Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

Third Quarter 2020 Earnings Results Call

November 10, 2020

SAFE HARBOR

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. The forward-looking statements include statements or expectations regarding future cash flows from refined coal ("RC"); expected revenue and EBITDA growth associated with supply agreement; success on cash perseveration strategies; potential RC facility transactions with tax-equity investors and estimated tonnage associated with such potential transaction; opportunities for optimizing operations including filling plant capacity; improving potential growth opportunities, including new markets; and expectations about normalization of coal-fired power generation. These statements are based on current expectations, estimates, projections, beliefs and assumptions of our management. Such 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, the rate of coal-fired power generation in the United States, changes and timing in laws, regulations, IRS interpretations or guidance, accounting rules and any pending court decisions, legal challenges to or repeal of them; changes in prices, economic conditions and market demand; the ability of the RC facilities to produce and sell coal that qualifies for tax credits; the timing, terms and changes in contracts for RC facilities, or failure to lease or sell RC facilities; tax equity lease renewals are not terminated or repriced; impact of competition; availability, cost of and demand for alternative tax credit vehicles and other technologies; technical, start-up and operational difficulties; availability of raw materials; customer demand for our products; competition within the industries in which we operate; availability of opportunities to further grow our business; loss of key personnel; ongoing effects of the COVID-19 pandemic and associated economic downturn on our operations and prospects; and other factors discussed in greater detail in our filings with the SEC. 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. 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.

THIRD QUARTER BUSINESS SUMMARY

Refined Coal ("RC")

- Distributions of $9.7M compared to $18.7M in 2019
- Royalties of $3.6M compared to $4.4M in 2019
- Segment operating income was $12.8M compared to $18.2M in 2019
- Segment Adjusted EBITDA(1) was $13.1M vs. $22.7M in 2019

Power Generation and Industrials ("PGI")

- Revenue of $13.4M compared to $14.0M in 2019
- Segment operating loss of $1.3M compared to loss of $1.0M in 2019
- Segment Adjusted EBITDA (1) of $0.2M vs. $1.0M in 2019

Consolidated Results & Capital Allocation

- Net profit of $5.0M compared to Net profit of $3.9M in 2019
- Consolidated Adjusted EBITDA (2) of $8.7M compared to $18.5M in 2019
- Reduced outstanding term-loan balance by $6M to $22M
- Focused on preserving liquidity; Reduced other operating expense by 24% y/y

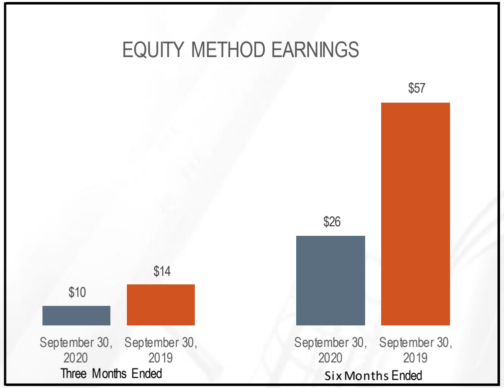
Outlook

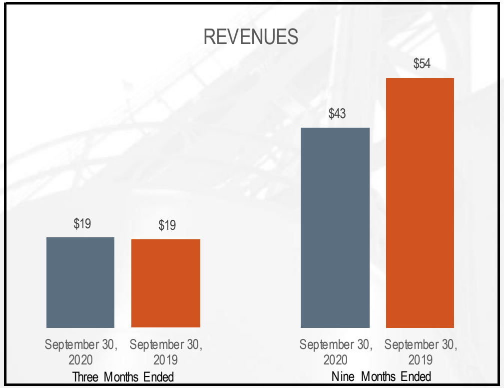
- Cashflows from RC segment projected to be between $90M to $110M through 2021, with potential to add incremental facilities
- Entered into a 15-year master supply agreement with estimated annual revenue growth of 30%-40% and incremental annual EBITDA growth of $10M to $15M

