Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

Second Quarter 2022 Earnings Results Call

August 16, 2022

Safe Harbor

This presentation includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 as contained in Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, which provides a "safe harbor" for such statements in certain circumstances. The forward-looking statements include statements or expectations regarding expectations regarding achievements of our 2022 priorities, our expected future performance opportunities, and results from the Company's review of strategic alternatives, among other matters. These statements are based on current expectations, estimates, projections, beliefs and assumptions of our management. These forward-looking statements involve significant risks and uncertainties. Actual events or results could differ materially from those discussed in the forward-looking statements as a result of various factors, including but not limited to, opportunities for additional sales of our lignite activated carbon products and end-market diversification, the outcome of the review of strategic alternatives, our ability to meet customer supply requirements, the rate of coal-fired power generation in the United States, timing of new and pending regulations and any legal challenges to or extensions of compliance dates of them; the US government's failure to promulgate regulations that benefit our business; changes in laws, regulations, IRS interpretations or guidance, accounting rules, any pending court decisions, prices, economic conditions and market demand; impact of competition; availability, cost of and demand for alternative energy sources and other technologies; technical, start-up and operational difficulties; competition within the industries in which we operate; loss of key personnel; ongoing effects of the COVID-19 pandemic and associated economic downturn on our operations and prospects; the impact of inflation on our operations, as well as other factors relating to our business, as discussed in our filings with the Securities and Exchange Commission (The "SEC"), including our Annual Report on Form 10-K for the year ended December 31, 2021. You are cautioned not to place undue reliance on such statements and to consult our SEC filings for additional risks and uncertainties that may apply to our business and the ownership of our securities. In addition to causing our actual results to differ, the factors listed above may cause our intentions to change from those statements of intention set forth in this presentation. Such changes in our intentions may also cause our results to differ. We may change our intentions, at any time and without notice, based on changes in such factors, our assumptions, or otherwise. Our forward-looking statements are presented as of the date made, and we disclaim any duty to update such statements unless required by law to do so.

Second Quarter Highlights

Consolidated Results

- Consumables revenue was $24.7M compared to $17.4M in 2021
- Consumables gross margin was 19.5% compared to 15.4% in 2021
- Net loss was $0.3M compared to net income of $16.6M in Q2 2021 due to the effect of Tinuum investments in the prior year
- Consolidated Adjusted EBITDA(1) of $2.2M compared to $21.2M in 2021
- Production volume exceeded internal expectations

Capital Allocation & Balance Sheet

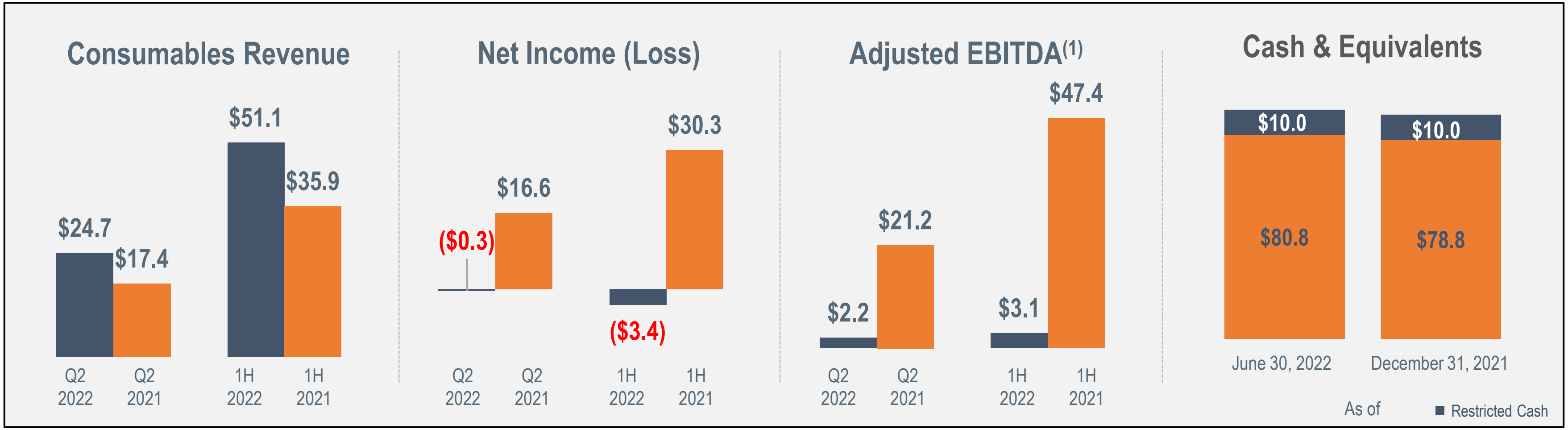
- Capital allocation priority remains with organic investment in our manufacturing capabilities
- Cash, including restricted cash, of $90.8M at quarter-end compared to $88.8M as of December 31, 2021
- Only remaining debt outstanding are finance liabilities totaling $5.2M
- Pleased with progression and nature of strategic review process

