Advanced Emissions Solutions, Inc.

Fourth Quarter & Full Year 2022 Results Call

March 9, 2023

Nasdaq: ADES

Disclaimer

This presentation includes forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, which provides a “safe harbor” for such statements in certain circumstances. When used in this presentation, the words “can,” “will,” “intends,” “expects,” “believes,” similar expressions and any other statements that are not historical facts are intended to identify those assertions as forward-looking statements. All statements that address activities, events or developments that Advanced Emissions Solutions, Inc. ("ADES" or the "Company") intend, expect or believe may occur in the future are forward-looking statements. These forward-looking statements may relate to such matters as business strategy, goals and expectations concerning the combination of ADES and Arq (the "Transaction") (including future operations, future performance or results). The forward-looking statements may further include expectations about future demand for our APT products, pressure on APT margins and acceptance of price increases, the timing and impact of the sale of Marshall Mine, LLC, our ability to integrate Arq’s assets and operations, our ability to achieve commercial scale of GAC production within the North American market, our ability to secure customers and develop sales channels for GAC and other products, among other matters. These forward-looking statements involve 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: the effect of the announcement of the Arq acquisition on the Company’s ability to hire key personnel, its ability to maintain relationships with customers, suppliers and others with whom it does business, or its results of operations and business generally; risks related to diverting management’s attention from the Company’s ongoing business operations; the ability to meet Nasdaq’s listing standards following the consummation of the Transaction; costs related to the proposed Transaction; opportunities for additional sales of our lignite activated carbon products and end-market diversification; the Company’s ability to meet customer supply requirements; the ability to successfully integrate Arq’s business, the ability to develop and utilize Arq’s products and technology and the expected demand for those products, 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 U.S. government’s failure to promulgate regulations that benefit our business; changes in laws and regulations; Internal Revenue Service 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 the Company operates; loss of key personnel; ongoing effects of the COVID-19 pandemic and associated economic downturn on operations and prospects; as well as other factors relating to our business, as described in the Company’s filings with the U.S. Securities and Exchange Commission (the “SEC”), with particular emphasis on the risk factor disclosures contained in those filings. You are cautioned not to place undue reliance on the forward-looking statements and to consult filings ADES has made and will make with the SEC for additional discussion concerning risks and uncertainties that may apply to the business and the ownership of ADES securities. The forward-looking statements speak only as to the date of this presentation, and the Company does not undertake any obligation to update its forward-looking statements to reflect events or circumstances that may arise after the date of this presentation.

Non-GAAP Financial Measures

Included in this presentation are certain financial measures that are not calculated in accordance with U.S. generally accepted accounting principles ("GAAP") designed to supplement, and not substitute, the Company's financial information presented in accordance with GAAP. The non-GAAP measures as defined by the Company may not be comparable to similar non-GAAP measures presented by other companies. The presentation of such measures, which may include adjustments to exclude unusual or non-recurring items, should not be construed as an inference that the Company’s future results or leverage will be unaffected by other unusual or non-recurring items. Please see the Company's filings with the SEC for how we define these non-GAAP measures, a discussion of why we believe they are useful to investors, and certain limitations and reconciliations thereof to the most directly comparable GAAP measures.

EXPERTISE | RELIABILITY | COMPLIANCE

Fourth Quarter Highlights

Consolidated Results

- Consumables revenue was $23.4M compared to $23.2M in 2021
- Consumables gross margin was 25.4% compared to 27.3% in 2021
- Net loss was $3.2M compared to net income of $5.8M due to the effect of Tinuum investments in the prior year
- Adjusted EBITDA(1) loss of $1.2M compared to positive Adjusted EBITDA of $9.1M in 2021
- Production volume was strong at Red River; inventory position modestly improved

