Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

First Quarter 2020 Earnings Results Call

May 12, 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”); success or 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 evaluation of additional ways to return capital to stockholders. 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, 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.

FIRST QUARTER BUSINESS SUMMARY

Refined Coal ("RC")

- Q1 distributions of $17.1M down 12% compared to prior year
- Q1 royalties $3.0M, down 28%
- Segment operating income in Q1 was $10.9M
- Segment Adjusted EBITDA was $19.9 million, down 15%

Power Generation and Industrials ("PGI")

- Q1 revenue of $8.5M
- Segment operating loss of $6.6M vs. loss of $3.5M in 2019
- Segment EBITDA loss of $4.4M vs. loss of $1.4M in 2019
- Building new products and capabilities
- Focused on maximizing PGI opportunity in a challenging market while diversifying customer base

Net Income & Capital Allocation

- Net loss of $1.9M and Consolidated Adjusted EBITDA of $10.8M
- Paid Q1 dividend on March 10
- Repurchased approximately 21,000 shares for $0.2M
- Returned $4.7M to shareholders in Q1

Outlook

- Cashflows from RC segment projected to be between $125M to $150M through 2021, with potential to add to that total with incremental facilities
- Expect performance improvement in late 2020 as plant capacity is utilized and low-cost nature of the assets is realized

COVID-19 RESPONSE

Protect Employee Health & Safety

- Updated safe workplace protocols and offered work-from-home where possible
- Undertook enhanced sanitization measures and social distancing guidelines at corporate office in accordance with CDC guidelines
- Sequestered on-site workforce at Red River plant

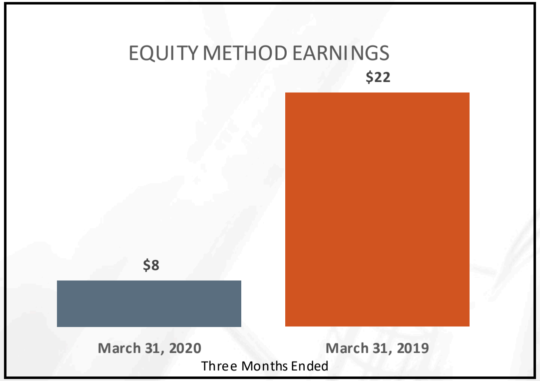
Ensure Business Continuity

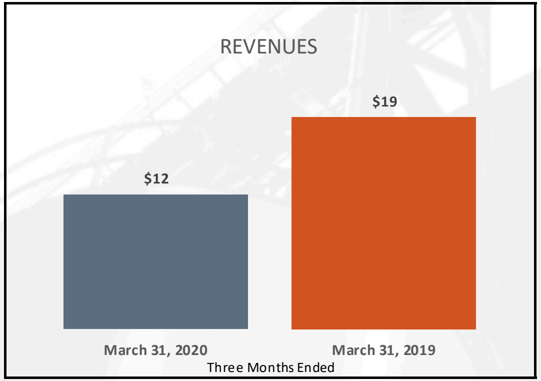
- Deemed an essential service provider
- Engaged all customers to continue to service their needs amidst changing market conditions
- Protected integrated supply chain and ensured reliable supply of feedstock