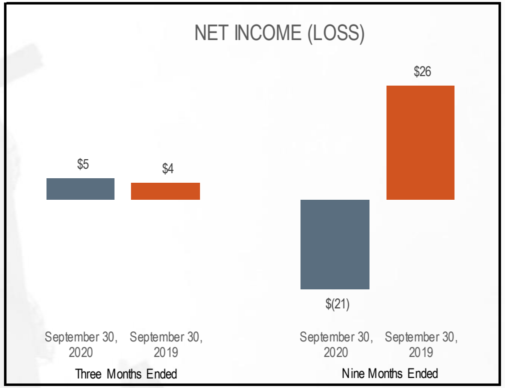
(1) Segment Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

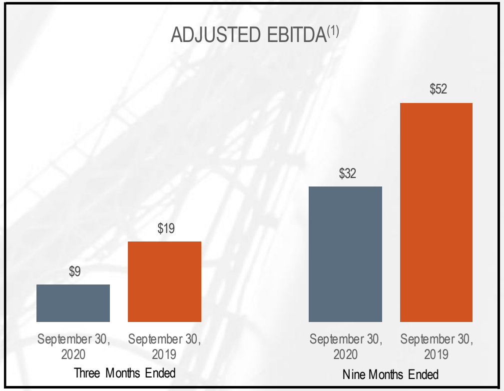
(2) Adjusted EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations

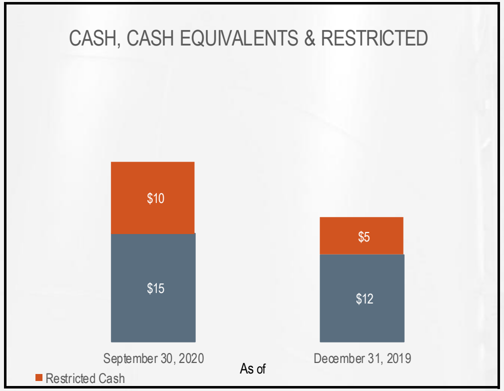
FINANCIAL HIGHLIGHTS

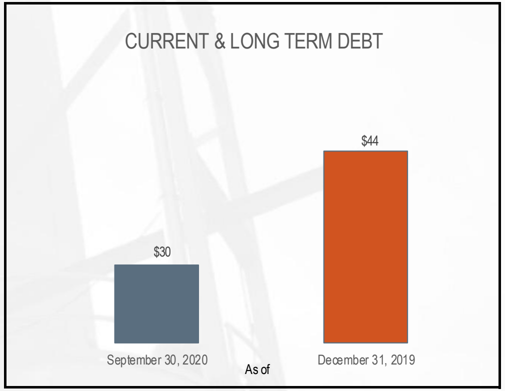










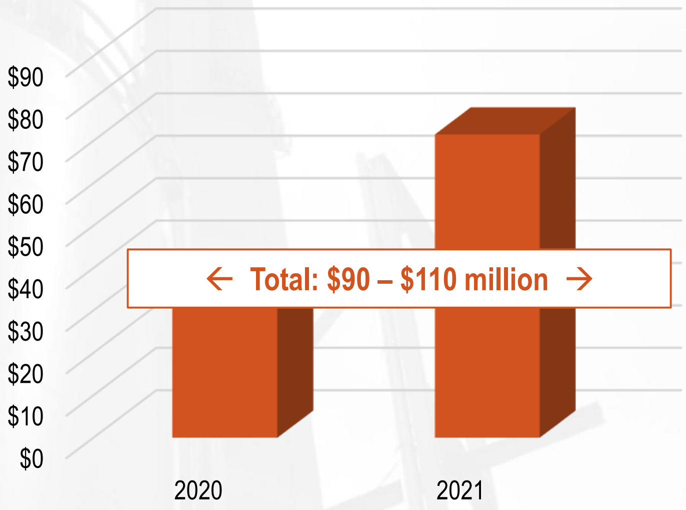


(1) ADJUSTED EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

EXPECTED FUTURE REFINED COAL ("RC") CASH FLOWS

- Based on 21 invested facilities as of September 30, 2020 and includes all net RC cash flows of ADES [(1)]
- Expected future net RC cash flows of $90 million to $110 million to ADES in total through 2021 [(2)]
- One additional RC facility transaction in October 2020, potentially adding $5 million to $7 million through 2021

EXPECTED FUTURE CASH FLOWS FROM RC BUSINESS [(1)]
(in millions)



