Advanced Emissions Solutions, Inc.

Advancing Cleaner Energy

Fourth Quarter and Full Year 2019 Earnings Results Call

March 17, 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”); 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; anticipated early repayment of term loan; 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; 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.

FOURTH QUARTER AND FULL YEAR 2019 BUSINESS HIGHLIGHTS

Refined Coal ("RC")

- Q4 and FY 2019 distributions up 13% and 40%, respectively y/y
- Q4 and FY 2019 royalties down 4% and up 12%, respectively y/y
- Segment operating income in 2019 up 29% y/y
- Added 4 invested facilities in 2019 that combine for approximately 15M tons

Power Generation and Industrials ("PGI")

- Q4 and FY 2019 revenue of $10.8M and $50.5M
- Growth driven by consumables
- Segment EBITDA loss of $4.6M in 2019 vs. loss of $2.1M in 2018
- Focused on maximizing plant capacity utilization and winning market share with a full suite of emissions control solutions

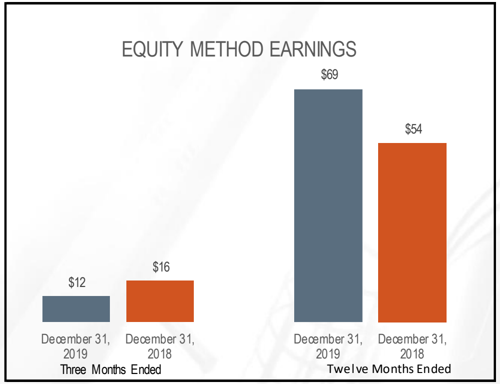
Net Income & Capital Allocation

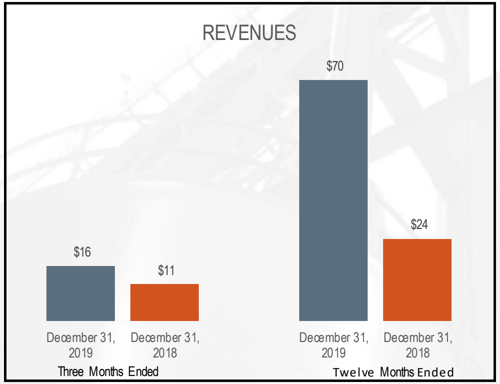
- Net income of $9.1M and $35.5M in Q4 and FY 2019, respectively. Fully diluted EPS of $0.50 and $1.93 in Q4 and 2019, respectively
- Returned $24.1M to shareholders in 2019
- In November 2019, Board authorized additional $7.1M for share repurchases
- Declared Q1'20 dividend of $0.25

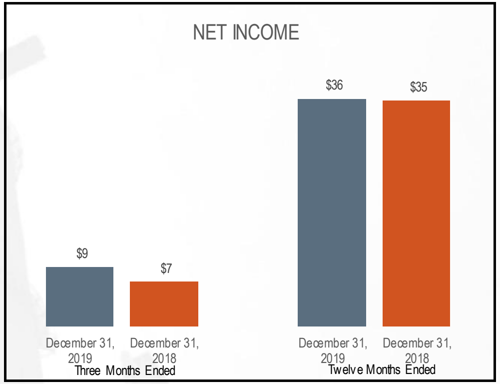
Outlook

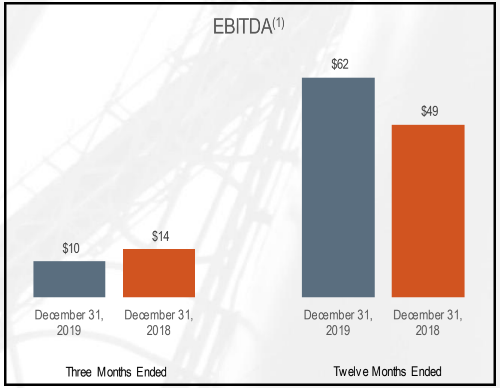
- Cashflows from RC segment projected to be between $150M to $175M through 2021, with potential to add to that total with incremental facilities
- Expect performance improvement in 2020 as plant capacity is utilized and low-cost nature of the assets is realized
- Reduce cash costs by at least $5M on an annualized basis