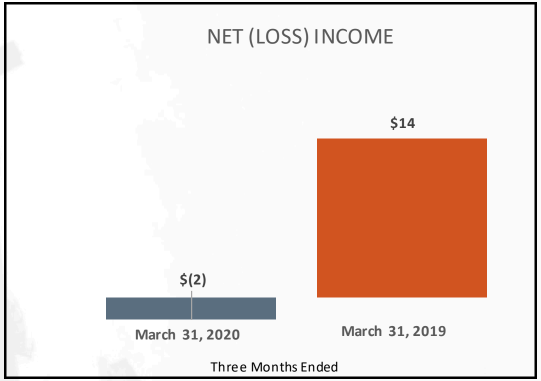
Bolster Financial Flexibility

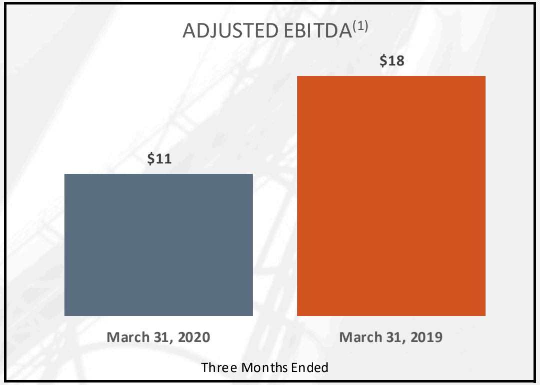
- Evaluated capital structure and non-core capital spending
- Prioritized prudent organic investment to ensure manufacturing capabilities and near-term liquidity
- Restricted corporate travel
- Withheld board cash retainer and reduced other compensation
- Suspended quarterly cash dividend on common shares, conserving ~$5M per quarter