Capital Allocation & Balance Sheet

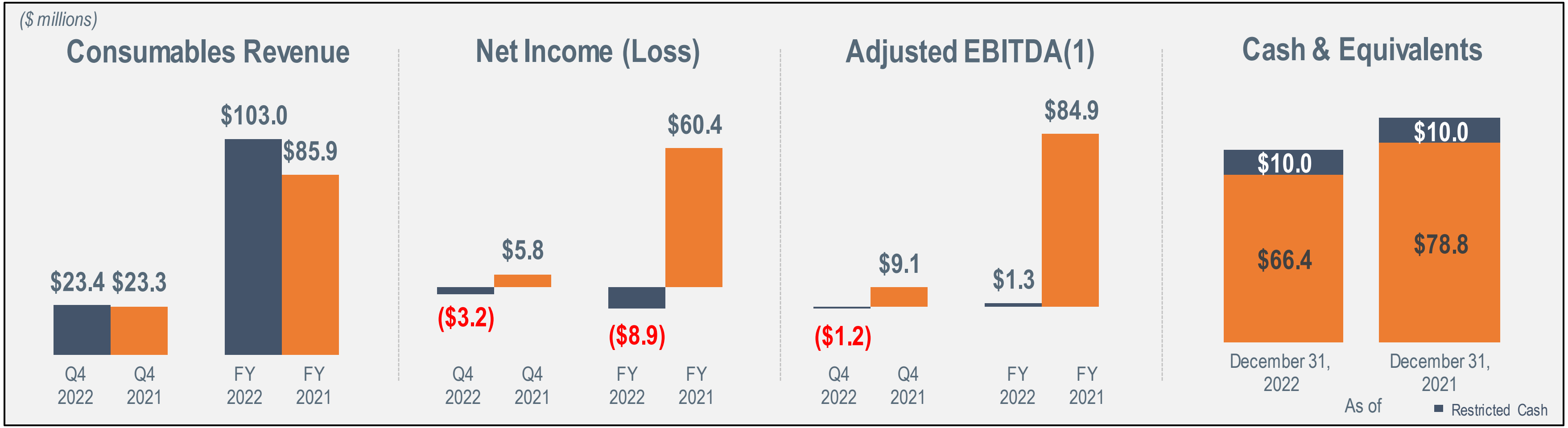
- Cash, including restricted cash, of $76.4M at year-end compared to $88.8M as of December 31, 2021
- Capital allocation focused on growth projects related to Arq acquisition and ongoing investment in manufacturing
- Portion of restricted cash expected to be released upon closing of Marshall Mine sale in 2023

Outlook

- Expect continued top-line strength supported by product mix and higher ASP
- Margin pressures expected to persist into 2023
- Commence capital projects to modify Red River, Corbin sites to enable GAC production at scale
- Forecasting approximately $106M in revenue, ($6M) EBITDA in 2023 excluding one-time acquisition costs

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

Financial Review



- Full year consumables revenue increased 20% year-over-year, driven by increased volumes and higher ASP as a result of pricing initiatives
- Full year other operating expenses totaled $34.6M compared to $29.9M in 2021. The increase is primarily due to higher strategic review and transaction related costs, partially offset by lower payroll and benefits expense, depreciation and amortization
- Year-over-year variance in Net Income (Loss) and Adjusted EBITDA (Loss)(1) driven by the cessation of the Tinuum operating activities investment at the end of 2021
- Strong balance sheet offers position of strength to upgrade infrastructure beginning in 2023

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

Synergistic Acquisition Overview

	ADES	Arq	Consolidated
Business	• Top 3 US Activated Carbon ("AC") Producer with strong existing customer base	• Environmental technology company producing carbon products and feedstock from coal waste	• Vertically integrated carbon products business with strong existing customer base and patent protected barriers to entry
Primary AC Products	• Powdered Activated Carbon ("PAC")	• Granular Activated Carbon ("GAC")	• PAC + GAC
Primary Markets	• Power generation, industrial and water treatment	• Water treatment, durable materials and energy transition	• Diversified, high-margin end-markets
Feedstock	• Lignite	• Bituminous waste	• Lignite + Bituminous
Market Outlook	• Compelling in short-term with structural long-term headwinds	• High growth with supportive macroeconomic factors	• Exposure to growth markets
Operations	• Red River Plant (LA) and integrated supply chain	• Corbin (KY) waste recovery and enrichment plant	• Expanded integrated supply chain, production capabilities and channels to market
Growth Opportunities	• Colloidal Carbon Product ("CCP") and GAC	• Additives for asphalt, carbon black and fuels	• Attractive product pipeline in large, high-margin end-markets

2023 Outlook & Key Milestones

Key Actions for 2023:

- Maintain high renewal rates with existing PAC customers
- Continue to align contracts with market conditions to increase ASP
- Integration of Arq team and assets
- Capital program to upgrade infrastructure will begin in 2023
- Red River and Corbin sites will undergo capital improvements to enable commercial scale GAC production
    - PAC production at Red River will be uninterrupted
- Adjacent market focus will be on securing lead customers for GAC and other emerging products

Financial Outlook

$106 million

Revenue

($6) million

EBITDA[1]

(1) EBITDA outlook excludes one-time acquisition and integration costs

Advanced Emissions Solutions, Inc.

