



# Second Quarter 2021

August 5, 2021—11 am EST

# Legal Discussion

## Continuing Operations

Financial results are presented to exclude the Performance Materials business and the Performance Chemicals business, from all quarterly and 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, statements regarding the intended uses of proceeds from the sale of the Performance Chemicals business segment including the payment of special cash dividend, 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 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](http://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, 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.

# PQ Transformation Complete: Highlights Track Record of Value Creation

## FINAL TRANSFORMATION STEP

- Closed sale of Performance Chemicals for \$1.1 billion
- Net cash proceeds used for:
  - Special dividend of \$3.20 per share
  - Debt reduction of \$526.3 million

## RECENT PORTFOLIO TRANSFORMATION ACTIONS

- Completed Performance Materials sale for \$650 million
- Sold/exchanged 10 non-core assets and product line transactions, resulting in ~\$90 million
- Acquired strategic and accretive niche catalyst activation business for \$44 million
- Net sale proceeds and adjusted free cash flow allocated to debt reduction (51%), dividends (26%) and business reinvestment (23%)<sup>1</sup>

## HIGHER GROWTH, MARGIN AND CASH CONVERSION<sup>2</sup>



1. Uses of Adjusted Free Cash Flows and Net Sale Proceeds from divestitures, since 2017 through projected 2021  
 2. 2017 to 2019 Financial Performance: Sales CAGR includes 50% interest in Zeolyst JV; Adjusted EBITDA CAGR excludes corporate expenses, includes 50% interest in Zeolyst JV; Adjusted EBITDA margin excludes corporate expenses, includes 50% interest in sales of Zeolyst JV. Cash conversion includes corporate expenses.  
 3. Cash Conversion = (Adjusted EBITDA - CapEx) / Adjusted EBITDA  
 See Appendix for Reconciliations of non-GAAP measures

# Ecovyst Emerges as High Growth Sustainability Focused Pure-Play Catalysts and Services Company



Our technologies support **ecological** health. We are well positioned and confident in **Vying** for and propelling customers' expansion and growth. We are a **catalyst** for positive change.

## STRATEGY

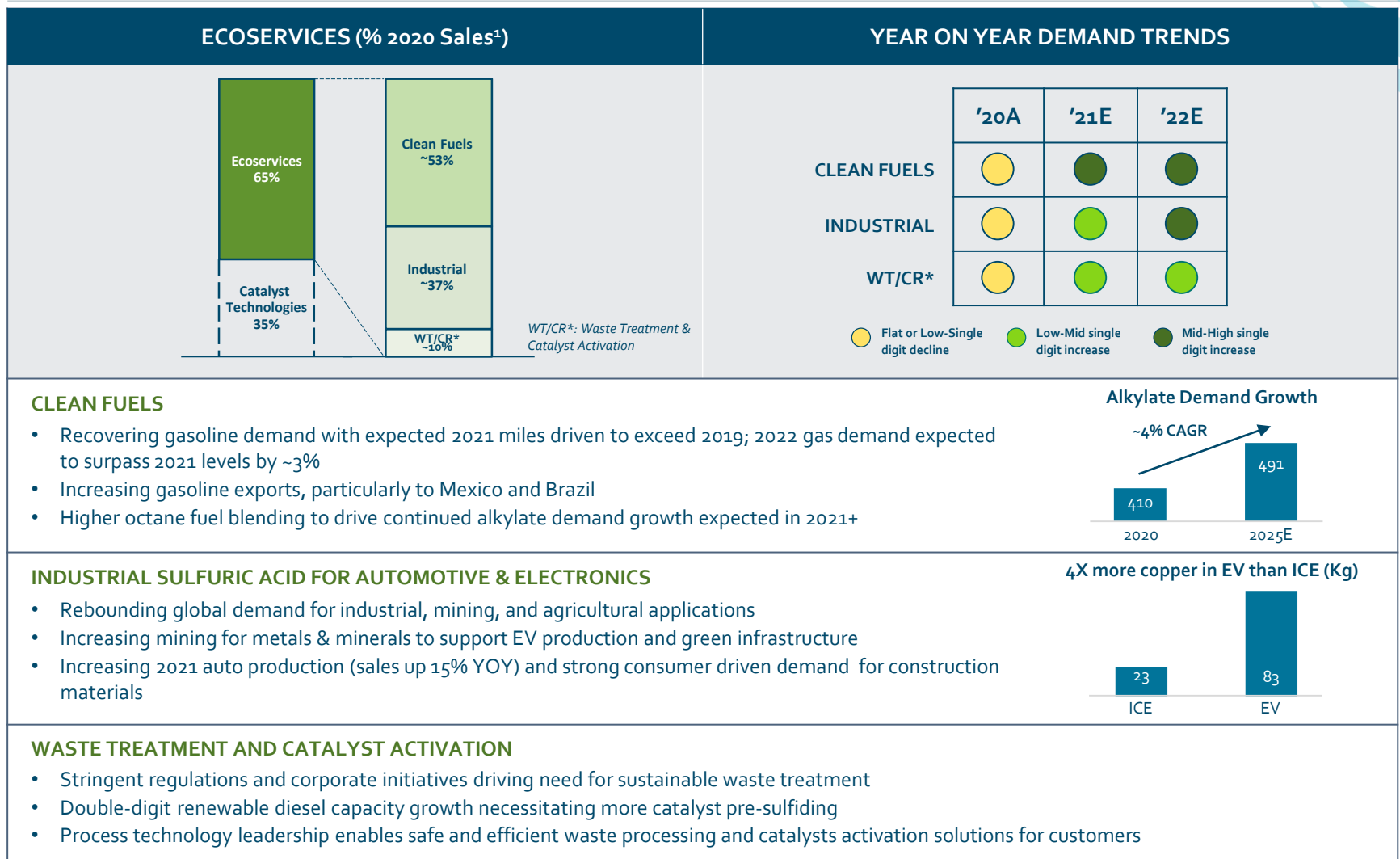
- Focus on solutions and services for cleaner economy
- Targeting > 80% of innovation project pipeline and > 90% of R&D investment for customer sustainability transition
- Deliver leading organic growth and margins supplemented with strategic and/or accretive bolt-on inorganic acquisitions
- Allocate capital for business reinvestment and/or debt reduction