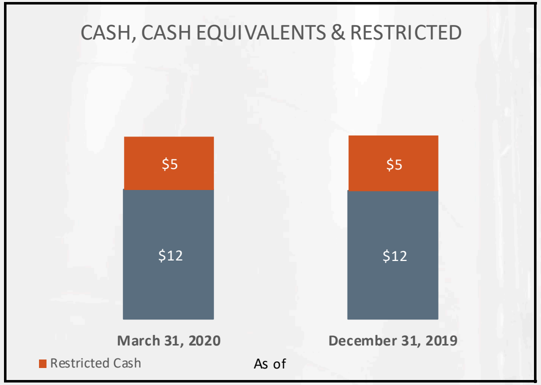
FINANCIAL HIGHLIGHTS

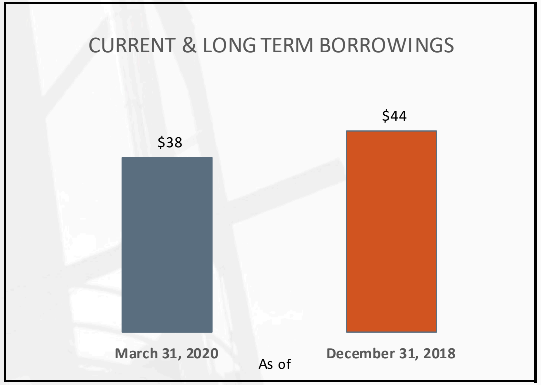








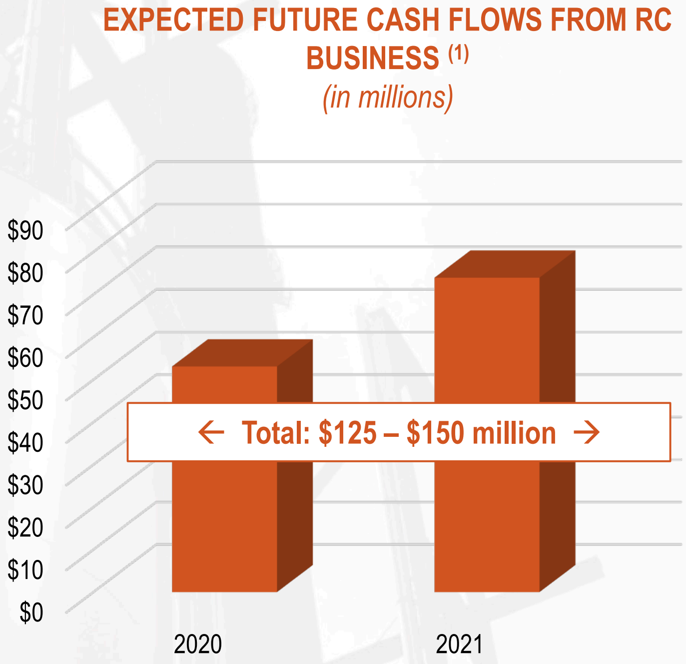




(1) ADJUSTED EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

EXPECTED FUTURE REFINED COAL ("RC") CASH FLOWS

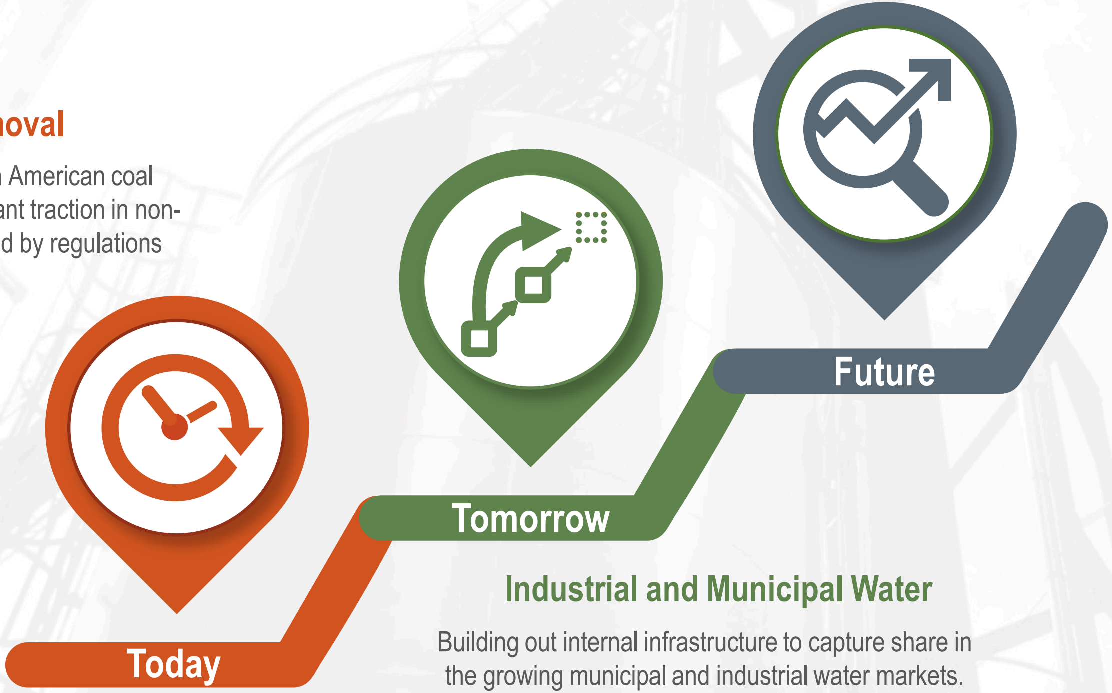
- Based on 20 invested facilities as of March 31, 2020 and includes all net RC cash flows of ADES [(1)]
- Expected future net RC cash flows of $125 million to $150 million to ADES in total through 2021 [(2)]
- Line-of-sight to at least one additional RC facility in 2020, with ongoing discussions to add more



(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

Provider of choice for North American coal treatment market with significant traction in non-coal Industrial markets bound by regulations

Industrial and Municipal Water

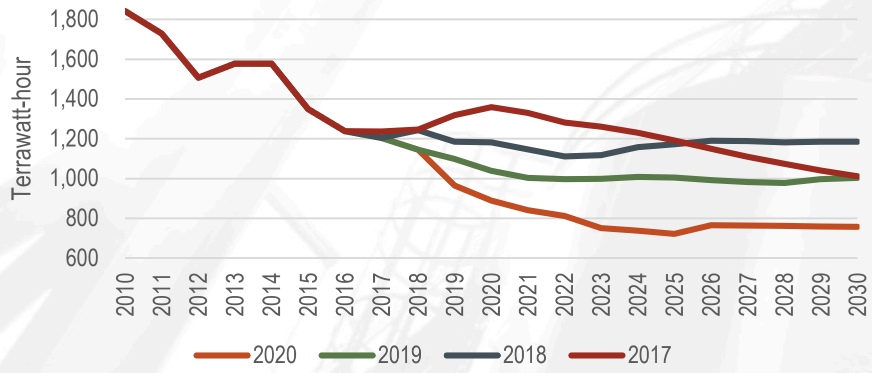
Building out internal infrastructure to capture share in the growing municipal and industrial water markets. Market rationalization will be a critical catalyst to leverage the Red River plant for water markets

