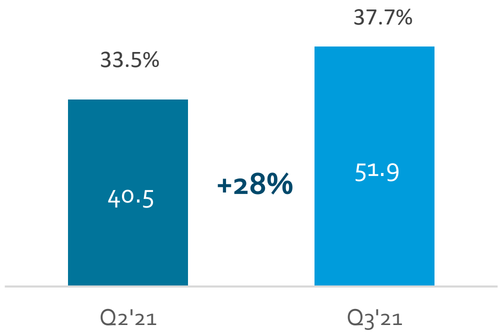
Ecoservices

SEQUENTIAL

Sales ($MM)



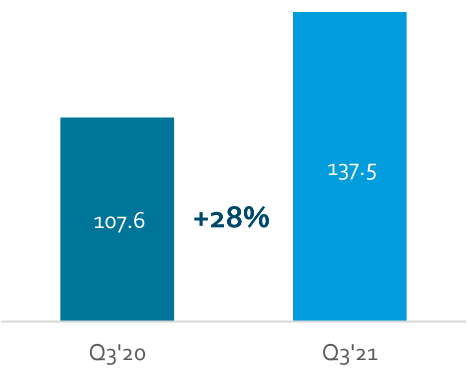
Adjusted EBITDA ($MM) & Margin[1]



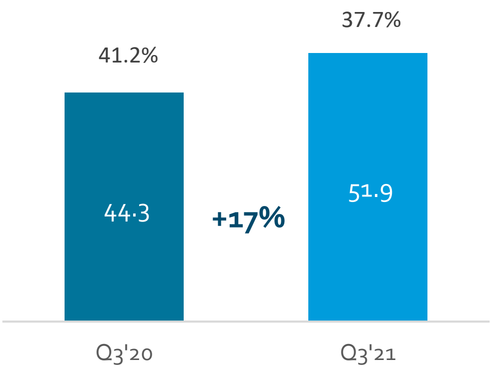
- Sales up, led by higher volume, improved pricing for virgin sulfuric acid and pass-through of higher sulfur costs of ~$5 million
- Adjusted EBITDA and margin higher on improved volume, favorable pricing, and lower maintenance costs

YEAR-ON-YEAR

Sales ($MM)



Adjusted EBITDA ($MM) & Margin[1]



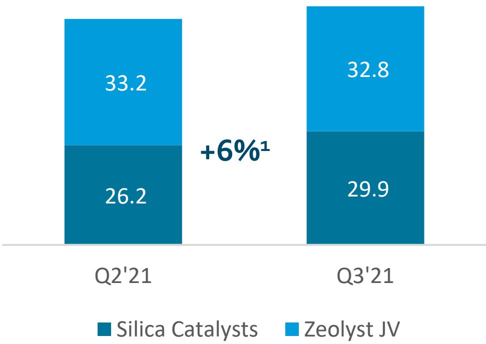
- Sales increased on higher regeneration volumes, improved pricing for virgin sulfuric acid and pass-through of higher sulfur costs of ~$15 million
- Adjusted EBITDA increased on favorable pricing and higher regeneration volume and the Chem32 acquisition
- Adjusted EBITDA margin lower on the pass-through of higher sulfur costs (530 bps) and additional turnaround expense of ~$2 million

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

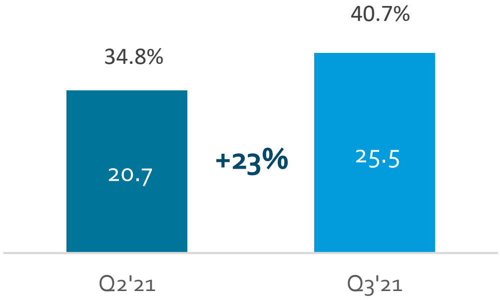
Catalyst Technologies

SEQUENTIAL

Sales ($MM)



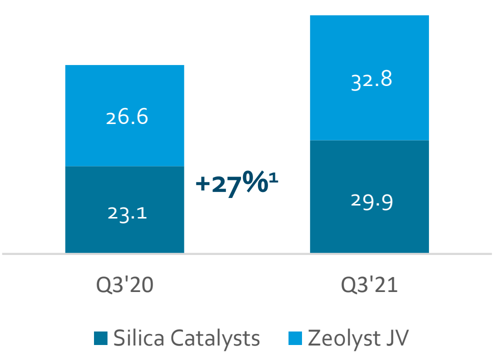
Adjusted EBITDA ($MM) & Margin[2,3]