## INVESTMENT PROPOSITION

- Competitively positioned specialty businesses, partnered with leading global customers
- Innovative proprietary technologies and processes driving disruption in the catalyst and services businesses
- High single digit top line, double digit Adjusted EBITDA 5-year CAGR with strong and sustainable margins in mid to high 30 percent level
- Strong cash flows and high revenue visibility from customer collaborations, specified products and long-term contracts

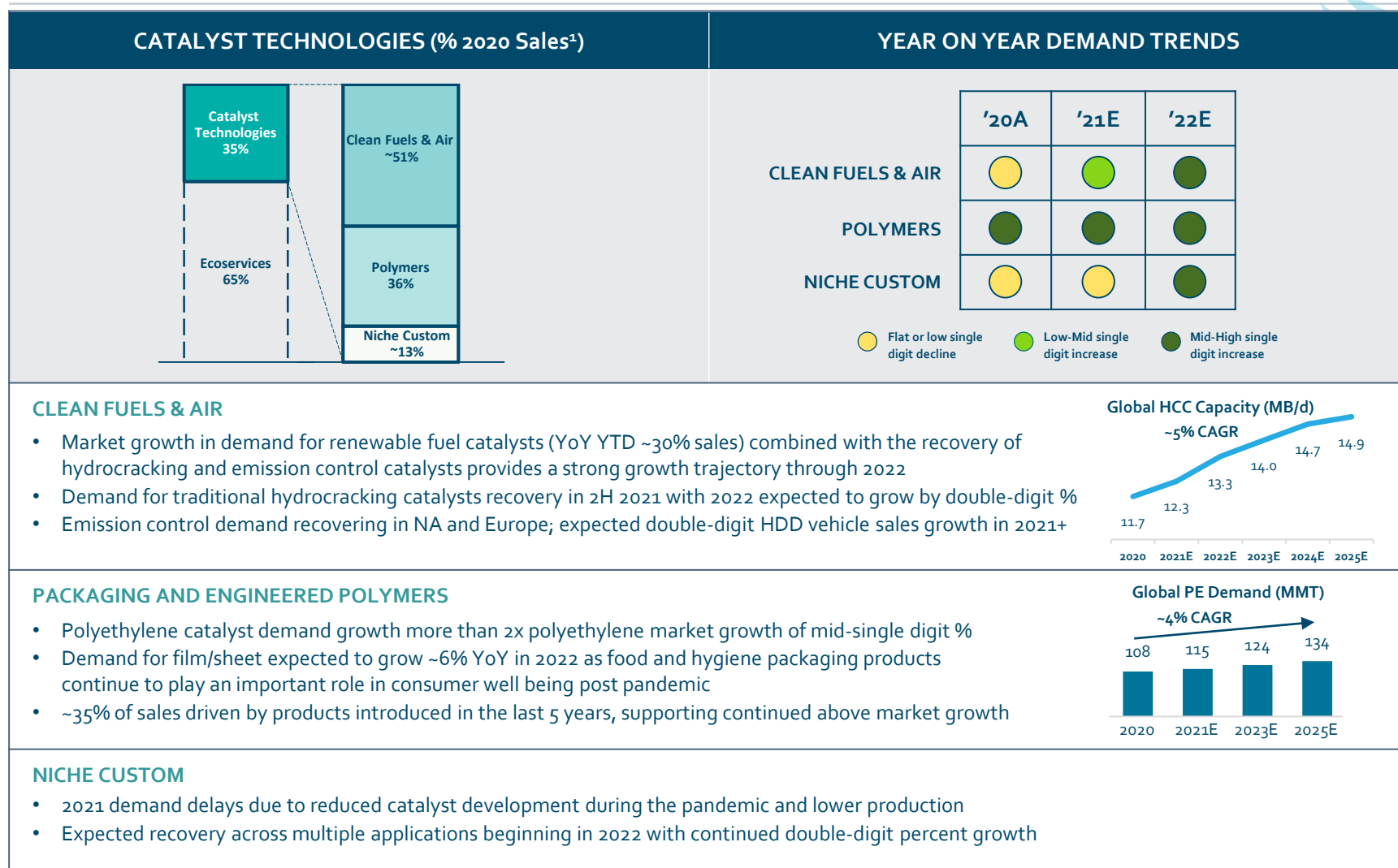


# Ecoservices: Energy Transition, Green Infrastructure, and Sustainability Trends Drive Increased Demand



<sup>1</sup> Sales percentage includes proportionate 50% share of sales from Zeolyst JV  
 Source: U.S. Energy Information Administration; IH S, EIA, LMC, Global Data, Ecovyst Estimates

# Catalyst Technologies: Proprietary Technology and Product Customization Enables Growth Outpacing Market Trends

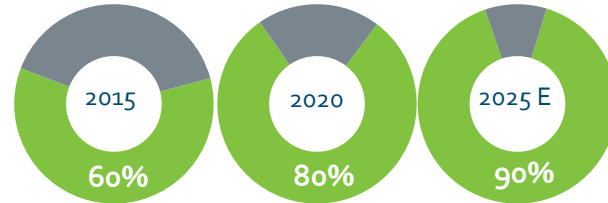


# Ecovyst Innovation Portfolio Driving Higher Sustainable Solutions and Services



Sustainability Focused

Innovation Investment Ratio on New Sustainable Products



SUSTAINABLE DEVELOPMENT GOALS

**3** GOOD HEALTH AND WELL BEING

**6** CLEAN WATER AND SANITATION

**7** AFFORDABLE AND CLEAN ENERGY

**11** SUSTAINABLE CITIES AND COMMUNITIES

**13** CLIMATE ACTION

Global Sustainability Trend

Our products provide solutions that...

Clean Air

...Remove sulfur in diesel  
...Remove NOx from emissions

Plastics Circularity





...Create more durable and lighter weight plastics  
...Enable chemical recycle and reuse of plastics