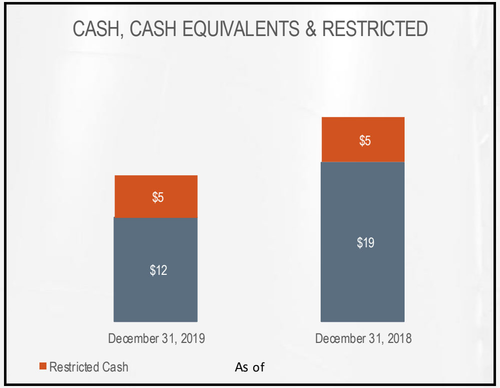
FINANCIAL HIGHLIGHTS

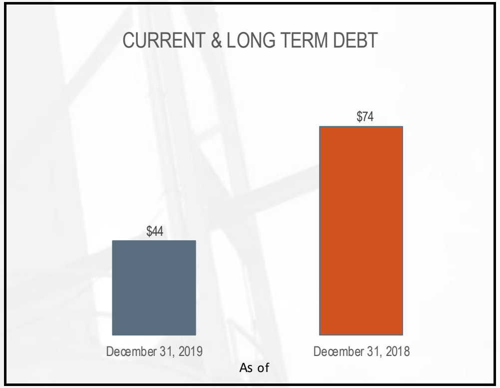












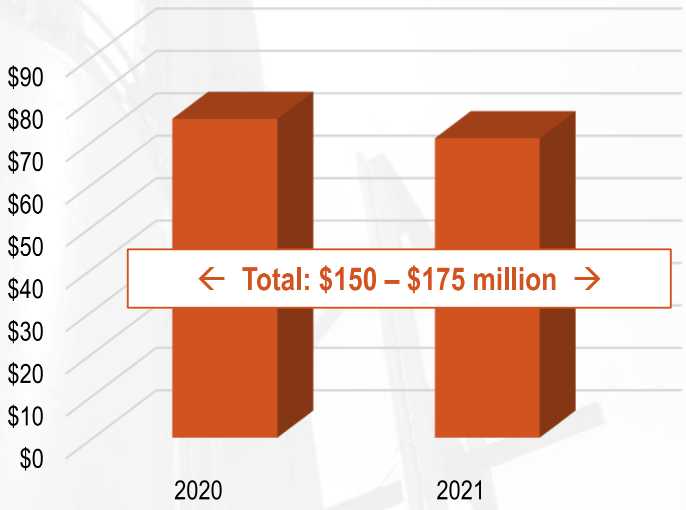
(1) EBITDA is a non-GAAP measure. See Appendix for definitions and reconciliations.

EXPECTED FUTURE REFINED COAL ("RC") CASH FLOWS

- Based on 20 invested facilities as of December 31, 2019 and includes all net RC cash flows of ADES (1)
- Expected future net RC cash flows of $150 million to $175 million to ADES in total through 2021 (2)
- Future net RC cash flow inclusive of utility closures with two RC units and the expiration of one 2019 operating RC unit during Q4 2019
- Each additional refined coal facility could add between $5-7 million annually to ADES (3)
- Line-of-sight to at least one additional RC facility in 2020, with ongoing discussions to add more

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
(3) Estimates based on coal-fired utility that burns 4.0 million tons per year