Premium and Adjacent Segments

Expanding market and product capabilities

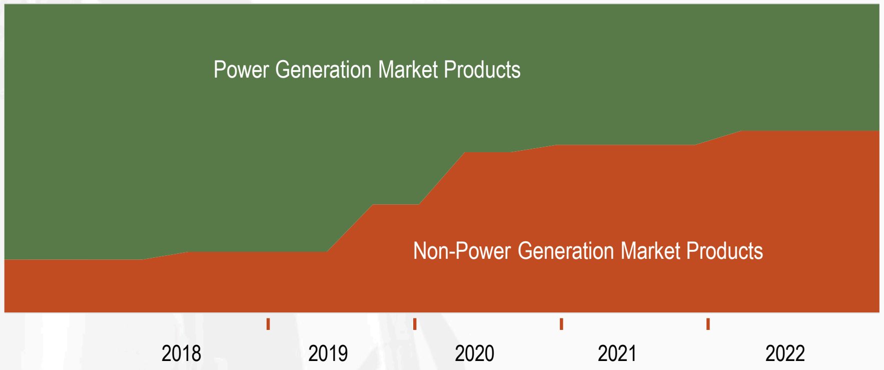
DIVERSIFICATION FROM COAL-FIRED POWER GENERATION

Historical and Forecasted Coal-fired Power Generation



Source: U.S. Energy Information Administration

Power Generation vs. Non-Power Generation Product Volume



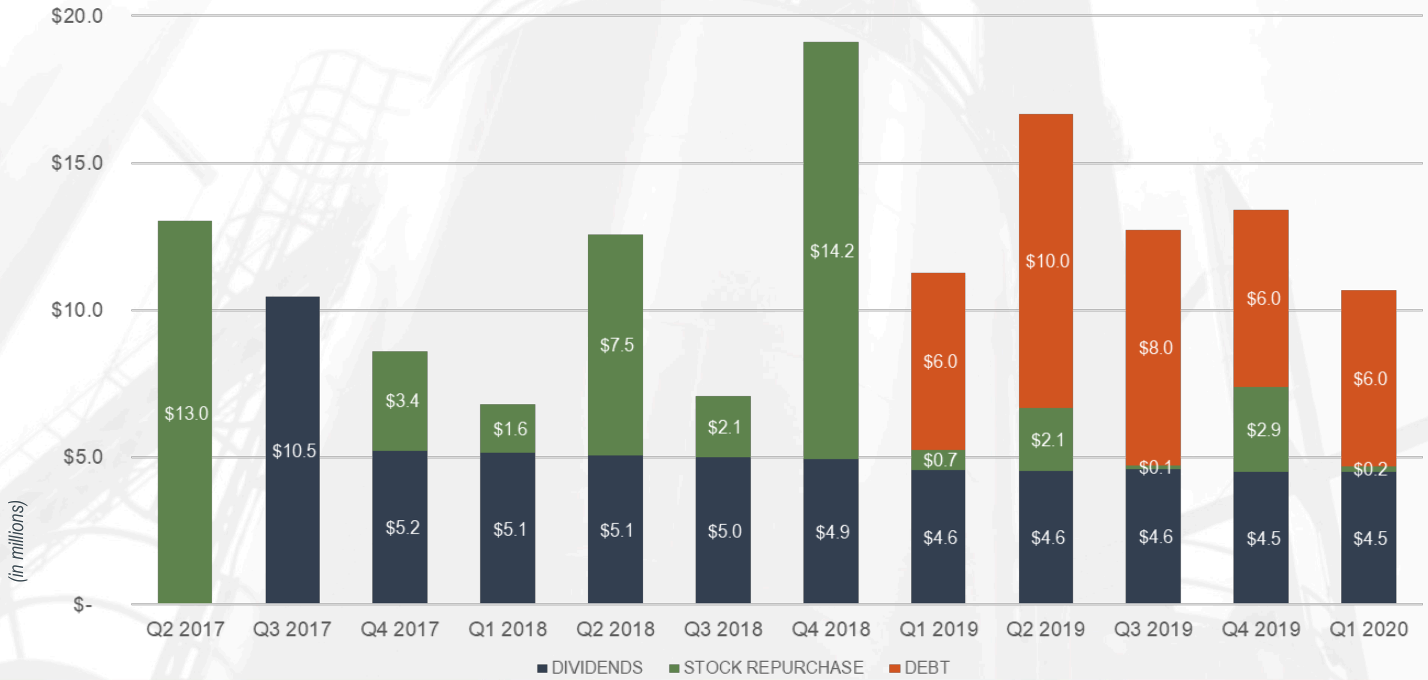
Source: Management Estimate; Not intended to be guidance or necessarily drawn to scale