(1) Net projected RC cash flows include the impact of all expected Tinuum distributions and royalty payments offset by the Company's federal and state tax payments as well as 453A interest payments
(2) The expectation is based on the following four key assumptions: 1) Tinuum Group continues to not operate retained facilities; 2) Tinuum Group does not have material unexpected CapEx or unusual operating expenses based on expectations as of the balance sheet date; 3) tax equity lease renewals are not terminated or repriced; and 4) coal-fired generation remains consistent with contractual expectations

ACTIVATED CARBON GROWTH OPPORTUNITIES

Mercury Removal

Potential for improving environment from the first half of 2020 due to increased power-generation demand, higher natural gas prices and impacts from the economy slowly reopening

Municipal & Industrial Water

Building out internal infrastructure to capture share in the growing municipal and industrial water markets. Market rationalization will be a critical catalyst to leverage the Red River plant for water markets

Adjacent Markets

Evaluating strategic opportunities in a structurally imbalanced market to significantly increase and diversify our addressable markets, utilization of our production capabilities and earnings profile

Provider of Choice

Premier provider of activated carbon and well-positioned to capitalize on emerging opportunities and market rationalization

Master supply agreement signed with Cabot Corp in third quarter is a critical step toward achieving each of these growth channels we have identified

ACTIVATED CARBON SUPPLY AGREEMENT SUMMARY

ADES

CABOT

Agreement Terms

- 15-year exclusive supply agreement for North American lignite based GAC and PAC products for Cabot
- Market applications will include treatment of water, air, food and beverages, pharmaceuticals and other liquids and gases
- ADES will take over Cabot's lignite mine that currently supplies Cabot's Marshall, Texas facility

Economic Impact

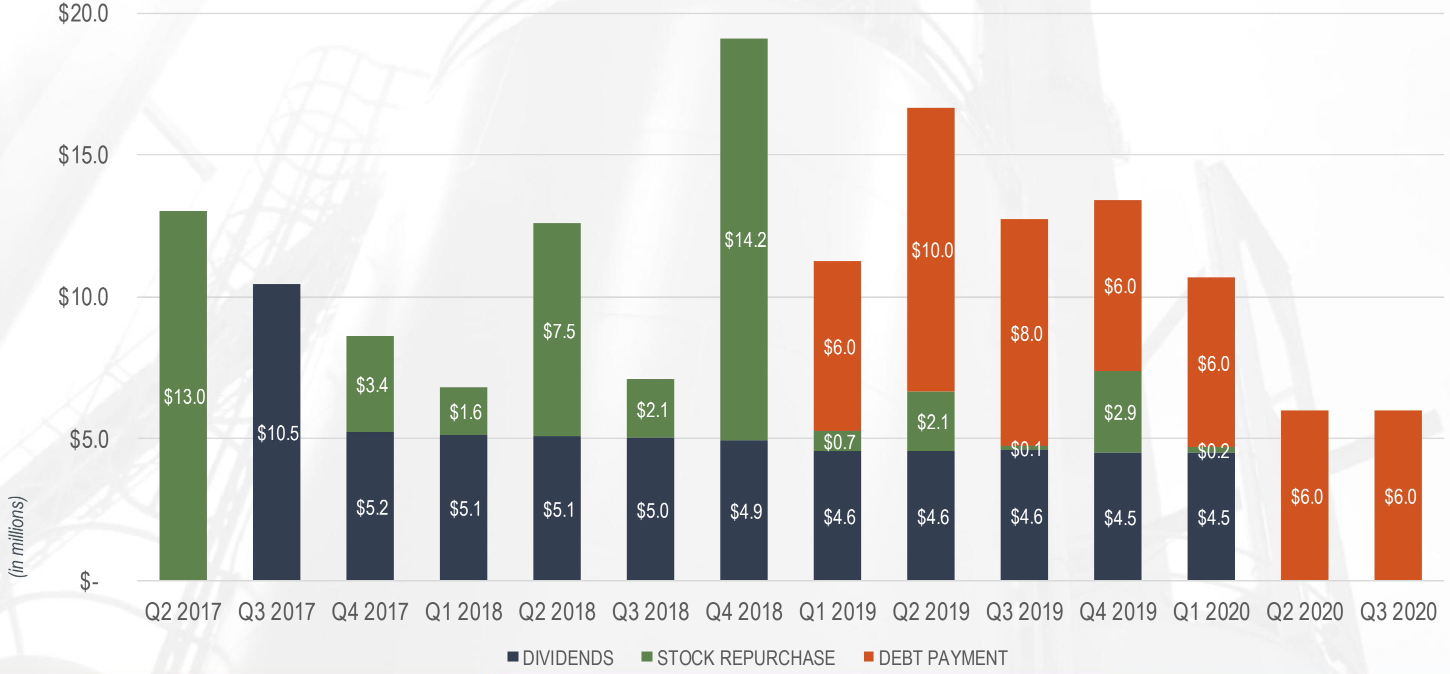
- Projected incremental annual Revenue growth of 30% - 40%
- Projected incremental annual EBITDA growth of $10-$15 million
- Complements our current business and provides significant diversification into broader potable water, industrial, food and diversified GAC markets
- Diversified end markets will reduce our power generation exposure to less than 50% of product portfolio