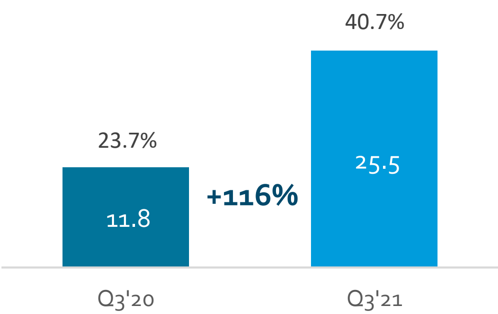
- Silica Catalysts sales increased driven by continued strength in polyethylene demand and the timing of chemical catalyst sales
- Continued growth of Zeolyst JV sales into renewable fuels offset by timing of hydrocracking catalyst sales
- Adjusted EBITDA and margins higher on increased volume and favorable product mix

YEAR-ON-YEAR

Sales ($MM)



Adjusted EBITDA ($MM) & Margin[2,3]



- Silica Catalysts sales higher on polyethylene faster growth than market and the timing of chemical catalyst sales
- Zeolyst JV sales rose, driven by renewable fuel growth and the recovery of emission control demand
- Adjusted EBITDA more than doubled with improved margins on increased volumes and favorable product mix

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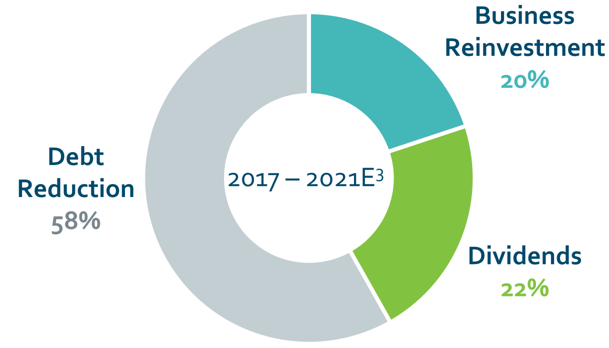
1. Sales change percentages include 50% share of sales from Zeolyst Joint Venture
2. See Appendix for Reconciliations of non-GAAP measures.
3. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

Strong Adjusted Free Cash Flow and Balance Sheet Flexibility to Enable Opportunistic Capital Allocation Strategy

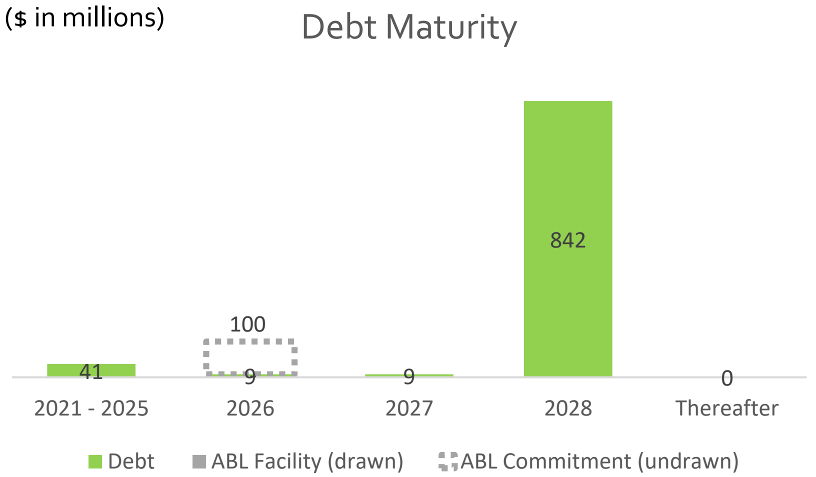
CAPITAL ALLOCATION

- Historical capital allocation from portfolio actions and cash flow[1]
  - Reduced debt by ~$1.8 billion
  - Returned cash to shareholders of $5/ps[2] (~$680 million)
  - Lowered cash interest costs by ~$130 million
- Future adjusted free cash flow planned for debt reduction and/or bolt-on acquisitions