- Significant 2020 forecast decline primarily due to natural gas and renewables
- Coal-fired power generation expected to normalize after 2025
- Emission control requirements will remain in place and power utilities looking for long-term stable service providers

- Increased application capabilities in 2019 to enable diversification beyond coal-fired power generation
- Spent last 12 months building new products and capabilities
- Rebalancing of operating cost via product rationalization
- Executing on refined coal oversight and corporate administration cost reductions

CAPITAL ALLOCATION

- Since the start of the Capital Allocation program [1], have returned $106.4 million in dividends and share repurchases
- Near-term focus on debt repayment, risk management and liquidity
- $34 million balance on the senior term loan, which is subject to customary covenants as well as quarterly principal payments of $6.0 million



(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:

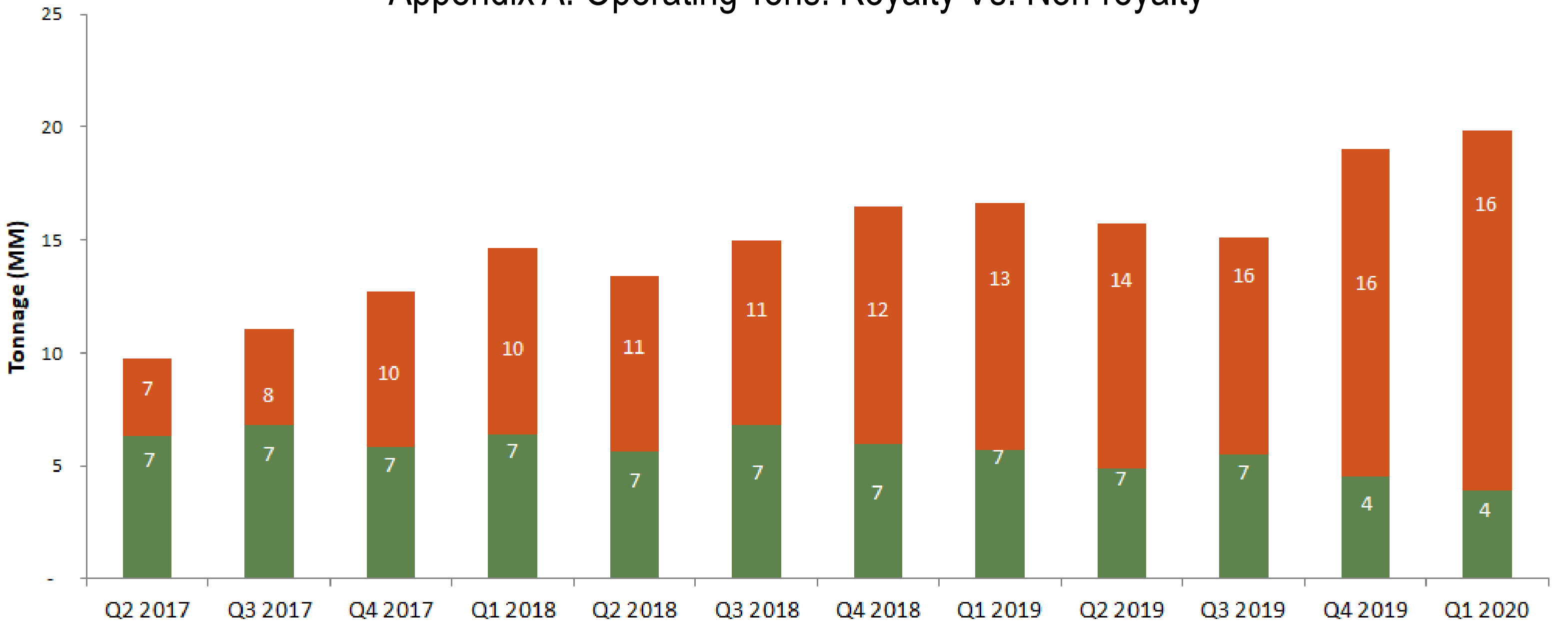
- Optimize Red River's capacity utilization to fully capture the low-cost benefit of the highly efficient plant
- Defend market share in a challenging mercury control market, while reducing costs
- Continued product momentum in Water & Industrial markets
- Leverage the asset's strategic advantages amidst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