Renewable Fuels & Materials

...Enable higher alkylation for improved fuel economy  
...Help transform biomass into biofuels & synthetic rubber for green tires



# Second Quarter Highlights: Execution Ahead of Schedule

Focus Area	Highlights
 <p>OPERATIONAL</p>	<ul style="list-style-type: none"> <li>Maintained solid safety performance with &gt;90% "Perfect Days" YTD</li> <li><b>Ecoservices:</b> Completed 3 major facility turnarounds on budget and in time for anticipated robust Q3 regeneration services and virgin sulfuric acid demand</li> <li><b>Catalyst Technologies:</b> Enabled uninterrupted customer production by addressing supply chain logistical challenges resulting in higher sales</li> </ul>
 <p>COMMERCIAL</p>	<ul style="list-style-type: none"> <li><b>Ecoservices:</b> Increased Chem32 renewable fuel volumes to ~40% of total sales</li> <li><b>Catalyst Technologies:</b> Captured double digit polyethylene catalyst sales growth on accelerating customer demand</li> </ul>
 <p>STRATEGIC</p>	<ul style="list-style-type: none"> <li>Closed Performance Chemicals sale and integrated Chem32</li> <li>Completed Ecovyst refinancing for more flexible terms</li> <li>Launched Ecovyst strategic growth plans focused on sustainable products and solutions</li> </ul>
 <p>FINANCIAL</p>	<ul style="list-style-type: none"> <li>Delivered higher sales and Adjusted EBITDA performance in Q2 with 29% Adjusted EBITDA margin<sup>1,2</sup></li> <li>Sequential quarter-over-quarter Adjusted EBITDA growth of 25% with 200 basis points increase in Adjusted EBITDA margin<sup>1,2</sup></li> </ul>