Outlook

- Expect continued top-line strength
- Margin pressures expected to persist through 2022, though they are expected to be partially offset via price initiatives and product mix
- Inventory flexibility improving; average selling price expected to trend higher

(1) Consolidated Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

Financial Highlights



- Consumables revenue grew 42% compared to prior year period driven by increased sales volumes and higher average selling price
- Year-over-year variance in Net Income and Consolidated Adjusted EBITDA[1] driven by the winddown of the Tinuum investment at the end of 2021
- Strong cash position and minimal liabilities offer us flexibility to invest organically in our manufacturing capabilities and navigate strategic review from a position of strength

(1) Consolidated Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

Activated Carbon Opportunities

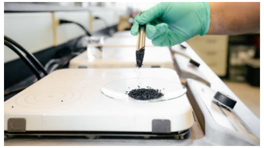
Power Generation

- *We are currently the North American provider-of-choice in mercury removal for coal-fired power generation. We leverage our leading IP, manufacturing assets, technologies and relationships to maintain our market position. However, this market is likely to remain structurally more challenged as aggregate coal burn is expected to decline over time.*

Industrial and Water

- *In response, we have developed a solid market position for certain Industrial applications and Municipal water – including markets that the Red River plant did not previously serve – which has diversified our product and customer mix.*

Adjacent Markets



- *We are developing more specialized applications, offering higher margin and higher growth commercial market opportunities. The quality of Red River plant offers us the asset base to pursue these adjacent markets.*

Our goal is to continue be the provider-of-choice in the North American activated carbon market

We are well-positioned to capitalize on emerging opportunities; production capacity is significantly utilized; and we are selling into a more balanced mix of commercial markets

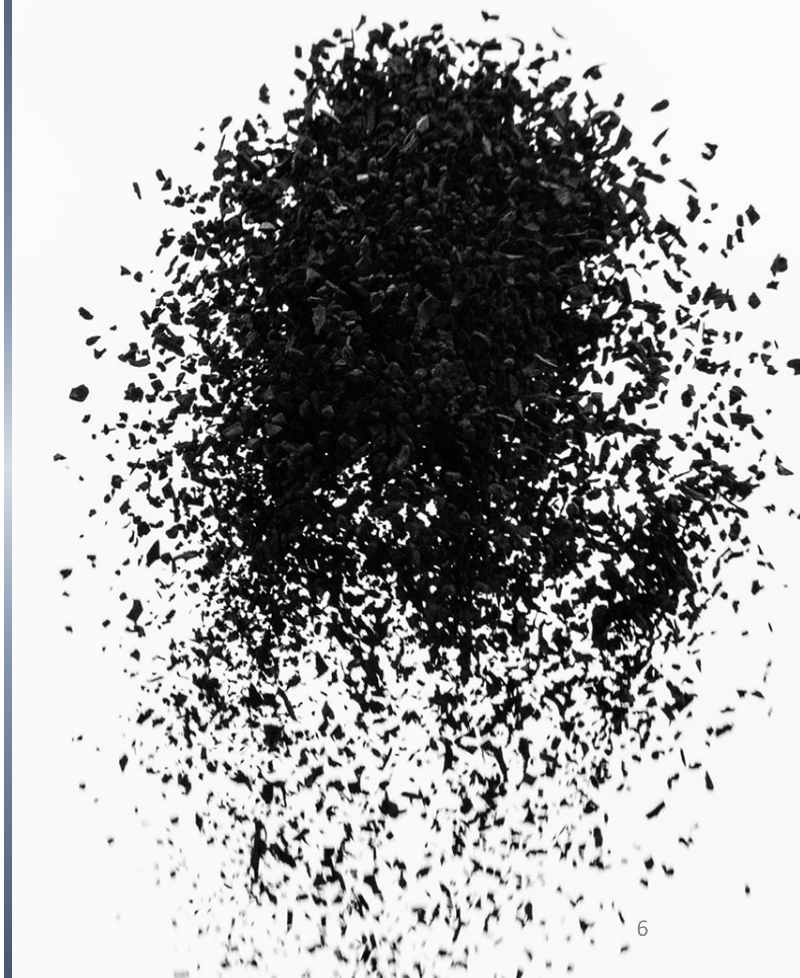
2022 Priorities

ENHANCE LONG-TERM PROFITABILITY AT RED RIVER PLANT:

- Capitalize on highly efficient and low-cost, world class manufacturing facilities
- Pursue optimal customer mix to leverage enhanced value creation through new customer contracts
- Structurally upgrade customer contracting terms to minimize headwinds from increased cost pressures stemming from inventory build and supply chain challenges
- Accelerate diversification among product and customer mix through investment in new product development
- Remain vigilant for additional rationalization opportunities and supply agreements

ALLOCATE CASH FLOWS & ASSETS TO DRIVE SHAREHOLDER VALUE:

- Invest in Red River plant's strategic initiatives to solidify position as provider-of-choice for activated carbon
- Conclude strategic alternatives review and ensure maximization of shareholder value



APPENDIX

Appendix A: 10-Q Balance Sheet[(1)]

(in thousands, except share data)	As of June 30, 2022	As of December 31, 2021
ASSETS		
Current assets:		
Cash	$ 80,819	$ 78,753
Receivables, net	12,659	12,622
Receivables, related parties	—	2,481
Inventories, net	12,109	7,850
Prepaid expenses and other current assets	7,441	6,661
Total current assets	113,028	108,367
Restricted cash, long-term	10,000	10,027
Property, plant and equipment, net of accumulated depreciation of $9,428 and $7,684, respectively	31,149	30,171
Other long-term assets, net	29,575	36,871
Total Assets	$ 183,752	$ 185,436
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 14,150	$ 16,486
Current portion of finance lease obligations	1,235	1,011
Other current liabilities	5,202	5,124
Total current liabilities	20,587	22,621
Long-term finance lease obligations, net of current portion	3,998	3,152
Other long-term liabilities	14,662	12,362
Total Liabilities	39,247	38,135
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Preferred stock: par value of $.001 per share, 50,000,000 shares authorized, none outstanding	—	—
Common stock: par value of $.001 per share, 100,000,000 shares authorized, 23,693,208 and 23,460,212 shares issued, and 19,075,062 and 18,842,066 shares outstanding at June 30, 2022 and December 31, 2021, respectively	24	23
Treasury stock, at cost: 4,618,146 and 4,618,146 shares as of June 30, 2022 and December 31, 2021, respectively	(47,692)	(47,692)
Additional paid-in capital	102,668	102,106
Retained earnings	89,505	92,864
Total Stockholders' Equity	144,505	147,301
Total Liabilities and Stockholders' Equity	$ 183,752	$ 185,436

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended June 30, 2022.

Appendix B: 10-Q Income Statement[1]

(in thousands, except per share data)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Revenues:				
Consumables	$ 24,739	$ 17,408	$ 51,141	$ 35,949
License royalties, related party	—	3,657	—	7,723
Total revenues	24,739	21,065	51,141	43,672
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	19,910	14,732	41,417	28,716
Payroll and benefits	2,519	2,908	5,145	5,377
Legal and professional fees	1,555	1,431	3,727	3,234
General and administrative	1,869	1,593	3,795	3,508
Depreciation, amortization, depletion and accretion	1,588	1,904	3,094	4,010
Loss (gain) on change in estimate, asset retirement obligation	34	(1,942)	34	(1,942)
Total operating expenses	27,475	20,626	57,212	42,903
Operating (loss) income	(2,736)	439	(6,071)	769
Other income (expense):				
Earnings from equity method investments	2,389	21,437	3,222	39,749
Interest expense	(90)	(493)	(176)	(1,330)
Other	111	150	(334)	571
Total other income	2,410	21,094	2,712	38,990
(Loss) income before income tax expense	(326)	21,533	(3,359)	39,759
Income tax expense	—	4,943	—	9,432
Net (loss) income	$ (326)	$ 16,590	$ (3,359)	$ 30,327
(Loss) earnings per common share (Note 1):				
Basic	$ (0.02)	$ 0.91	$ (0.18)	$ 1.66
Diluted	$ (0.02)	$ 0.90	$ (0.18)	$ 1.65
Weighted-average number of common shares outstanding:				
Basic	18,473	18,271	18,409	18,219
Diluted	18,473	18,398	18,409	18,356

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended June 30, 2022.

Appendix C: 10-Q Cash Flow[1]

(in thousands)	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Cash flows from operating activities		
Net (loss) income	$ (3,359)	$ 30,327
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation, amortization, depletion and accretion	3,094	4,010
Earnings from equity method investments	(3,222)	(39,749)
Operating lease expense	1,300	912
Stock-based compensation expense	948	987
Deferred income tax expense	—	6,817
Amortization of debt discount and debt issuance costs	—	945
Loss (gain) on change in estimate, asset retirement obligation	34	(1,942)
Other non-cash items, net	449	(319)
Changes in operating assets and liabilities:		
Receivables and related party receivables	2,444	1,362
Prepaid expenses and other assets	(779)	(723)
Inventories, net	(4,079)	1,327
Other long-term assets, net	2,942	(2,746)
Accounts payable and accrued expenses	(2,509)	(447)
Other current liabilities	(450)	(1,468)
Operating lease liabilities	1,999	2,048
Other long-term liabilities	649	(2,334)
Distributions from equity method investees, return on investment	2,297	19,144
Net cash provided by operating activities	$ 1,758	$ 18,151

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended June 30, 2022.