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

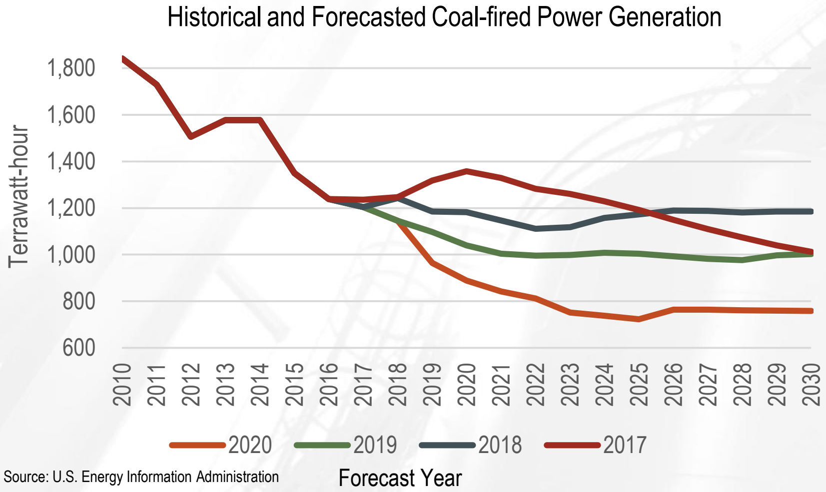
Industrial and Municipal Water

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

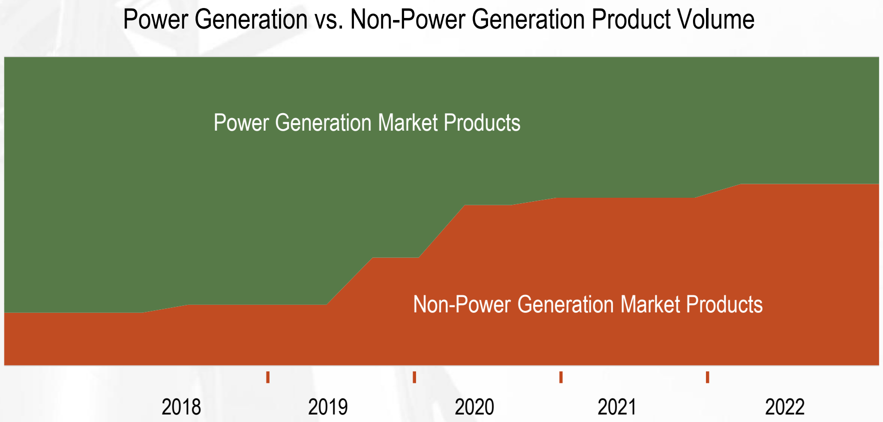
Premium and Adjacent Segments

Industry leading R&D team will continue to develop higher price and higher margin products for premium treatment solutions

Diversification from Coal-Fired Power Generation



Source: U.S. Energy Information Administration



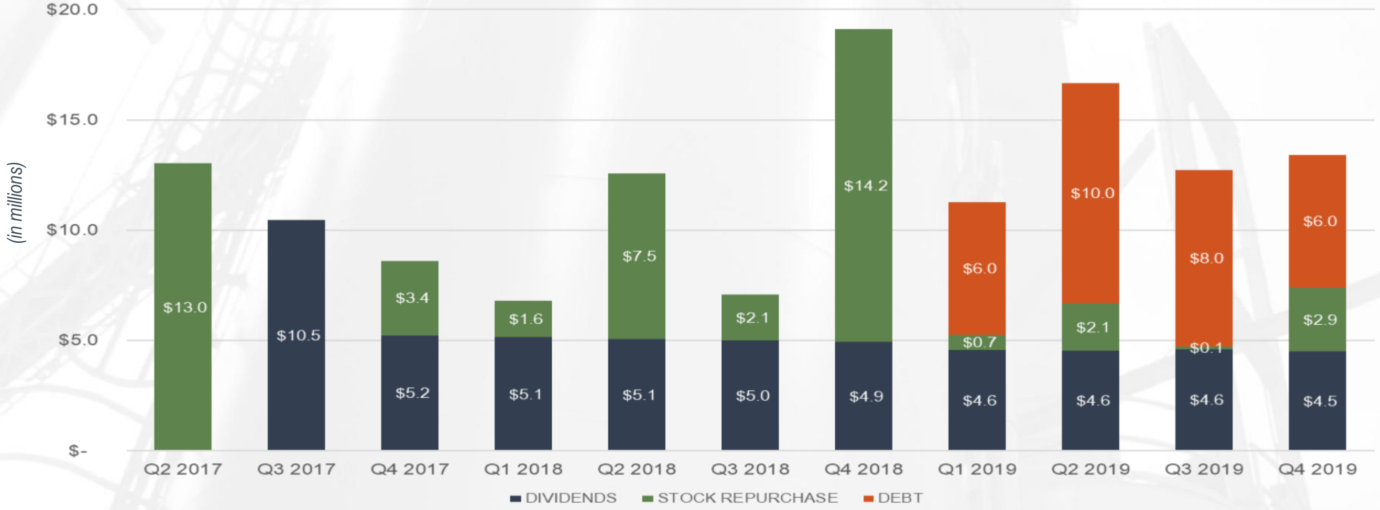
Source: Management Estimate; Not intended to be guidance or necessarily drawn to scale