RISK MITIGATION TODAY, OPTIMIZE SHAREHOLDER RETURNS TOMORROW:

- Suspension of quarterly dividend to preserve near-term cash amidst COVID-19
- Continued de-leveraging of the senior term loan
- Will re-evaluate capital allocation program as prudent

APPENDIX

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



Three Month Ended March 31, 2020	Operating Tons		QTD - Total
	Royalty	Non-Royalty	
Tonnage [(1)]	11,943	3,881	15,824
Count (#) [(2)]	16	4	20

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 months ended March 31, 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 March 31, 2020	As of December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 12,188	$ 12,080
Receivables, net	5,641	7,430
Receivables, related parties	3,045	4,246
Inventories, net	13,595	15,460
Prepaid expenses and other assets	7,605	7,832
Total current assets	42,074	47,048
Restricted cash, long-term	5,000	5,000
Property, plant and equipment, net of accumulated depreciation of $9,039 and $7,444, respectively	45,525	44,001
Intangible assets, net	3,973	4,169
Equity method investments	30,312	39,155
Deferred tax assets, net	13,307	14,095
Other long-term assets, net	19,992	20,331
Total Assets	$ 160,183	$ 173,799
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 8,458	$ 8,046
Accrued payroll and related liabilities	2,051	3,024
Current portion of long-term debt	24,192	23,932
Other current liabilities	4,275	4,311
Total current liabilities	38,976	39,313
Long-term debt, net of current portion	14,189	20,434
Other long-term liabilities	5,238	5,760
Total Liabilities	58,403	65,507
Commitments and contingencies (Note 8)		
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, 23,114,218 and 22,960,157 shares issued, and 18,496,072 and 18,362,624 shares outstanding at March 31, 2020 and December 31, 2019, respectively	23	23
Treasury stock, at cost: 4,618,146 and 4,597,533 shares as of March 31, 2020 and December 31, 2019, respectively	(47,692)	(47,533)
Additional paid-in capital	98,596	98,466
Retained earnings	50,853	57,336
Total stockholders' equity	101,780	108,292
Total Liabilities and Stockholders' Equity	$ 160,183	$ 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 March 31, 2020.

Appendix C: 10-Q Income Statement[(1)]

(in thousands, except per share data)	Three Months Ended March 31, 2020	2019
Revenues:		
Consumables	$ 9,217	$ 15,109
License royalties, related party	3,046	4,220
Total revenues	12,263	19,329
Operating expenses:		
Consumables cost of revenue, exclusive of depreciation and amortization	11,491	14,108
Payroll and benefits	2,742	2,556
Legal and professional fees	2,043	2,204
General and administrative	2,331	1,914
Depreciation, amortization, depletion and accretion	2,297	2,102
Total operating expenses	20,904	22,884
Operating loss	(8,641)	(3,555)
Other income (expense):		
Earnings from equity method investments	8,273	21,690
Interest expense	(1,210)	(2,104)
Other	43	70
Total other income	$ 7,106	$ 19,656
(Loss) income before income tax expense	(1,535)	16,101
Income tax expense	358	1,699
Net (loss) income	$ (1,893)	$ 14,402
(Loss) earnings per common share (Note 1):		
Basic	$ (0.11)	$ 0.79
Diluted	$ (0.11)	$ 0.78
Weighted-average number of common shares outstanding:		
Basic	17,932	18,268
Diluted	17,932	18,433

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 2020.

