

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

for the quarterly period ended September 30, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
for the transition period from _____ to _____

Commission file number: 1-13888



GRAFTECH INTERNATIONAL LTD.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

27-2496053
(I.R.S. Employer
Identification Number)

982 Keynote Circle
Brooklyn Heights, OH
(Address of principal executive offices)

44131
(Zip code)

Registrant's telephone number, including area code: (216) 676-2000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$0.01 par value per share	EAF	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☐ Accelerated Filer ☐ Emerging Growth Company ☐

Non-Accelerated Filer ☒ Smaller Reporting Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Exchange Act Rule 12b-2). Yes ☐ No ☒

As of October 31, 2019, 289,532,927 shares of common stock, par value \$0.01 per share, were outstanding.

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Presentation of Financial, Market and Legal Data

We present our financial information on a consolidated basis. Unless otherwise noted, when we refer to dollars, we mean U.S. dollars.

Unless otherwise specifically noted, market and market share data in this Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2019 (the "Report") are our own estimates or derived from sources described in our Annual Report on Form 10-K for the year ended December 31, 2018 ("Annual Report on Form 10-K") filed on February 22, 2019. Our estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under "Forward Looking Statements" and "Risk Factors" in this Report and in our Annual Report on Form 10-K. We cannot guarantee the accuracy or completeness of this market and market share data and have not independently verified it. None of the sources has consented to the disclosure or use of data in this Report.

Forward Looking Statements

Some of the statements under "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this Report may contain forward-looking statements that reflect our current views with respect to, among other things, future events and financial performance. You can identify these forward-looking statements by the use of forward-looking words such as "will," "may," "plan," "estimate," "project," "believe," "anticipate," "expect," "intend," "should," "would," "could," "target," "goal," "continue to," "positioned to" or the negative version of those words or other comparable words. Any forward-looking statements contained in Report are based upon our historical performance and on our current plans, estimates and expectations in light of information currently available to us. The inclusion of this forward-looking information should not be regarded as a representation by us that the future plans, estimates or expectations contemplated by us will be achieved. Our expectations and targets are not predictions of actual performance and historically our performance has deviated, often significantly, from our expectations and targets. These forward-looking statements are subject to various risks and uncertainties and assumptions relating to our operations, financial results, financial condition, business, prospects, growth strategy and liquidity. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. We believe that these factors include, but are not limited to:

- the cyclical nature of our business and the selling prices of our products may lead to periods of reduced profitability and net losses in the future;
- the possibility that we may be unable to implement our business strategies, including our initiative to secure and maintain longer-term customer contracts, in an effective manner;
- the possibility that tax legislation could adversely affect us or our stockholders;
- pricing for graphite electrodes has historically been cyclical and the price of graphite electrodes may decline in the future;
- the sensitivity of our business and operating results to economic conditions and the possibility others may not be able to fulfill their obligations to us in a timely fashion or at all;
- our dependence on the global steel industry generally and the electric arc furnace ("EAF") steel industry in particular;
- the possibility that global graphite electrode overcapacity may adversely affect graphite electrode prices;
- the competitiveness of the graphite electrode industry;
- our dependence on the supply of petroleum needle coke;
- our dependence on supplies of raw materials (in addition to petroleum needle coke) and energy;
- the possibility that our manufacturing operations are subject to hazards;
- changes in, or more stringent enforcement of, health, safety and environmental regulations applicable to our manufacturing operations and facilities;
- the legal, compliance, economic, social and political risks associated with our substantial operations in multiple countries;
- the possibility that fluctuation of foreign currency exchange rates could materially harm our financial results;
- the possibility that our results of operations could deteriorate if our manufacturing operations were substantially disrupted for an extended period, including as a result of equipment failure, climate change, regulatory issues, natural disasters, public health crises, political crises or other catastrophic events;
- our dependence on third parties for certain construction, maintenance, engineering, transportation, warehousing and logistics services;
- the possibility that we are unable to recruit or retain key management and plant operating personnel or successfully negotiate with the representatives of our employees, including labor unions;
- the possibility that we may divest or acquire businesses, which could require significant management attention or disrupt our business;
- the sensitivity of goodwill on our balance sheet to changes in the market;
- the possibility that we are subject to information technology systems failures, cybersecurity attacks, network disruptions and breaches of data security;
- our dependence on protecting our intellectual property;
- the possibility that third parties may claim that our products or processes infringe their intellectual property rights;
- the possibility that significant changes in our jurisdictional earnings mix or in the tax laws of those jurisdictions could adversely affect our business;
- the possibility that our indebtedness could limit our financial and operating activities or that our cash flows may not be sufficient to service our indebtedness;
- the possibility that restrictive covenants in our financing agreements could restrict or limit our operations;
- the fact that borrowings under certain of our existing financing agreements subjects us to interest rate risk;
- the possibility of a lowering or withdrawal of the ratings assigned to our debt;