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

2. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

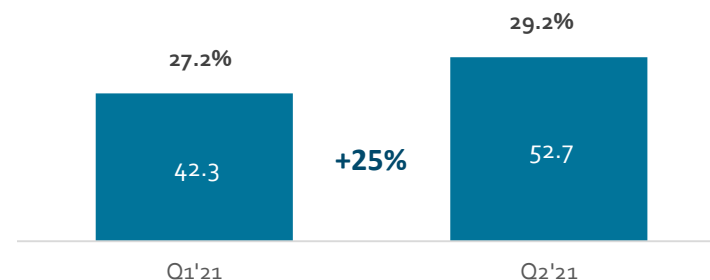
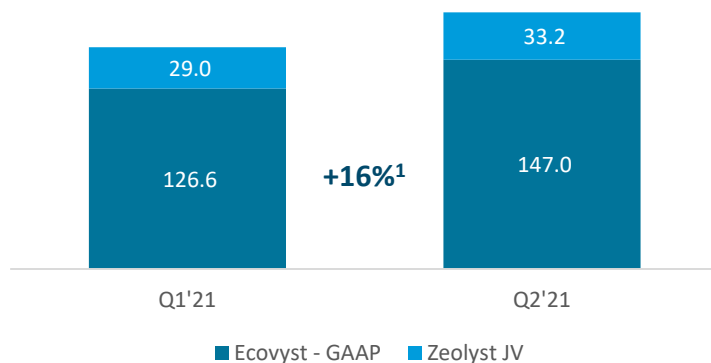


# Second Quarter 2021 Financial Results

## Sequential

### Sales

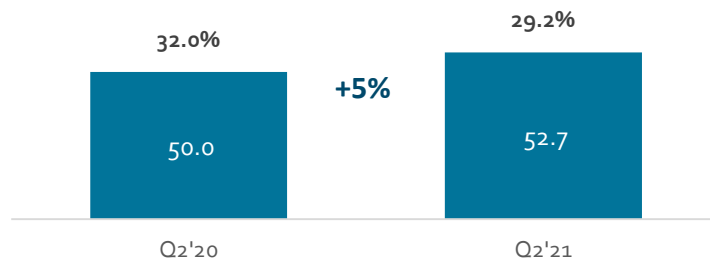
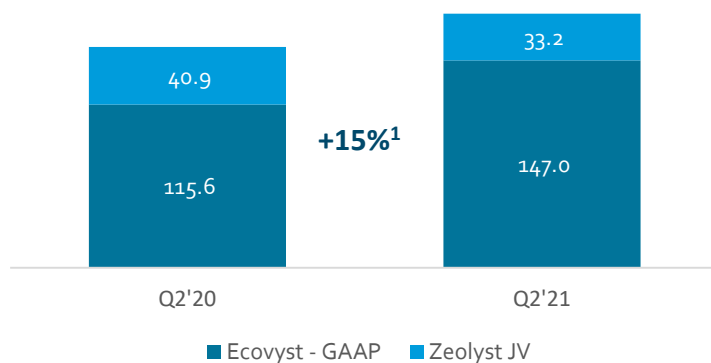
### Adjusted EBITDA & Margin<sup>2,3</sup>



## Year-on-Year

### Sales

### Adjusted EBITDA & Margin<sup>2,3</sup>

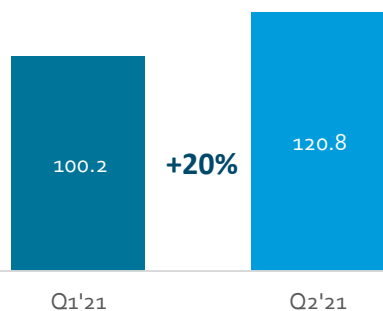


1. Sales change percentages include 50% share of sales from Zeolyst Joint Venture
2. See Appendix for Reconciliations of non-GAAP measures.
3. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture

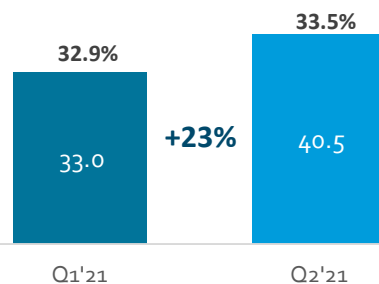
# Ecoservices

## Sequential

### Sales



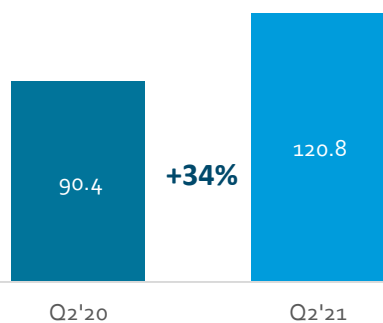
### Adjusted EBITDA & Margin<sup>1</sup>



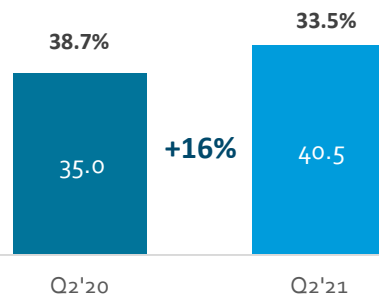
- Sales increased on improved volume in regeneration services and virgin sulfuric acid coupled with pass-through of higher sulfur costs of \$7 million
- Adjusted EBITDA increased on higher volume despite \$5 million higher turnaround expense

## Year-on-Year

### Sales



### Adjusted EBITDA & Margin<sup>1</sup>

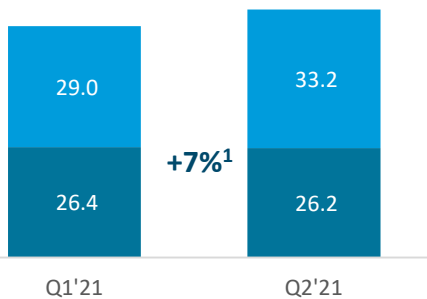


- Sales up significantly on higher regeneration services demand, including \$10 million of pass-through of higher sulfur costs
- Adjusted EBITDA up on volume recovery and the benefit of Chem32
- Adjusted EBITDA margin negatively impacted by pass through of higher sulfur costs (320 bps) and additional turnaround expense of \$5 million

# Catalyst Technologies

## Sequential

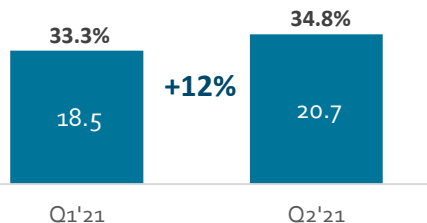
### Sales



+7%<sup>1</sup>

■ Silica Catalysts ■ Zeolyst JV

### Adjusted EBITDA & Margin<sup>2,3</sup>

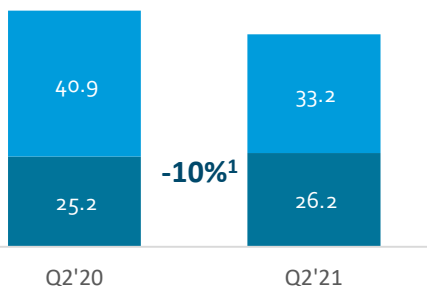


+12%

- Silica Catalysts sales in line as increased demand for polyethylene is offset by timing of chemical catalyst orders
- Zeolyst JV sales increased as hydrocracking catalyst demand recovers with higher refinery utilization
- Adjusted EBITDA improved on increasing Zeolyst JV volumes

## Year-on-Year

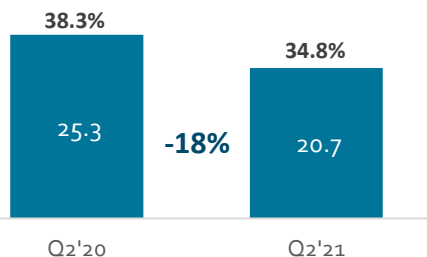
### Sales



-10%<sup>1</sup>

■ Silica Catalysts ■ Zeolyst JV

### Adjusted EBITDA & Margin<sup>2,3</sup>



-18%

- Silica Catalysts sales improved as increased polyethylene volume demand was partially offset by lower chemical catalysts sales due to order timing
- Zeolyst JV sales benefits from renewable fuel catalyst demand offset by deferral of hydrocracking and specialty catalyst orders
- Adjusted EBITDA and margin declined on lower volume as compared to prior year on customer order timing