Appendix C: 10-Q Cash Flow (continued)[1]

(in thousands)	Six Months Ended June 30, 2022	2021
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	$ 3,316	$ 24,732
Acquisition of property, plant, equipment, and intangible assets, net	(2,889)	(4,573)
Mine development costs	(326)	(653)
Proceeds from sale of property and equipment	1,204	895
Net cash provided by investing activities	1,305	20,401
Cash flows from financing activities		
Principal payments on finance lease obligations	(594)	(818)
Repurchase of common shares to satisfy tax withholdings	(385)	(241)
Dividends paid	(45)	(90)
Principal payments on term loan	—	(16,000)
Net cash used in financing activities	(1,024)	(17,149)
Increase in Cash and Restricted Cash	2,039	21,403
Cash and Restricted Cash, beginning of period	88,780	35,932
Cash and Restricted Cash, end of period	$ 90,819	$ 57,335
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property and equipment through finance lease	$ 1,641	$ —
Acquisition of property and equipment through accounts payable	$ 173	$ 163

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended June 30, 2022.

Appendix D: Non-GAAP Financial Measure & Consolidated Adjusted EBITDA Reconciliation to Net (Loss) Income

Note on Non-GAAP Financial Measures

To supplement the Company's financial information presented in accordance with U.S. generally accepted accounting principles, or GAAP, this investor presentation includes non-GAAP measures of certain financial performance. The non-GAAP measures include Consolidated Adjusted EBITDA. The Company included non-GAAP measures because management believes that they help to facilitate comparison of operating results between periods. The Company believes the non-GAAP measures provide useful information to both management and users of the financial statements by excluding certain expenses that may not be indicative of core operating results and business outlook. These non-GAAP measures are not in accordance with, or an alternative to, measures prepared in accordance with GAAP and may be different from non-GAAP measures used by other companies. In addition, these non-GAAP measures are not based on any comprehensive set of accounting rules or principles. These measures should only be used to evaluate the Company's results of operations in conjunction with the corresponding GAAP measures.

The Company has defined Consolidated Adjusted EBITDA as net (loss) income, adjusted for the impact of the following items that are either non-cash or that the Company does not consider representative of its ongoing operating performance: depreciation, amortization, depletion and accretion, amortization of upfront customer consideration, interest expense, net, income tax expense; then reduced by the non-cash impact of equity earnings from equity method investments and increased by cash distributions from equity method investments and loss (gain) on change in estimate, asset retirement obligation and loss on early settlement of Norit receivable. The Company believes that the Consolidated Adjusted EBITDA measure is less susceptible to variances that affect the Company's operating performance.

The Company presents the non-GAAP measures because the Company believes they are useful as supplemental measures in evaluating the performance of the Company's operating performance and provide greater transparency into the results of operations. The Company's management uses Consolidated Adjusted EBITDA as a factor in evaluating the performance of its business. The adjustments to Consolidated Adjusted EBITDA in future periods are generally expected to be similar. Consolidated Adjusted EBITDA has limitations as an analytical tool, and you should not consider these measures in isolation or as a substitute for analyzing the Company's results as reported under GAAP.

Appendix E: Consolidated Adjusted EBITDA Reconciliation to Net (Loss) Income

	Three Months Ended June 30,		Six Months Ended June 30,	
(in thousands)	2022	2021	2022	2021
Net (loss) income	$ (326)	$ 16,590	$ (3,359)	$ 30,327
Depreciation, amortization, depletion and accretion	1,588	1,904	3,094	4,010
Amortization of Upfront Customer Consideration	127	127	254	254
Interest expense, net	54	434	118	1,163
Income tax expense	—	4,943	—	9,432
Consolidated EBITDA	1,443	23,998	107	45,186
Cash distributions from equity method investees	3,100	20,625	5,613	43,876
Equity earnings	(2,389)	(21,437)	(3,222)	(39,749)
Loss (gain) on change in estimate, asset retirement obligation	34	(1,942)	34	(1,942)
Loss on early settlement of Norit Receivable	—	—	535	—
Consolidated Adjusted EBITDA	$ 2,188	$ 21,244	$ 3,067	$ 47,371