Next Steps

- Commenced supplying of Activated Carbon products to Cabot on October 1, 2020
- ADES immediately commence reclamation activities related to the Mine
- Expect that 70% of the reclamation costs will be completed in the first 24 months, and Cabot will share in the costs

CAPITAL ALLOCATION

- $22 million balance on the senior term loan, which is subject to customary covenants as well as quarterly principal payments of $6.0 million
- Company has returned $106.4 million in dividends and share repurchases through the Capital Allocation program [1], since inception
- Near-term focus on debt repayment, risk management and liquidity



(1) The Company started its current Capital Allocation program in the second quarter of 2017.

2020 PRIORITIES

INCREASE AND OPTIMIZE REFINED COAL NET CASH FLOWS:

- Nurture current & add additional RC investors
- Maximize operational performance to produce RC and further develop customer relationships to ensure retention of RC customers
- Optimize resources at ADES to support Tinuum and public platform

DRIVE CARBON SOLUTIONS EARNINGS LEVERAGE:

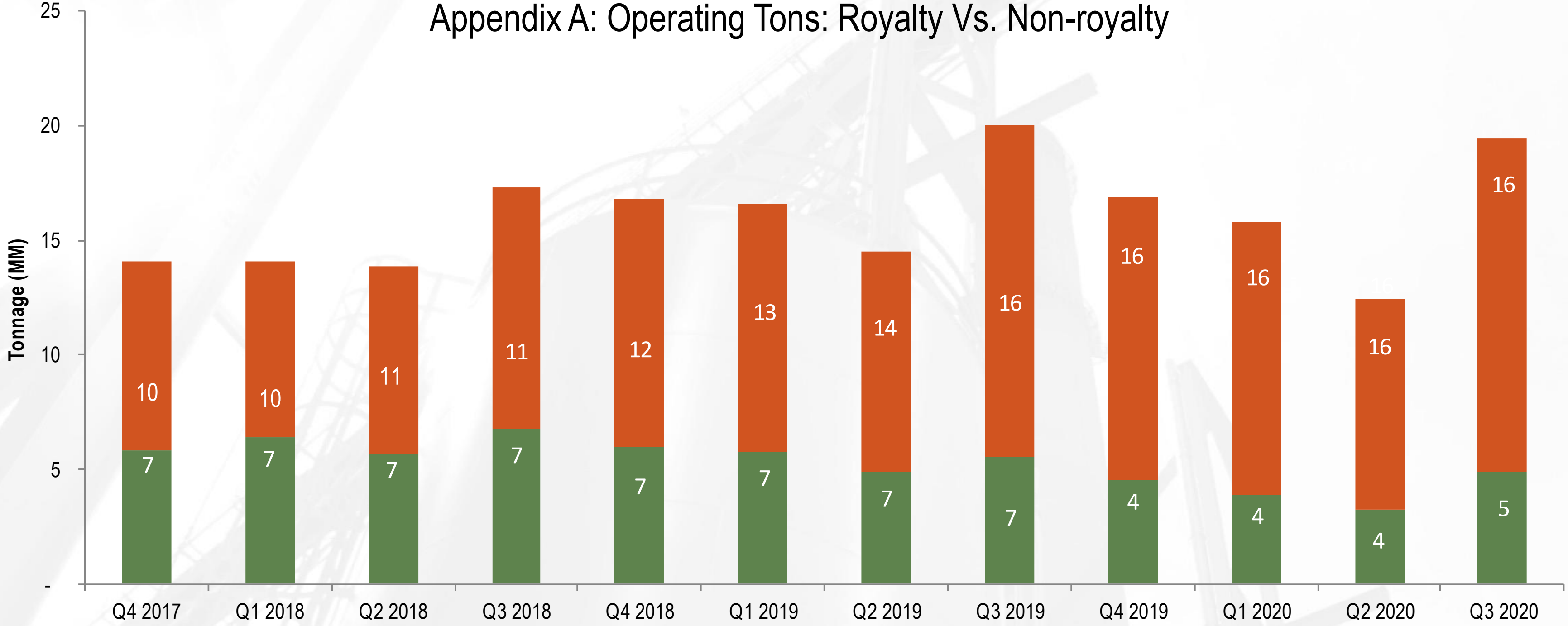
- Optimize Red River's capacity utilization to fully capture the low-cost benefit of the highly efficient plant
- Defend market share in a challenging mercury control market, while reducing costs
- Continued product momentum in Water & Industrial markets
- Leverage the asset's strategic advantages amidst expected market rationalization