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

# Ecovyst 2021 Financial Outlook



Ecovyst <sup>1,2</sup>			
(\$ in millions, except per share)	2020 Actual	2021 Prior Guidance	2021 Updated Outlook
Sales <sup>3</sup>	\$496	\$555 – 565	\$565 – 575
Zeolyst JV Sales	\$129	\$140 – 150	\$140 – 150
Adjusted EBITDA <sup>4</sup>	\$193	\$215 – 225	\$215 – 225
Adjusted Free Cash Flow <sup>4,5</sup>	\$153	\$75 – 85	\$60 – 70
Capital Expenditures	\$46	\$50 – 55	\$60 – 65
Depreciation & Amortization			
Ecovyst	\$77	\$80 - 85	\$80 - 85
Zeolyst JV	\$15	\$14 - 16	\$14 - 16

**Growth of 10 – 15%**  
in 2021 from 2020  
assuming midpoint of guidance

- Increasing sales on higher sulfur costs passed through in price
- Reiterating 2021 Adjusted EBITDA
- Raising capital expenditures for one-time stand-up capital
- Updating Adjusted Free Cash Flow for earlier sale of Performance Chemicals
- Refinanced term loan and amended and extended the ABL
  - Expect 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 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 prior guidance includes Performance Chemicals through an estimated September 30, 2021 transaction close. 2021 updated outlook includes Performance Chemicals through transaction close date of August, 1, 2021



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

Simpler + STRONGER <sup>S</sup><sup>2</sup>

## TARGET : 2025

- > \$ 1.0 B total Sales<sup>1</sup> 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
- Innovation in polymer recycling catalysts
- Development of novel renewable material catalysts
- Tailored proprietary customer solutions and services

## NEAR TERM PROGRESS

- Regeneration demand nearly recovered and increasing
- Chem32 business integration ahead of plan
- Growing virgin sulfuric acid for uses in mining and waste treatment
- Above market growth in polyethylene
- Recovering hydrocracking catalyst demand 2H21+
- Increasing renewable fuels demand

Growing + GREENING

G<sup>2</sup>

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

# APPENDIX

# Quarterly Segment Sales, Adjusted EBITDA and Margins

(\$ in millions, except %)	Three Months Ended		Six Months Ended	Three Months Ended		Six Months Ended
	March 31, 2021	June 30, 2021	June 30, 2021	March 31, 2020	June 30, 2020	June 30, 2020
<b>Sales:</b>						
Ecoservices	100.2	120.8	221.0	100.7	90.4	191.1
Silica Catalysts	26.4	26.2	52.6	24.9	25.2	50.1
<b>Total sales</b>	<b>126.6</b>	<b>147.0</b>	<b>273.6</b>	<b>125.6</b>	<b>115.6</b>	<b>241.2</b>
Zeolyst Joint Venture sales	29.0	33.2	62.2	32.3	40.9	73.1
<b>Adjusted EBITDA:</b>						
Ecoservices	33.0	40.5	73.5	37.2	35.0	72.2
Catalyst Technologies	18.5	20.7	39.2	22.7	25.3	48.0
<b>Total Segment Adjusted EBITDA</b>	<b>51.5</b>	<b>61.2</b>	<b>112.6</b>	<b>59.9</b>	<b>60.3</b>	<b>120.2</b>
Corporate	(9.2)	(8.5)	(17.6)	(11.2)	(10.3)	(21.5)
<b>Total Adjusted EBITDA</b>	<b>42.3</b>	<b>52.7</b>	<b>95.0</b>	<b>48.6</b>	<b>50.0</b>	<b>98.7</b>
<b>Adjusted EBITDA Margin:</b>						
Ecoservices	32.9%	33.5%	33.3%	36.9%	38.7%	37.8%
Catalyst Technologies <sup>1,2</sup>	33.4%	34.8%	34.1%	39.7%	38.3%	38.9%
<b>Total Adjusted EBITDA Margin<sup>1,2</sup></b>	<b>27.2%</b>	<b>29.2%</b>	<b>28.3%</b>	<b>30.8%</b>	<b>32.0%</b>	<b>31.4%</b>