- Coal-fired power generation has declined faster than expected
- Significant 2020 forecast decline primarily due to natural gas and renewables
- Coal-fired power generation expected to provide only 10-15% of electricity by 2030, 2018 EIA forecast was 25-30%; today coal-fired power generation is 22%
- 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
- Global supply and demand dynamics provide manufacturing barriers to entry in North America
- Coal-fired activated carbon products only account for approximately 20% of the U.S. market
- 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)], paid $54.1 million in dividends and utilized capital of $47.6 million to repurchase shares
- Entered three-year, $70 million term loan in November 2018 to fund the acquisition of Carbon Solutions, which requires quarterly principal repayments of $6.0 million
  - Made $30.0 million in debt principal payments during 2019
  - Expect to pay off loan in less than the stated three-year term funded by Tinuum cash flows
- Committed to balanced capital allocation program, including dividends and opportunistic share repurchases



(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:

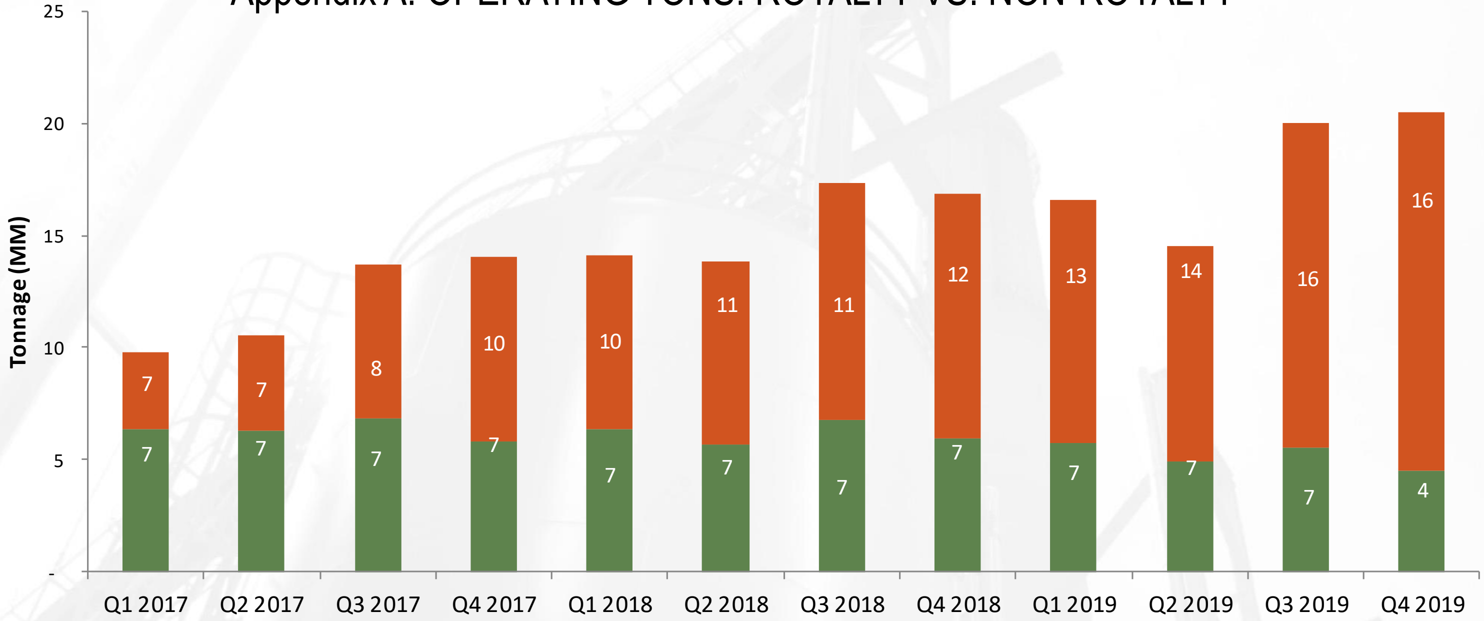
- Optimize Red River's capacity utilization to fully capture the low-cost benefit of the highly efficient plant
- Defend market share in a challenging mercury control market, while reducing costs
- Continued product momentum in Water & Industrial markets
- Leverage the asset's strategic advantages amidst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