- the possibility that disruptions in the capital and credit markets could adversely affect our results of operations, cash flows and financial condition, or those of our customers and suppliers;
- the possibility that highly concentrated ownership of our common stock may prevent minority stockholders from influencing significant corporate decisions;
- the possibility that we may not pay cash dividends on our common stock in the future;
- the fact that certain of our stockholders have the right to engage or invest in the same or similar businesses as us;
- the possibility that the market price of our common stock could be negatively affected by sales of substantial amounts of our common stock in the public markets, including by Brookfield;
- the fact that certain provisions of our Amended and Restated Certificate of Incorporation and our Amended and Restated By-Laws could hinder, delay or prevent a change of control;
- the fact that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders; and
- our status as a "controlled company" within the meaning of the New York Stock Exchange ("NYSE") corporate governance standards, which allows us to qualify for exemptions from certain corporate governance requirements.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements, including the Risk Factors section, that are included in our Annual Report on Form 10-K and other filings with the Securities and Exchange Commission ("SEC"). The forward-looking statements made in this Report relate only to events as of the date on which the statements are made. We do not undertake any obligation to publicly update or review any forward-looking statement except as required by law, whether as a result of new information, future developments or otherwise.

If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our actual results may vary materially from what we may have expressed or implied by these forward-looking statements. We caution that you should not place undue reliance on any of our forward-looking statements. You should specifically consider the factors identified in this Report that could cause actual results to differ before making an investment decision to purchase our common stock. Furthermore, new risks and uncertainties arise from time to time, and it is impossible for us to predict those events or how they may affect us. All subsequent written and oral forward-looking statements by or attributable to us or persons acting on our behalf are expressly qualified in their entirety by these factors.

For a more complete discussion of these and other factors, see "Risk Factors" in Part II of this Report and the "Risk Factors" section included in our Annual Report on Form 10-K and other SEC filings.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

**GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS**

(Dollars in thousands)

Unaudited

	As of September 30, 2019	As of December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 381,164	\$ 49,880
Accounts and notes receivable, net of allowance for doubtful accounts of \$4,163 as of September 30, 2019 and \$1,129 as of December 31, 2018	264,157	248,286
Inventories	314,955	293,717
Prepaid expenses and other current assets	40,481	46,168
Total current assets	1,000,757	638,051
Property, plant and equipment	708,267	688,842
Less: accumulated depreciation	207,444	175,137
Net property, plant and equipment	500,823	513,705
Deferred income taxes	48,237	71,707
Goodwill	171,117	171,117
Other assets	104,735	110,911
Total assets	\$ 1,825,669	\$ 1,505,491
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 73,856	\$ 88,097
Short-term debt	70,861	106,323
Accrued income and other taxes	58,916	82,255
Other accrued liabilities	48,707	50,452
Related party payable - tax receivable agreement	23,852	—
Total current liabilities	276,192	327,127
Long-term debt	1,965,501	2,050,311
Other long-term obligations	77,759	72,519
Deferred income taxes	50,484	45,825
Related party payable - tax receivable agreement	62,625	86,478
Contingencies – Note 9		
Stockholders' equity:		
Preferred stock, par value \$0.01, 300,000,000 shares authorized, none issued	—	—
Common stock, par value \$0.01, 3,000,000,000 shares authorized, 289,658,478 shares issued and outstanding as of September 30, 2019 and 290,537,612 as of December 31, 2018	2,897	2,905
Additional paid-in capital	818,720	819,622
Accumulated other comprehensive loss	(23,677)	(5,800)
Accumulated deficit	(1,404,832)	(1,893,496)
Total stockholders' deficit	(606,892)	(1,076,769)
Total liabilities and stockholders' equity	\$ 1,825,669	\$ 1,505,491

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME
(Dollars in thousands)
(Unaudited)