RISK MITIGATION TODAY, OPTIMIZE SHAREHOLDER RETURNS TOMORROW:

- Suspension of quarterly dividend to preserve near-term cash amidst COVID-19 uncertainty
- Continued de-leveraging of the senior term loan
- Continue focus on stakeholder returns throughout a global pandemic
- Strategic asset utilization to drive stakeholder values amidst a challenging energy market

APPENDIX

Appendix A: Operating Tons: Royalty Vs. Non-royalty



Three Month Ended September 30, 2020	Operating Tons		QTD - Total
	Royalty	Non-Royalty	
Tonnage [(1)]	14,555	4,870	19,425
Count (#) [(2)]	16	5	21

Nine Months Ended September 30, 2020	Operating Tons		YTD - Total
	Royalty	Non-Royalty	
Tonnage [(1)]	35,669	11,974	47,643
Count (#) [(2)]	16	5	21

Note: Numbers within bar graph represent the number of facilities per category as of the end of each quarter presented

(1) Tonnage information is based upon RC production for the three and nine months ended September 30, 2020 (in thousands)

(2) Counts are based upon the number of facilities of which a royalty has been earned during the period

Appendix B: 10-Q Balance Sheet(1)

(in thousands, except share data)	As of September 30, 2020	As of December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 15,029	$ 12,080
Receivables, net	10,273	7,430
Receivables, related parties	3,626	4,246
Inventories, net	10,419	15,460
Prepaid expenses and other assets	16,888	7,832
Total current assets	56,235	47,048
Restricted cash, long-term	10,000	5,000
Property, plant and equipment, net of accumulated depreciation of $2,322 and $7,444, respectively	29,823	44,001
Intangible assets, net	2,134	4,169
Equity method investments	22,885	39,155
Deferred tax assets, net	3,371	14,095
Other long-term assets, net	31,206	20,331
Total Assets	$ 155,654	$ 173,799
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 7,530	$ 8,046
Accrued payroll and related liabilities	4,114	3,024
Current portion of long-term debt	24,360	23,932
Other current liabilities	4,102	4,311
Total current liabilities	40,106	39,313
Long-term debt, net of current portion	5,486	20,434
Other long-term liabilities	25,712	5,760
Total Liabilities	71,304	65,507
Commitments and contingencies (Note 13)		
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, 23,166,033 and 22,960,157 shares issued, and 18,547,887 and 18,362,624 shares outstanding at September 30, 2020 and December 31, 2019, respectively	23	23
Treasury stock, at cost: 4,618,146 and 4,597,533 shares as of September 30, 2020 and December 31, 2019, respectively	(47,692)	(47,533)
Additional paid-in capital	100,005	98,466
Retained earnings	32,014	57,336
Total stockholders' equity	84,350	108,292
Total Liabilities and Stockholders' Equity	$ 155,654	$ 173,799

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2020.