FINANCIAL FLEXIBILITY

- Refinanced term loan and amended and extended the ABL
  - Entered into a $900 million term loan at L+275 (with a 50 bps floor)
  - Refinanced ABL to a $100 million facility
  - No financial covenants required to maintain a leverage ratio below a particular level
  - No meaningful maturity until 2028



1. Since IPO September 2017
2. Includes special cash dividend payments made in connection with the sale of the Performance Materials business and Performance Chemicals business.
3. Uses of Adjusted Free Cash Flows and Net Sale Proceeds, since IPO September 2017 through estimated 2021; includes Chem32 acquisition and use of proceeds from sale of the Performance Chemicals business

Upgrading Ecovyst 2021 Financial Outlook

Ecovyst[1,2]			
($ in millions, except per share)	2020 Actual	Q2 2021 Prior Guidance	Q3 2021 Updated Outlook
Sales[3]	$496	$565 – 575	**$590 – 600**
Zeolyst JV Sales	$129	$140 – 150	**$130 – 140**
Adjusted EBITDA[4]	$193	$215 – 225	**$220 – 225**
Adjusted Free Cash Flow[4,5]	$153	$60 – 70	**$70 – 80**
Capital Expenditures	$46	$60 – 65	$60 – 65
Depreciation & Amortization			
Ecovyst	$77	$80 - 85	$80 - 85
Zeolyst JV	$15	$14 - 16	$14 - 16

Growth of >15%
in 2021 from 2020
assuming midpoint of guidance

- Updating 2021 outlook
  - Increasing GAAP sales based on higher volume and pass-through of higher sulfur costs
  - Lowering Zeolyst JV sales based on timing of hydrocracking catalysts and slower recovery of specialty catalyst
  - Upgrading Adjusted EBITDA to upper end of prior guidance range
  - Raising Adjusted Free Cash Flow based on improved cash from operations
- Projecting year-end 2021 leverage in the mid 3x range

1. Represents continuing operations, Ecoservices, Catalyst Technologies and unallocated Corporate only, except otherwise noted
2. Assumes business and economic activity and trends and no major disruptions from potential resurgence of the COVID-19 pandemic
3. GAAP sales only; Excludes proportionate 50% share of Zeolyst Joint Venture sales
4. See Appendix for Reconciliations of non-GAAP measures
5. Includes proportionate share of cash generation from discontinued operations for the period presented. 2020 includes Performance Materials until the transaction closed on December 14, 2020. 2021 outlook includes Performance Chemicals through transaction close date of August, 1, 2021

Ecovyst: Leading in Sustainable High-Growth, High-Margin Segments

Simpler + STRONGER S²

TARGET : 2025
- > $ 1.0 B total Sales[1] with inorganic contribution
- High 30's Adjusted EBITDA margins
- Cash Conversion > 80%
- Growing share of transition driven products sales

SUSTAINABLE GROWTH / TRANSITION FOCUS
- > 80% of innovation tied to sustainability
- Accelerate integrated sustainability business plans with increased ESG disclosures towards achieving 2025/2030 goals
- Development of novel renewable material catalysts
- Tailored proprietary customer solutions and services

NEAR-TERM PROGRESS
- Regeneration demand recovered ahead of 2019 levels
- Growing virgin sulfuric acid uses in mining and waste treatment
- Chem32 ahead of plan on increasing renewables demand
- Above-market growth in polyethylene
- Recovering hydrocracking catalyst demand into 2022