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
<u>CONSOLIDATED STATEMENTS OF OPERATIONS</u>				
Net sales	\$ 420,797	\$ 454,890	\$ 1,376,181	\$ 1,363,121
Cost of sales	178,497	180,280	571,068	491,339
Gross profit	242,300	274,610	805,113	871,782
Research and development	611	518	1,961	1,528
Selling and administrative expenses	15,708	14,234	46,328	46,349
Operating profit	225,981	259,858	756,824	823,905
Other (income) expense, net	(688)	1,502	642	2,533
Related party Tax Receivable Agreement expense	—	—	—	61,801
Interest expense	31,803	33,855	98,472	100,387
Interest income	(1,765)	(562)	(2,910)	(1,068)
Income from continuing operations before provision for income taxes	196,631	225,063	660,620	660,252
Provision for income taxes	20,755	24,871	90,940	36,250
Net income from continuing operations	175,876	200,192	569,680	624,002
(Loss) income from discontinued operations, net of tax	—	(726)	—	585
Net income	<u>\$ 175,876</u>	<u>\$ 199,466</u>	<u>\$ 569,680</u>	<u>\$ 624,587</u>
Basic income per common share*:				
Net income per share	\$ 0.61	\$ 0.67	\$ 1.96	\$ 2.08
Net income from continuing operations per share	\$ 0.61	\$ 0.68	\$ 1.96	\$ 2.08
Weighted average common shares outstanding	290,112,233	296,136,564	290,410,859	300,173,831
Diluted income per common share*:				
Income per share	\$ 0.61	\$ 0.67	\$ 1.96	\$ 2.08
Diluted income from continuing operations per share	\$ 0.61	\$ 0.68	\$ 1.96	\$ 2.08
Weighted average common shares outstanding	290,127,296	296,145,453	290,422,351	300,178,704
<u>STATEMENTS OF COMPREHENSIVE INCOME (LOSS)</u>				
Net income	\$ 175,876	\$ 199,466	\$ 569,680	\$ 624,587
Other comprehensive income:				
Foreign currency translation adjustments, net of tax of (\$92), \$0, (\$128), and \$0, respectively	(13,597)	(3,601)	(13,519)	(17,379)
Commodity and interest rate derivatives, net of tax of \$6,972, \$0, \$1,065 and \$0, respectively	(25,934)	5,890	(4,358)	31,629
Other comprehensive (loss) income, net of tax:	(39,531)	2,289	(17,877)	14,250
Comprehensive income	<u>\$ 136,345</u>	<u>\$ 201,755</u>	<u>\$ 551,803</u>	<u>\$ 638,837</u>

*See Notes 1 and 13

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands, unaudited)

	For the Nine Months Ended September 30,	
	2019	2018
Cash flow from operating activities:		
Net income	\$ 569,680	\$ 624,587
Adjustments to reconcile net income to cash provided by operations:		
Depreciation and amortization	46,387	47,746
Related party Tax Receivable Agreement expense	—	61,801
Deferred income tax provision (benefit)	28,696	(18,184)
Loss on extinguishment of debt	—	23,827
Interest expense	4,764	3,747
Other charges, net	17,689	9,652
Net change in working capital*	(80,311)	(143,695)
Change in long-term assets and liabilities	(2,133)	2,763
Net cash provided by operating activities	584,772	612,244
Cash flow from investing activities:		
Capital expenditures	(44,053)	(47,632)
Proceeds from the sale of assets	98	866
Net cash used in investing activities	(43,955)	(46,766)
Cash flow from financing activities:		
Short-term debt, net	—	(12,607)
Revolving Facility reductions	—	(45,692)
Debt issuance costs	—	(27,326)
Proceeds from the issuance of long-term debt, net of original issuance discount	—	2,235,000
Repayment of Senior Notes	—	(304,782)
Related party Promissory Note repayment	—	(750,000)
Repurchase of common stock	(9,484)	(225,000)
Principal repayments on long-term debt	(125,000)	(28,125)
Dividends paid to non-related-party	(15,505)	(7,651)
Dividends paid to related-party	(58,507)	(1,308,538)
Net cash used in financing activities	(208,496)	(474,721)
Net change in cash and cash equivalents	332,321	90,757
Effect of exchange rate changes on cash and cash equivalents	(1,037)	(1,615)
Cash and cash equivalents at beginning of period	49,880	13,365
Cash and cash equivalents at end of period	\$ 381,164	\$ 102,507
* Net change in working capital due to changes in the following components:		
Accounts and notes receivable, net	\$ (20,727)	\$ (96,045)
Inventories	(19,908)	(93,755)
Prepaid expenses and other current assets	5,703	7,828
Income taxes payable	(28,152)	35,358
Accounts payable and accruals	(17,336)	4,336
Interest payable	109	(1,417)
Net change in working capital	\$ (80,311)	\$ (143,695)

See accompanying Notes to Condensed Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

(Dollars in thousands, except share data)