Appendix C: 10-Q Income Statement[1]

(in thousands, except per share data)	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Revenues:				
Consumables	$ 15,844	$ 14,748	$ 33,231	$ 41,243
License royalties, related party	3,627	4,385	9,986	12,796
Total revenues	19,471	19,133	43,217	54,039
Operating expenses:				
Consumables cost of revenue, exclusive of depreciation and amortization	15,013	11,939	33,920	38,339
Payroll and benefits	2,285	2,651	8,839	8,005
Legal and professional fees	1,321	2,907	4,386	7,105
General and administrative	1,900	1,984	6,693	5,894
Depreciation, amortization, depletion and accretion	1,777	2,043	5,807	4,902
Impairment of long-lived assets	—	—	26,103	—
Total operating expenses	22,296	21,524	85,748	64,245
Operating loss	(2,825)	(2,391)	(42,531)	(10,206)
Other income (expense):				
Earnings from equity method investments	9,518	14,426	25,959	57,051
Interest expense	(881)	(1,729)	(3,053)	(5,820)
Other	17	212	208	342
Total other income	$ 8,654	$ 12,909	$ 23,114	$ 51,573
Income (loss) before income tax expense	5,829	10,518	(19,417)	41,367
Income tax expense	854	6,595	1,315	14,928
Net income (loss)	$ 4,975	$ 3,923	$ (20,732)	$ 26,439
Earnings (loss) per common share (Note 1):				
Basic	$ 0.27	$ 0.22	$ (1.15)	$ 1.45
Diluted	$ 0.27	$ 0.21	$ (1.15)	$ 1.44
Weighted-average number of common shares outstanding:				
Basic	18,093	18,112	18,014	18,184
Diluted	18,103	18,339	18,014	18,394

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2020.

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

(in thousands)	Nine Months Ended September 30, 2020	2019
Cash flows from operating activities		
Net (loss) income	$ (20,732)	$ 26,439
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Deferred income tax expense	10,724	10,634
Depreciation, amortization, depletion and accretion	5,807	4,902
Impairment of long-lived assets	26,103	—
Operating lease expense	3,130	2,371
Amortization of debt discount and debt issuance costs	1,064	1,324
Stock-based compensation expense	2,070	1,326
Earnings from equity method investments	(25,959)	(57,051)
Other non-cash items, net	45	697
Changes in operating assets and liabilities:		
Receivables and related party receivables	(1,331)	2,685
Prepaid expenses and other assets	(9,056)	(440)
Inventories, net	4,688	4,566
Other long-term assets, net	(1,908)	(43)
Accounts payable	(1,123)	1,010
Accrued payroll and related liabilities	1,089	(4,386)
Other current liabilities	(220)	(278)
Operating lease liabilities	(1,678)	(2,435)
Other long-term liabilities	(23)	(529)
Distributions from equity method investees, return on investment	42,228	56,806
Net cash provided by operating activities	34,918	47,598

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2020.

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

(in thousands)	Nine Months Ended September 30, 2020	2019
Cash flows from investing activities		
Acquisition of business	$ —	$ (661)
Acquisition of property, plant, equipment, and intangible assets, net	(4,879)	(6,430)
Mine development costs	(723)	(2,083)
Net cash used in investing activities	(5,602)	(9,174)
Cash flows from financing activities		
Principal payments on term loan	(18,000)	(24,000)
Principal payments on finance lease obligations	(1,026)	(1,016)
Dividends paid	(4,956)	(13,729)
Repurchase of common shares	(159)	(2,926)
Repurchase of common shares to satisfy tax withholdings	(531)	(370)
Borrowings from Paycheck Protection Program Loan	3,305	—
Net cash used in financing activities	(21,367)	(42,041)
Increase (decrease) in Cash and Cash Equivalents and Restricted Cash	7,949	(3,617)
Cash and Cash Equivalents and Restricted Cash, beginning of period	17,080	23,772
Cash and Cash Equivalents and Restricted Cash, end of period	$ 25,029	$ 20,155
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property, plant and equipment through accounts payable	$ 446	$ —
Acquisition of property, plant and equipment through finance lease	$ 158	$ —
Dividends payable	$ 47	$ 204

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended September 30, 2020.