1. See Appendix for Reconciliations of non-GAAP measures.  
 2. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture  
 \* 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 June 30, 2021						Six Months Ended June 30, 2021					
	Ecovyst		Ecoservices		Silica Catalysts		Ecovyst		Ecoservices		Silica Catalysts	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Sales:												
Volume	19.5	16.9	21.0	23.2	(1.5)	(5.9)	13.6	5.6	14.7	7.7	(1.1)	(2.2)
Price/Mix	11.2	9.7	9.4	10.4	1.8	7.1	17.7	7.3	15.2	8.0	2.5	5.0
Currency	0.7	0.6	0.0	—	0.7	2.8	1.1	0.5	0.0	—	1.1	2.2
<b>Sales Change</b>	<b>31.4</b>	<b>27.2</b>	<b>30.4</b>	<b>33.6</b>	<b>1.0</b>	<b>4.0</b>	<b>32.4</b>	<b>13.4</b>	<b>29.9</b>	<b>15.7</b>	<b>2.5</b>	<b>5.0</b>

## Adjusted EBITDA

Adj. EBITDA (in \$ millions and %)	Three Months Ended June 30, 2021						Six Months Ended June 30, 2021					
	Ecovyst <sup>2</sup>		Ecoservices		Catalyst Technologies		Ecovyst <sup>2</sup>		Ecoservices		Catalyst Technologies	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Adj EBITDA:												
Volume/Mix	7.1	14.2	14.0	40.0	(6.9)	(27.3)	0.4	0.4	7.7	10.7	(9.5)	(19.8)
Price	11.5	23.0	9.4	26.9	2.1	8.3	17.4	17.6	15.2	21.1	2.2	4.6
Variable Cost	(10.6)	(21.2)	(11.1)	(31.7)	(0.2)	(0.8)	(14.3)	(14.5)	(13.8)	(19.1)	(1.0)	(2.1)
Currency	0.5	1.0	0.0	—	0.5	2.0	0.8	0.8	0.0	—	0.8	1.7
Other	(5.8)	(11.6)	(6.8)	(19.5)	(0.1)	(0.4)	(8.0)	(8.0)	(7.8)	(10.9)	(1.3)	(2.7)
<b>Adj EBITDA Change</b>	<b>2.7</b>	<b>5.4</b>	<b>5.5</b>	<b>15.7</b>	<b>(4.6)</b>	<b>(18.2)</b>	<b>(3.7)</b>	<b>(3.7)</b>	<b>1.3</b>	<b>1.8</b>	<b>(8.8)</b>	<b>(18.3)</b>



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 income to Segment Adjusted EBITDA

(\$ in millions, except %)	Three Months Ended		Six Months Ended	Three Months Ended		Six Months Ended
	March 31, 2021	June 30, 2021	June 30, 2021	March 31, 2020	June 30, 2020	June 30, 2020
<b>Reconciliation of net (loss) income from continuing operations to Segment Adjusted EBITDA</b>						
Net (loss) income from continuing operations	(2.8)	(7.9)	(10.6)	(3.3)	34.3	31.0
(Benefit) provision for income taxes	(5.2)	7.7	2.5	(1.7)	(24.6)	(26.3)
Interest expense, net	10.5	8.7	19.2	15.3	15.1	30.4
Depreciation and amortization	19.5	20.0	39.5	18.7	18.8	37.4
<b>EBITDA</b>	<b>22.0</b>	<b>28.5</b>	<b>50.6</b>	<b>29.0</b>	<b>43.6</b>	<b>72.5</b>
Joint venture depreciation, amortization and interest(a)	3.6	3.7	7.3	3.7	3.7	7.5
Amortization of investment in affiliate step-up(b)	1.7	1.6	3.3	1.7	1.7	3.3
Debt extinguishment costs	—	11.7	11.7	2.5	—	2.5
Net loss on asset disposals(c)	0.8	1.6	2.4	0.2	0.4	0.6
Foreign currency exchange loss (gain)(d)	5.1	(1.2)	3.9	7.1	(3.4)	3.7
LIFO benefit(e)	(0.3)	(0.5)	(0.7)	(1.7)	(2.0)	(3.6)
Transaction and other related costs(f)	0.5	0.6	1.1	0.8	0.4	1.2
Equity-based compensation	6.3	6.3	12.6	4.3	4.6	8.9
Restructuring, integration and business optimization expenses(g)	2.3	0.1	2.3	0.3	0.8	1.2
Defined benefit plan pension benefit(h)	(0.6)	(0.6)	(1.2)	(0.1)	(0.2)	(0.3)
Other(i)	0.9	0.9	1.7	0.8	0.4	1.2
<b>Adjusted EBITDA</b>	<b>42.3</b>	<b>52.7</b>	<b>95.0</b>	<b>48.6</b>	<b>50.0</b>	<b>98.7</b>
Unallocated corporate costs	9.2	8.5	17.6	11.3	10.3	21.5
<b>Total Segment Adjusted EBITDA</b>	<b>51.5</b>	<b>61.2</b>	<b>112.6</b>	<b>59.9</b>	<b>60.3</b>	<b>120.2</b>