	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income(Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity (Deficit)
Balance as of December 31, 2018	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 819,622</u>	<u>\$ (5,800)</u>	<u>\$ (1,893,496)</u>	<u>\$ (1,076,769)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	197,436	197,436
Other comprehensive income (loss):						
Commodity and foreign currency derivatives income, net of tax of (\$7,295)	—	—	—	27,113	—	27,113
Commodity and foreign currency derivatives reclassification adjustments, net of tax of \$392	—	—	—	(1,456)	—	(1,456)
Foreign currency translation adjustments, net of tax of (\$3)	—	—	—	(3,539)	—	(3,539)
Total other comprehensive income	—	—	—	22,118	—	22,118
Stock-based compensation			293			293
Dividends paid to related party stockholder (\$0.085 per share)	—	—	—	—	(19,502)	(19,502)
Dividends paid to non-related party stockholders (\$0.085 per share)	—	—	—	—	(5,194)	(5,194)
Balance as of March 31, 2019	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 819,915</u>	<u>\$ 16,318</u>	<u>\$ (1,720,756)</u>	<u>\$ (881,618)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	196,368	196,368
Other comprehensive income (loss):						
Commodity and foreign currency derivatives income, net of tax of \$603	—	—	—	(2,472)	—	(2,472)
Commodity and foreign currency derivatives reclassification adjustments, net of tax of \$393	—	—	—	(1,609)	—	(1,609)
Foreign currency translation adjustments, net of tax of (\$33)	—	—	—	3,617	—	3,617
Total other comprehensive loss	—	—	—	(464)	—	(464)
Stock-based compensation			570			570
Dividends paid to related party stockholder (\$0.085 per share)	—	—	—	—	(19,503)	(19,503)
Dividends paid to non-related party stockholders (\$0.085 per share)	—	—	—	—	(5,191)	(5,191)
Balance as of June 30, 2019	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 820,485</u>	<u>\$ 15,854</u>	<u>\$ (1,549,082)</u>	<u>\$ (709,838)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	175,876	175,876
Other comprehensive loss:						
Commodity, foreign currency and interest rate derivative income, net of tax of \$6,306	—	—	—	(23,456)	—	(23,456)
Commodity and foreign currency derivatives reclassification adjustments, net of tax of \$666	—	—	—	(2,478)	—	(2,478)
Foreign currency translation adjustments, net of tax of (\$92)	—	—	—	(13,597)	—	(13,597)
Total other comprehensive loss	—	—	—	(39,531)	—	(39,531)
Stock-based compensation			705			705
Dividends paid to related party stockholder (\$0.085 per share)	—	—	—	—	(19,502)	(19,502)
Dividends paid to non-related party stockholders (\$0.085 per share)	—	—	—	—	(5,118)	(5,118)
Common stock repurchases and retirement	(879,134)	(8)	(2,470)		(7,006)	(9,484)
Balance as of September 30, 2019	<u>289,658,478</u>	<u>\$ 2,897</u>	<u>\$ 818,720</u>	<u>\$ (23,677)</u>	<u>\$ (1,404,832)</u>	<u>\$ (606,892)</u>