Growing + GREENING G²

1. Target total sales represents Ecovyst, 50% share in Zeolyst Joint Venture and 10% projected inorganic growth

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APPENDIX

Quarterly Segment Sales, Adjusted EBITDA and Margins

($ in millions, except %)	Three Months Ended March 31, 2021	Three Months Ended June 30, 2021	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2021	Three Months Ended March 31, 2020	Three Months Ended June 30, 2020	Three Months Ended September 30, 2020	Nine Months Ended September 30, 2020
Sales:								
Ecoservices	100.2	120.8	137.5	358.5	100.7	90.4	107.6	298.7
Silica Catalysts	26.4	26.2	29.9	82.5	24.9	25.2	23.1	73.1
Total sales	**126.6**	**147.0**	**167.4**	**441.0**	**125.6**	**115.6**	**130.7**	**371.8**
Zeolyst Joint Venture sales	29.0	33.2	32.8	95.0	32.3	40.9	26.6	99.7
Adjusted EBITDA:								
Ecoservices	33.0	40.5	51.9	125.4	37.2	35.0	44.3	116.5
Catalyst Technologies	18.5	20.7	25.5	64.6	22.7	25.3	11.8	59.7
Total Segment Adjusted EBITDA	**51.5**	**61.2**	**77.4**	**190.0**	**59.9**	**60.3**	**56.1**	**176.2**
Corporate	(9.2)	(8.5)	(8.0)	(25.6)	(11.3)	(10.3)	(8.0)	(29.5)
Total Adjusted EBITDA	**42.3**	**52.7**	**69.4**	**164.4**	**48.6**	**50.0**	**48.1**	**146.7**
Adjusted EBITDA Margin:								
Ecoservices	32.9%	33.5%	37.7%	35.0%	36.9%	38.7%	41.2%	39.0%
Catalyst Technologies[1,2]	33.4%	34.8%	40.7%	36.4%	39.7%	38.3%	23.7%	34.5%
Total Adjusted EBITDA Margin[1,2]	**27.2%**	**29.2%**	**34.7%**	**30.7%**	**30.8%**	**32.0%**	**30.5%**	**31.1%**

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)

Sales and Adjusted EBITDA Major Change Factors

Sales

Sales (in $ millions and %)	Three Months Ended September 30, 2021						Nine Months Ended September 30, 2021					
	Ecovyst		Ecoservices		Silica Catalysts		Ecovyst		Ecoservices		Silica Catalysts	
Sales:	$	%	$	%	$	%	$	%	$	%	$	%
Volume	16.2	12.4	4.6	4.3	11.6	50.2	29.8	8.0	19.3	6.4	10.5	14.5
Price/Mix	20.1	15.4	25.3	23.5	(5.2)	(22.5)	37.8	10.2	40.5	13.6	(2.7)	(3.7)
Currency	0.4	0.4	0.0	—	0.4	1.7	1.5	0.4	0.0	—	1.5	2.1
Sales Change	**36.7**	**28.2**	**29.9**	**27.8**	**6.8**	**29.4**	**69.2**	**18.6**	**59.8**	**20.0**	**9.4**	**12.9**

Adjusted EBITDA

Adj. EBITDA (in $ millions and %)	Three Months Ended September 30, 2021						Nine Months Ended September 30, 2021					
	Ecovyst[2]		Ecoservices		Catalyst Technologies		Ecovyst		Ecoservices		Catalyst Technologies	
Adj EBITDA:	$	%	$	%	$	%	$	%	$	%	$	%
Volume/Mix	15.4	31.9	2.3	5.2	13.0	110.2	15.8	10.8	7.5	6.4	3.6	6.0
Price	19.3	40.0	25.3	57.2	(6.0)	(50.8)	36.7	25.0	40.5	34.8	(3.9)	(6.5)
Variable Cost	(15.0)	(31.1)	(17.4)	(39.4)	2.6	22.0	(29.3)	(20.0)	(31.3)	(26.8)	1.5	2.5
Currency	0.1	0.3	0.0	—	0.1	0.8	1.0	0.7	0.0	—	1.0	1.7
Other	1.6	3.2	(2.6)	(5.8)	4.0	33.9	(6.5)	(4.4)	(7.8)	(6.8)	2.7	4.5
Adj EBITDA Change	**21.3**	**44.3**	**7.6**	**17.2**	**13.7**	**116.1**	**17.7**	**12.1**	**8.9**	**7.6**	**4.9**	**8.2**

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)