Appendix

Appendix A: 10-K Balance Sheet[1]

(in thousands, except share data)	As of December 31, 2022	As of December 31, 2021
ASSETS		
Current assets:		
Cash	$ 66,432	$ 78,753
Receivables, net	13,864	12,622
Receivables, related party	—	2,481
Inventories, net	17,828	7,850
Prepaid expenses and other current assets	7,538	6,661
Total current assets	105,662	108,367
Restricted cash, long-term	10,000	10,027
Property, plant and equipment, net of accumulated depreciation of $11,897 and $7,684, respectively	34,855	30,171
Other long-term assets, net	30,647	36,871
Total Assets	$ 181,164	$ 185,436
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	$ 16,108	$ 16,486
Current portion of long-term debt	1,131	1,011
Other current liabilities	6,645	5,124
Total current liabilities	23,884	22,621
Long-term debt, net of current portion	3,450	3,152
Other long-term liabilities	13,851	12,362
Total Liabilities	41,185	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, 23,788,319 and 23,460,212 shares issued and 19,170,173 and 18,842,066 shares outstanding at December 31, 2022 and 2021, respectively	24	23
Treasury stock, at cost: 4,618,146 and 4,618,146 shares as of December 31, 2022 and 2021, respectively	(47,692)	(47,692)
Additional paid-in capital	103,698	102,106
Retained earnings	83,949	92,864
Total stockholders' equity	139,979	147,301
Total Liabilities and Stockholders' equity	$ 181,164	$ 185,436

(1) See audited Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2022.

Appendix B: 10-K Income Statement[1]

(in thousands, except per share data)	Years Ended December 31, 2022	2021
Revenues:		
Consumables	$ 102,987	$ 85,882
License royalties, related party	—	14,368
Other	—	44
Total revenues	102,987	100,294
Operating expenses:		
Consumables cost of revenues, exclusive of depreciation and amortization	80,465	65,576
Payroll and benefits	10,540	11,315
Legal and professional fees	9,455	6,260
General and administrative	8,145	7,060
Depreciation, amortization, depletion and accretion	6,416	7,933
Loss (gain) on change in estimate, asset retirement obligation	34	(2,702)
Total operating expenses	115,055	95,442
Operating (loss) income	(12,068)	4,852
Other income (expense):		
Earnings from equity method investments	3,541	68,726
Gain on extinguishment of debt	—	3,345
Interest expense	(336)	(1,490)
Other	155	640
Total other income	3,360	71,221
(Loss) income before income tax expense	(8,708)	76,073
Income tax expense	209	15,672
Net (loss) income	$ (8,917)	$ 60,401
(Loss) earnings per common share (Note 1):		
Basic	$ (0.48)	$ 3.31
Diluted	$ (0.48)	$ 3.27
Weighted-average number of common shares outstanding:		
Basic	18,453	18,258
Diluted	18,453	18,461

(1) See audited Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2022.

Appendix C: 10-K Cash Flow(1)

(in thousands)	Years Ended December 31, 2022	2021
Cash flows from operating activities		
Net (loss) income	$ (8,917)	$ 60,401
Adjustments to reconcile net (loss) income to net cash (used in) provided by operating activities:		
Depreciation, amortization, depletion and accretion	6,416	7,933
Earnings from equity method investments	(3,541)	(68,726)
Operating lease expense	2,709	2,038
Stock-based compensation expense	1,981	1,927
Loss (gain) on change in estimate, asset retirement obligation	34	(2,702)
Deferred income tax expense	—	10,604
Amortization of debt discount and debt issuance costs	—	945
Gain on extinguishment of debt	—	(3,345)
Other non-cash items, net	496	(209)
Changes in operating assets and liabilities:		
Receivables, net	(1,312)	540
Related party receivables	2,481	972
Prepaid expenses and other current assets	(876)	(2,064)
Inventories, net	(9,686)	1,394
Other long-term assets, net	245	(4,270)
Accounts payable and accrued expenses	(911)	5,197
Other current liabilities	1,008	(8,279)
Operating lease liabilities	1,521	3,344
Other long-term liabilities	(6)	(2,645)
Distributions from equity method investees, return on investment	2,297	22,944
Net cash (used in) provided by operating activities	$ (6,061)	$ 25,999

(1) See audited Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2022.