Appendix F: Non-GAAP Financial Measure & Consolidated Adjusted EBITDA Reconciliation to Net 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. These non-GAAP measures include Consolidated Adjusted EBITDA, Segment EBITDA and RC Segment 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 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, 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 impairment of long-lived assets. Because Consolidated Adjusted EBITDA, the Company believes that the measure is less susceptible to variances that affect the Company's operating performance.

Segment EBITDA is calculated as Segment operating income (loss) 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 and interest expense, net. When used in conjunction with GAAP financial measures, Segment EBITDA is a supplemental measure of operating performance that management believes is a useful measure related the Company's PGI segment performance and the PGI segment performance relative to the performance of their respective competitors as well as performance period over period. Additionally, the Company believes these measure are less susceptible to variances that affect their respective operating performance results.

The Company defines RC Segment Adjusted EBITDA as RC Segment EBITDA reduced by the non-cash impact of equity earnings from equity method investments and increased by cash distributions from equity method investments.

The Company defined PGI Segment Adjusted EBITDA as PGI Segment EBITDA increased by the non-cash impact of impairment.

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, RC Segment Adjusted EBITDA and Segment EBITDA as factors in evaluating the performance of its business.

The adjustments to Consolidated Adjusted EBITDA, RC Segment Adjusted EBITDA, PGI Segment Adjusted EBITDA and Segment EBITDA in future periods are generally expected to be similar. Consolidated Adjusted EBITDA, RC Segment Adjusted EBITDA and Segment EBITDA have limitations as analytical tools, and you should not consider these measures in isolation or as a substitute for analyzing the Company's results as reported under GAAP.

Appendix F: Non-GAAP Financial Measures & Consolidated Adjusted EBITDA Reconciliation to Net Income (continued)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2020	2019	2020	2019
Net income (loss)	$ 4,975	$ 3,923	$ (20,732)	$ 26,439
Depreciation, amortization, depletion and accretion	1,777	2,043	5,807	4,902
Interest expense, net	862	1,663	2,974	5,619
Income tax expense	854	6,595	1,315	14,928
Consolidated EBITDA (loss)	8,468	14,224	(10,636)	51,888
Impairment	—	—	26,103	—
Equity earnings	(9,518)	(14,426)	(25,959)	(57,051)
Cash distributions from equity method investees	9,712	18,718	42,228	56,806
Consolidated Adjusted EBITDA	$ 8,662	$ 18,516	$ 31,736	$ 51,643

Appendix G: RC Segment Adjusted EBITDA Reconciliation to Segment Operating Income

(in thousands)	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
RC Segment operating income	$ 12,817	$ 18,158	$ 34,454	$ 68,137
Depreciation, amortization, depletion and accretion	26	25	84	55
Interest expense	94	234	254	882
RC Segment EBITDA	12,937	18,417	34,792	69,074
Equity earnings	(9,518)	(14,426)	(25,959)	(57,051)
Cash distributions from equity method investees	9,712	18,718	42,228	56,806
RC Segment Adjusted EBITDA	$ 13,131	$ 22,709	$ 51,061	$ 68,829

Appendix H: PGI Segment EBITDA Reconciliation to Segment Operating Loss

(in thousands)	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
PGI Segment operating loss (1) (2)	$ (1,270)	$ (977)	$ (33,584)	$ (8,301)
Depreciation, amortization, depletion and accretion	1,427	1,853	4,851	4,498
Interest expense, net	78	75	265	263
PGI Segment EBITDA (loss)	235	951	(28,468)	(3,540)
Impairment	—	—	23,232	—
PGI Segment Adjusted EBITDA (loss)	$ 235	$ 951	$ (5,236)	$ (3,540)

(1) Included in segment operating loss for the three and nine months ended September 30, 2020 was zero and $0.4 million, respectively, related to sequestration of certain of our employees at our manufacturing plant in Louisiana.

(2) Included in segment operating loss for the three and nine months ended September 30, 2019 was approximately zero and $4.7 million, respectively, of costs recognized as a result of the step-up in inventory fair value recorded from the acquisition of Carbon Solutions.