Reconciliation of Net (Loss) Income to Segment Adjusted EBITDA

	Three Months Ended			Nine Months Ended	Three Months Ended			Nine Months Ended	Year Ended[3]
($ in millions, except %)	March 31, 2021	June 30, 2021	September 30, 2021	September 30, 2021	March 31, 2020	June 30, 2020	September 30, 2020	September 30, 2020	December 31, 2020
Reconciliation of net (loss) income from continuing operations to Segment Adjusted EBITDA									
Net (loss) income from continuing operations	(2.8)	(7.9)	4.7	(6.0)	(3.3)	34.3	(22.7)	8.3	55.4
(Benefit) provision for income taxes	(5.2)	7.7	2.6	5.1	(1.7)	(24.6)	21.3	(5.0)	(64.0)
Interest expense, net	10.5	8.7	9.0	28.2	15.3	15.1	10.4	40.9	52.7
Depreciation and amortization	19.5	20.0	20.6	60.1	18.7	18.8	19.2	56.5	76.9
EBITDA	**22.0**	**28.5**	**36.9**	**87.4**	**29.0**	**43.6**	**28.2**	**100.7**	**121.0**
Joint venture depreciation, amortization and interest(a)	3.6	3.7	4.1	11.4	3.7	3.7	3.6	11.1	14.7
Amortization of investment in affiliate step-up(b)	1.7	1.6	1.6	4.9	1.7	1.7	1.7	5.0	6.6
Debt extinguishment costs	—	11.7	15.2	26.9	2.5	—	14.0	16.5	32.9
Net loss on asset disposals(c)	0.8	1.6	2.2	4.5	0.2	0.4	0.6	1.2	4.7
Foreign currency exchange loss (gain)(d)	5.1	(1.2)	0.9	4.8	7.1	(3.4)	(4.3)	(0.6)	(5.3)
LIFO benefit(e)	(0.3)	(0.5)	(1.3)	(2.0)	(1.7)	(2.0)	(1.3)	(4.9)	(4.0)
Transaction and other related costs(f)	0.5	0.6	0.5	1.6	0.8	0.4	0.2	1.4	1.1
Equity-based compensation	6.3	6.3	10.2	22.8	4.3	4.6	4.4	13.3	17.2
Restructuring, integration and business optimization expenses(g)	2.3	0.1	0.1	2.4	0.3	0.8	0.3	1.4	2.0
Defined benefit plan pension benefit(h)	(0.6)	(0.6)	(1.0)	(2.2)	(0.1)	(0.2)	(0.2)	(0.5)	(0.6)
Other(i)	0.9	0.9	—	1.9	0.8	0.4	0.9	2.0	2.2
Adjusted EBITDA	**42.3**	**52.7**	**69.4**	**164.4**	**48.6**	**50.0**	**48.1**	**146.7**	**192.6**
Unallocated corporate costs	9.2	8.5	8.0	25.6	11.3	10.3	8.0	29.5	39.1
Total Segment Adjusted EBITDA	**51.5**	**61.2**	**77.4**	**190.0**	**59.9**	**60.3**	**56.1**	**176.2**	**231.7**

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1. For additional information with respect to each adjustment, see "Reconciliation of Non-GAAP Financial Measures"
2. Other expense (income), net includes debt extinguishment costs
3. Pro forma financial information for Full Year 2020 from Current Report on Form 8-K filed with the SEC on April 26, 2021

* 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 PQ Holdings 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) Represents adjustments for defined benefit pension plan (benefit) costs in our statements of income. All of our defined benefit pension plan obligations are under defined benefit pension plans that are frozen. As such, we do not view such income or expenses as core to our ongoing business operations.

i) Other costs consist of certain expenses that are not core to our ongoing business operations, including environmental remediation-related costs, capital and franchise taxes. 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 2020	Nine Months Ended September, 30 2021
Cash Flow from Operations before interest and tax	**349.0**	**141.5**
Less: Cash paid for taxes	35.0	13.5
Less: Cash paid for interest[1]	90.4	43.1
Cash Flow from Operations	**223.6**	**84.9**
Less: Purchases of property, plant and equipment[2]	109.6	75.6
Free Cash Flow	**114.0**	**9.3**
Plus: Proceeds from sale of assets	11.1	0.3
Plus: Net interest proceeds on currency swaps	5.0	2.3
Plus: Cash paid for costs related to segment disposals	22.5	40.3
Plus: Cash paid for debt financing costs included in cash from operating activities	—	5.7
Adjusted Free Cash Flow	**152.5**	**57.9**

1. Excludes net interest proceeds on swaps designated as net investment hedges
2. Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst Joint Venture

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