Appendix D: 10-Q Cash Flow(1)

(in thousands)	Three Months Ended March 31, 2020	2019
Cash flows from operating activities		
Net (loss) income	$ (1,893)	$ 14,402
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Deferred income tax expense (benefit)	788	(677)
Depreciation, amortization, depletion and accretion	2,297	2,102
Operating lease expense	774	775
Amortization of debt discount and debt issuance costs	354	381
Stock-based compensation expense	506	317
Earnings from equity method investments	(8,273)	(21,690)
Other non-cash items, net	—	75
Changes in operating assets and liabilities:		
Receivables and related party receivables	2,988	1,845
Prepaid expenses and other assets	226	80
Inventories, net	1,572	3,262
Other long-term assets, net	(89)	(2)
Accounts payable	(1,477)	(789)
Accrued payroll and related liabilities	(973)	(4,500)
Other current liabilities	(23)	2,154
Operating lease liabilities	(634)	(804)
Other long-term liabilities	(22)	(401)
Distributions from equity method investees, return on investment	17,116	19,488
Net cash provided by operating activities	13,237	16,018

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 2020.

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

(in thousands)	Three Months Ended March 31, 2020	Three Months Ended March 31, 2019
Cash flows from investing activities		
Acquisition of business	$ —	$ (661)
Acquisition of property, plant, equipment, and intangible assets, net	(1,289)	(1,087)
Mine development costs	(447)	(324)
Net cash used in investing activities	(1,736)	(2,072)
Cash flows from financing activities		
Principal payments on term loan	(6,000)	(6,000)
Principal payments on finance lease obligations	(340)	(344)
Dividends paid	(4,518)	(4,571)
Repurchase of common shares	(159)	(693)
Repurchase of common shares to satisfy tax withholdings	(376)	(245)
Net cash used in financing activities	(11,393)	(11,853)
Increase in Cash and Cash Equivalents and Restricted Cash	108	2,093
Cash and Cash Equivalents and Restricted Cash, beginning of period	17,080	23,772
Cash and Cash Equivalents and Restricted Cash, end of period	$ 17,188	$ 25,865
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition of property, plant and equipment through accounts payable	$ 1,890	$ —
Dividends payable	$ 105	$ 58

(1) See complete, unaudited Condensed Consolidated Financial Statements and Notes related thereto within the Quarterly Report on Form 10-Q for the period ended March 31, 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. The Company believes that the Consolidated Adjusted EBITDA 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 relative to the performance of its competitors as well as performance period over period. Additionally, the Company believes the measure is less susceptible to variances that affect its 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 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 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)

(in thousands)	Three Months Ended March 31, 2020	Three Months Ended March 31, 2019
Net (loss) income	$ (1,893)	$ 14,402
Depreciation, amortization, depletion and accretion	2,297	2,102
Interest expense, net	1,167	2,034
Income tax expense	358	1,699
Consolidated EBITDA	1,929	20,237
Equity earnings	(8,273)	(21,690)
Cash distributions from equity method investees	17,116	19,488
Consolidated Adjusted EBITDA	$ 10,772	$ 18,035

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

(in thousands)	Three Months Ended March 31, 2020	2019
RC Segment operating income	$ 10,860	$ 25,233
Depreciation, amortization, depletion and accretion	27	21
Interest expense	132	322
RC Segment EBITDA	11,019	25,576
Equity earnings	(8,273)	(21,690)
Cash distributions from equity method investees	17,116	19,488
RC Segment Adjusted EBITDA	$ 19,862	$ 23,374

Appendix H: PGI Segment EBITDA Reconciliation to Segment Operating Loss

(in thousands)	Three Months Ended March 31, 2020	2019
PGI Segment operating loss (1)	$ (6,577)	$ (3,462)
Depreciation, amortization, depletion and accretion	2,035	1,960
Interest expense, net	94	131
PGI Segment EBITDA loss	$ (4,448)	$ (1,371)

(1) Segment operating loss for the three months ended March 31, 2019 was inclusive of a $3.4 million adjustment, which increased cost of revenue due to a step-up in basis of inventory acquired related to the Carbon Solutions acquisition.