OPTIMIZE SHAREHOLDER RETURNS:

- Continued de-leveraging of the senior term loan
- Stock repurchases (open market and/or one-time tender offers)
- Dividends (one-time and/or incremental recurring)

APPENDIX

Appendix A: OPERATING TONS: ROYALTY VS. NON-ROYALTY



Three Month Ended December 31, 2019	Operating Tons		QTD - Total
	Royalty	Non-Royalty	
Tonnage [1]	12,389	4,501	16,890
Count (#) [2]	16	4	20

Twelve Months Ended December 31, 2019	Operating Tons		YTD - Total
	Royalty	Non-Royalty	
Tonnage [1]	47,266	20,720	67,986
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 December 31, 2019 (in thousands)

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

Appendix A: 10-K Balance Sheet[1]

(in thousands, except share data)	As of December 31, 2019	As of December 31, 2018
ASSETS		
Current assets:		
Cash, cash equivalents and restricted cash	$ 12,080	$ 18,577
Receivables, net	7,430	9,554
Receivables, related party	4,246	4,284
Inventories, net	15,460	21,791
Prepaid expenses and other assets	7,832	5,570
Total current assets	47,048	59,776
Restricted cash, long-term	5,000	5,195
Property, plant and equipment, net of accumulated depreciation of $7,444 and $1,499, respectively	44,001	42,697
Intangible assets, net	4,169	4,830
Equity method investments	39,155	6,634
Deferred tax assets, net	14,095	32,539
Other long-term assets, net	20,331	7,993
Total Assets	$ 173,799	$ 159,664
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 8,046	$ 6,235
Accrued payroll and related liabilities	3,024	8,279
Current portion of long-term debt	23,932	24,067
Other current liabilities	4,311	2,138
Total current liabilities	39,313	40,719
Long-term debt, net of current portion	20,434	50,058
Other long-term liabilities	5,760	940
Total Liabilities	65,507	91,717
Commitments and contingencies (Notes 6 and 9)		
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, 22,960,157 and 22,640,677 shares issued and 18,362,624 and 18,576,489 shares outstanding at December 31, 2019 and 2018, respectively	23	23
Treasury stock, at cost: 4,597,533 and 4,064,188 shares as of December 31, 2019 and 2018, respectively	(47,533)	(41,740)
Additional paid-in capital	98,466	96,750
Retained earnings	57,336	12,914
Total stockholders' equity	108,292	67,947
Total Liabilities and Stockholders' equity	$ 173,799	$ 159,664

(1) See complete Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2019.

Appendix B: 10-K Income Statement(1)

(in thousands, except per share data)	Years Ended December 31, 2019	2018
Revenues:		
Consumables	$ 53,187	$ 8,733
License royalties, related party	16,899	15,140
Other	—	72
Total revenues	70,086	23,945
Operating expenses:		
Consumables cost of revenue, exclusive of depreciation and amortization	49,443	6,606
Other cost of revenue, exclusive of depreciation and amortization	—	(353)
Payroll and benefits	10,094	10,639
Legal and professional fees	9,948	8,552
General and administrative	8,123	4,178
Depreciation, amortization, depletion and accretion	7,371	723
Total operating expenses	84,979	30,345
Operating loss	(14,893)	(6,400)
Other income (expense):		
Earnings from equity method investments	69,176	54,208
Interest expense	(7,174)	(2,151)
Other	427	220
Total other income	62,429	52,277
Income before income tax expense	47,536	45,877
Income tax expense	11,999	10,423
Net income	$ 35,537	$ 35,454
Earnings per common share (Note 1):		
Basic	$ 1.96	$ 1.78
Diluted	$ 1.93	$ 1.76
Weighted-average number of common shares outstanding:		
Basic	18,154	19,901
Diluted	18,372	20,033
Cash dividends declared per common share outstanding:	$ 1.00	$ 1.00

(1) See complete Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2019.