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

	Years Ended December 31,	
(in thousands)	**2022**	**2021**
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	$ 3,636	$ 51,082
Acquisition of property, equipment and intangible assets, net	(8,914)	(6,201)
Mine development costs	(583)	(1,398)
Proceeds from sale of property and equipment	1,253	895
Net cash (used in) provided by investing activities	(4,608)	44,378
Cash flows from financing activities		
Principal payments on term loan	—	(16,000)
Principal payments on finance lease obligations	(1,246)	(1,190)
Repurchase of shares to satisfy tax withholdings	(388)	(246)
Dividends paid	(45)	(93)
Net cash used in financing activities	(1,679)	(17,529)
(Decrease) increase in Cash, Cash Equivalents and Restricted Cash	(12,348)	52,848
Cash, Cash Equivalents and Restricted Cash, beginning of year	88,780	35,932
Cash, Cash Equivalents and Restricted Cash, end of year	$ 76,432	$ 88,780
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 334	$ 524
Cash paid for income taxes	$ 3	$ 8,882
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property and equipment under finance lease	$ 1,641	$ —
Change in accrued purchases for property and equipment	$ 532	$ 183
Change in asset retirement obligation	$ —	$ 121

(1) See audited Condensed Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2022.

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

Note on Non-GAAP Financial Measures

To supplement our financial information presented in accordance with accounting principles generally accepted in the United States ("GAAP"), the Company provides non-GAAP measures of certain financial performance. These non-GAAP measures include Consolidated EBITDA (EBITDA Loss) and Consolidated Adjusted EBITDA (EBITDA Loss). The Company has included these non-GAAP measures because management believes that they help to facilitate period to period comparisons of our operating results and provide useful information to both management and users of the financial statements by excluding certain expenses, gains and losses which may not be indicative of core operating results and business outlook. Management uses these non-GAAP measures in evaluating the performance of our business.

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 our results of operations in conjunction with the corresponding GAAP measures.

The Company defines Consolidated EBITDA (EBITDA Loss) as net income (loss) adjusted for the impact of the following items that are either non-cash or that we do not consider representative of our ongoing operating performance: depreciation, amortization, depletion, accretion, amortization of upfront customer consideration that was recorded as a component of the Marshall Mine Acquisition ("Upfront Customer Consideration"), interest expense, net and income tax expense. We define Consolidated Adjusted EBITDA (EBITDA Loss) as Consolidated EBITDA (EBITDA Loss), reduced by the non-cash impact of equity earnings from equity method investments, gain on change in estimate of asset retirement obligations and gain on extinguishment of debt, and increased by cash distributions from equity method investments, loss on early settlement of the Norit Receivable and the change in AROs as a result of a change in estimate. Because Consolidated Adjusted EBITDA (EBITDA Loss) omits certain non-cash items, we believe that the measure is less susceptible to variances that affect our operating performance

When used in conjunction with GAAP financial measures, we believe these non-GAAP measures are supplemental measures of operating performance which explain our operating performance for our period to period comparisons and against our competitors' performance. Generally, we believe these non-GAAP measures are less susceptible to variances that affect our operating performance results.

We expect the adjustments to Consolidated EBITDA (EBITDA Loss) and Consolidated Adjusted EBITDA (EBITDA Loss) in future periods will be generally similar. These non-GAAP measures have limitations as analytical tools and should not be considered in isolation or as a substitute for analyzing our results as reported under GAAP.

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

	Three Months Ended December 31,		Year ended December 31,	
(in thousands)	2022	2021	2022	2021
Net (loss) income	$ (3,167)	$ 5,821	$ (8,917)	$ 60,401
Depreciation, amortization, depletion and accretion	1,651	1,778	6,416	7,933
Amortization of Upfront Customer Consideration	127	127	508	508
Interest expense, net	(66)	(24)	97	1,164
Income tax expense	209	1,659	209	15,672
(EBITDA Loss) EBITDA	(1,246)	9,361	(1,687)	85,678
Cash distributions from equity method investees	320	7,275	5,933	74,026
Equity earnings	(319)	(6,782)	(3,541)	(68,726)
Gain on extinguishment of debt	—	—	—	(3,345)
Loss (gain) on change in estimate, asset retirement obligation	—	(760)	34	(2,702)
Loss on early settlement of Norit Receivable	—	—	535	—
Adjusted (EBITDA loss) EBITDA	$ (1,245)	$ 9,094	$ 1,274	$ 84,931