EBITDA Adjustments by Line Item						
<b>EBITDA</b>	<b>22.0</b>	<b>28.5</b>	<b>50.6</b>	<b>29.0</b>	<b>43.6</b>	<b>72.5</b>
Cost of goods sold	(0.3)	(0.5)	(0.8)	(1.7)	(1.9)	(3.5)
Selling, general and administrative expenses	6.3	6.3	12.6	4.5	4.8	9.3
Other operating expense, net	3.8	2.9	6.7	1.4	1.7	3.1
Equity in net (income) from affiliated companies	1.7	1.6	3.3	1.7	1.7	3.3
Other expense, net <sup>2</sup>	5.2	10.2	15.3	10.0	(3.6)	6.5
Joint venture depreciation, amortization and interest(a)	3.6	3.7	7.3	3.7	3.7	7.5
<b>Adjusted EBITDA</b>	<b>42.3</b>	<b>52.7</b>	<b>95.0</b>	<b>48.6</b>	<b>50.0</b>	<b>98.7</b>



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

# Historical Financial Performance

(\$ in millions except %)	Year Ended		
	December 31	December 31	December 31,
	2019	2018	2017
<b>PQ Group Holdings Inc. Sales:</b>			
Ecoservices (formerly Refining Services)	447.1	455.6	398.4
Silica Catalysts	85.7	72.1	75.3
Performance Materials	363.0	378.3	324.2
Performance Chemicals	685.1	717.3	687.6
Eliminations	(13.8)	(15.1)	(13.4)
<b>Total PQ Group Holdings Inc. sales</b>	<b>1,567.1</b>	<b>1,608.2</b>	<b>1,472.1</b>
Zeolyst joint venture sales	170.3	156.7	143.8
<b>Ecovyst Sales:</b>			
Ecoservices	447.1	455.6	398.4
Silica Catalysts	85.7	72.1	75.3
<b>Total Ecovyst sales</b>	<b>532.8</b>	<b>527.7</b>	<b>473.7</b>
Zeolyst joint venture sales	170.3	156.7	143.8
<b>PQ Group Holdings Inc. Adjusted EBITDA:</b>			
Ecoservices (formerly Refining Services)	175.6	176.5	154.2
Catalyst Technologies (formerly Catalysts)	107.8	81.1	89.4
Performance Materials	76.7	72.5	69.7
Performance Chemicals	154.3	170.9	170.5
<b>Total PQ Group Holdings Inc. Segment Adjusted EBITDA</b>	<b>514.4</b>	<b>501.0</b>	<b>483.8</b>
Corporate	(40.1)	(37.0)	(30.5)
<b>Total PQ Group Holdings Inc. Adjusted EBITDA</b>	<b>474.3</b>	<b>464.0</b>	<b>453.3</b>
<b>Ecovyst Adjusted EBITDA:</b>			
Ecoservices	175.6	176.5	154.2
Catalyst Technologies	107.8	81.1	89.4
<b>Total Ecovyst Segment Adjusted EBITDA</b>	<b>283.4</b>	<b>257.6</b>	<b>243.6</b>
Corporate	(40.1)	(37.0)	(30.5)
<b>Total Ecovyst Adjusted EBITDA</b>	<b>243.3</b>	<b>220.6</b>	<b>213.1</b>
<b>Capital Expenditures</b>			
PQ Group Holdings Inc.	\$143.8	\$132.9	\$141.1
Ecovyst	\$54.0	\$57.0	\$56.0



1. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from Zeolyst Joint Venture  
 \* 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 associated with the legacy operations of our business prior to a business combination consummated in a prior year period and 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	Six Months Ended June, 30 2021
<b>Cash Flow from Operations before interest and tax</b>	<b>349.0</b>	<b>90.4</b>
Less: Cash paid for taxes	35.0	12.3
Less: Cash paid for interest <sup>1</sup>	90.4	28.7
<b>Cash Flow from Operations</b>	<b>223.6</b>	<b>49.3</b>
Less: Purchases of property, plant and equipment <sup>2</sup>	109.6	50.0
<b>Free Cash Flow</b>	<b>114.0</b>	<b>(0.7)</b>
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	21.0
<b>Adjusted Free Cash Flow</b>	<b>152.5</b>	<b>22.9</b>

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

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