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

(in thousands)	Years Ended December 31, 2019	2018
Cash flows from operating activities		
Net income	$ 35,537	$ 35,454
Adjustments to reconcile net income to net cash used in operating activities:		
Deferred income tax expense	8,655	5,233
Depreciation, amortization, depletion and accretion	7,371	723
Amortization of debt discount and debt issuance costs	1,678	94
Operating lease expense	3,192	—
Share-based compensation expense, net	2,011	2,490
Earnings from equity method investments	(69,176)	(54,208)
Other non-cash items, net	638	289
Changes in operating assets and liabilities, net of effects of acquired businesses:		
Receivables, net	2,124	(1,847)
Related party receivables	37	(1,037)
Prepaid expenses and other assets	(2,200)	(757)
Costs incurred on uncompleted contracts	—	15,945
Inventories, net	5,505	237
Other long-term assets, net	(262)	(753)
Accounts payable	2,218	(197)
Accrued payroll and related liabilities	(5,255)	(59)
Other current liabilities	(261)	(869)
Billings on uncompleted contracts	—	(15,945)
Operating lease liabilities	(3,180)	—
Other long-term liabilities	(258)	(182)
Distributions from equity method investees, return on investment	73,888	5,500
Net cash provided by (used in) operating activities	62,262	(9,889)

(1) See complete Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2019.

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

(in thousands)	Years Ended December 31, 2019	2018
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	—	47,175
Acquisition of business, net of cash acquired	(661)	(62,501)
Acquisition of property, plant, equipment, and intangible assets, net	(7,851)	(467)
Mine development costs	(4,726)	—
Contributions to equity method investee	—	(750)
Net cash used in investing activities	(13,238)	(16,543)
Cash flows from financing activities		
Principal payments on term loan	(30,000)	—
Principal payments on finance lease obligations	(1,354)	—
Borrowings, net of debt discount - related party	—	67,900
Debt issuance costs paid	—	(2,036)
Dividends paid	(18,274)	(20,165)
Repurchase of common shares	(5,793)	(25,343)
Repurchase of shares to satisfy tax withholdings	(451)	(769)
Other	156	(76)
Net cash (used in) provided by financing activities	(55,716)	19,511
Decrease in Cash, Cash Equivalents and Restricted Cash	(6,692)	(6,921)
Cash, Cash Equivalents and Restricted Cash, beginning of year	23,772	30,693
Cash, Cash Equivalents and Restricted Cash, end of year	$ 17,080	$ 23,772
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 5,650	$ 1,400
Cash paid for income taxes, net of refunds received	$ 4,308	$ 7,460
Supplemental disclosure of non-cash investing and financing activities:		
Acquisition consideration payable	$ —	$ 661
Dividends payable	$ 284	$ 125

(1) See complete Consolidated Financial Statements and Notes related thereto within the Annual Report on Form 10-K for the period ended December 31, 2019.

Appendix E: Non-GAAP Financial Measure & Consolidated EBITDA Reconciliation to Net Income

Note on Non-GAAP Financial Measure

To supplement the Company's financial information presented in accordance with U.S. generally accepted accounting principles, or GAAP, this investor presentation includes a non-GAAP measure of certain financial performance. This non-GAAP measures include Consolidated EBITDA. The Company included a non-GAAP measure because management believes that it helps to facilitate comparison of operating results between periods. The Company believes the non-GAAP measure provides useful information to both management and users of the financial statements by excluding certain expenses, gains and losses that may not be indicative of core operating results and business outlook. The non-GAAP measure is 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, the non-GAAP measure is not based on any comprehensive set of accounting rules or principles. This measure should only be used to evaluate the Company's results of operations in conjunction with the corresponding GAAP measures.

The Company has defined Consolidated 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 and income tax expense. Because Consolidated EBITDA omits certain non-cash items, the Company believes that the measure is less susceptible to variances that affect the Company's operating performance.

The Company presents Consolidated EBITDA because the Company believes it is useful as supplemental measures in evaluating the performance of the Company's operating performance and provides greater transparency into the results of operations. The Company's management uses Consolidated EBITDA as a factor in evaluating the performance of its business.

The adjustments to Consolidated EBITDA in future periods are generally expected to be similar. Consolidated EBITDA has 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.

	Year ended December 31,	
(in thousands)	**2019**	**2018**
Net income	$ 35,537	$ 35,454
Depreciation, amortization, depletion and accretion	7,371	723
Interest expense, net	6,913	1,912
Income tax expense	11,999	10,423
Consolidated EBITDA	$ 61,820	$ 48,512