Cont'd	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income(Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity (Deficit)
Balance as of December 31, 2017⁽¹⁾	<u>302,225,923</u>	<u>\$ 3,022</u>	<u>\$ 851,315</u>	<u>\$ 20,289</u>	<u>\$ (261,411)</u>	<u>\$ 613,215</u>
Comprehensive income (loss):						
Net income	—	—	—	—	223,673	223,673
Other comprehensive income (loss):						
Commodity and foreign currency derivatives loss, net of tax of \$0	—	—	—	(6,113)	—	(6,113)
Foreign currency translation adjustments	—	—	—	5,040	—	5,040
Total other comprehensive loss	—	—	—	(1,073)	—	(1,073)
Dividends paid to related party stockholder (\$3.68 per share)	—	—	—	—	(1,112,000)	(1,112,000)
Balance as of March 31, 2018⁽¹⁾	<u>302,225,923</u>	<u>\$ 3,022</u>	<u>\$ 851,315</u>	<u>\$ 19,216</u>	<u>\$ (1,149,738)</u>	<u>\$ (276,185)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	201,448	201,448
Other comprehensive income (loss):						
Commodity and foreign currency derivatives loss, net of tax of \$0	—	—	—	31,852	—	31,852
Foreign currency translation adjustments	—	—	—	(18,818)	—	(18,818)
Total other comprehensive income	—	—	—	13,034	—	13,034
Stock-based compensation	—	—	181	—	—	181
Related-party promissory note repayment	—	—	—	—	(750,000)	(750,000)
Dividends paid to related party stockholder (\$0.59 per share)	—	—	—	—	(177,040)	(177,040)
Dividends paid to non-related party stockholders (\$0.085 per share)	—	—	—	—	(2,457)	(2,457)
Balance as of June 30, 2018	<u>302,225,923</u>	<u>\$ 3,022</u>	<u>\$ 851,496</u>	<u>\$ 32,250</u>	<u>\$ (1,877,787)</u>	<u>\$ (991,019)</u>
Comprehensive income (loss):						
Net income	—	—	—	—	199,466	199,466
Other comprehensive income (loss):						
Commodity and foreign currency derivatives loss, net of tax of (\$9,871)	—	—	—	5,890	—	5,890
Foreign currency translation adjustments	—	—	—	(3,601)	—	(3,601)
Total other comprehensive income	—	—	—	2,289	—	2,289
Stock-based compensation	—	—	475	—	—	475
Dividends paid to related party stockholder (\$0.085 per share)	—	—	—	—	(19,498)	(19,498)
Dividends paid to non-related party stockholders (\$0.085 per share)	—	—	—	—	(5,194)	(5,194)
Common stock repurchases and retirement	(11,688,311)	(117)	(32,844)	—	(192,042)	(225,003)
Balance as of September 30, 2018	<u>290,537,612</u>	<u>\$ 2,905</u>	<u>\$ 819,127</u>	<u>\$ 34,539</u>	<u>\$ (1,895,055)</u>	<u>\$ (1,038,484)</u>

⁽¹⁾ On April 12, 2018, the Company effected a 3,022,259.23 to one split of the Company's common stock. We retrospectively applied this split to all previous periods presented.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(1) Organization and Summary of Significant Accounting Policies

A. Organization

GrafTech International Ltd. (the "Company") is a leading manufacturer of high quality graphite electrode products essential to the production of electric arc furnace ("EAF") steel and other ferrous and non-ferrous metals. References herein to "we," "our," or "us" refer collectively to GrafTech International Ltd. and its subsidiaries. On August 15, 2015, we became an indirect wholly owned subsidiary of Brookfield Asset Management Inc. (together with its affiliates, "Brookfield") through a tender offer to our former stockholders and subsequent merger transaction. On April 23, 2018, the Company completed its initial public offering ("IPO").

The Company's only reportable segment, Industrial Materials, is comprised of our two major product categories: graphite electrodes and petroleum needle coke products. Needle coke is the key raw material used in the production of graphite electrodes. The Company's vision is to provide highly engineered graphite electrode services, solutions and products to EAF operators.

B. Basis of Presentation

The interim condensed consolidated financial statements are unaudited; however, in the opinion of management, they have been prepared in accordance with Rule 10-01 of Regulation S-X and in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The December 31, 2018 financial position data included herein was derived from the audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018 ("Annual Report on Form 10-K") filed on February 22, 2019 but does not include all disclosures required by GAAP in audited financial statements. These interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements, including the accompanying notes, contained in our Annual Report on Form 10-K filed on February 22, 2019.

The unaudited condensed consolidated financial statements reflect all adjustments (all of which are of a normal, recurring nature) which management considers necessary for a fair statement of financial position, results of operations, comprehensive income and cash flows for the interim periods presented. The results for the interim periods are not necessarily indicative of results which may be expected for any other interim period or for the full year.

Earnings per share

The calculation of basic earnings per share is based on the number of common shares outstanding after giving effect to the stock split effected on April 12, 2018 and the common stock repurchases on August 13, 2018 and during the third quarter of 2019. Diluted earnings per share recognizes the dilution that would occur if stock options, deferred stock units or restricted stock units were exercised or converted into common shares. See Note 13 "Earnings Per Share".

C. New Accounting Standards

Recently Adopted Accounting Standards

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842). Under this new guidance, a company will now recognize most leases on its balance sheet as lease liabilities with corresponding right-of-use assets. This ASU is effective for fiscal years beginning after December 15, 2018. The Company adopted ASU No. 2016-02 on January 1, 2019. The adoption impact was not material to our financial position, results of operations or cash flows. See Note 3 "Leases" for information regarding this standard and its adoption.

Accounting Standards Not Yet Adopted

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles-Goodwill and Other* (Topic 350). This guidance was issued to simplify the accounting for goodwill impairment. The guidance removes the second step of the goodwill impairment test, which requires that a hypothetical purchase price allocation be performed to determine the amount of impairment, if any. Under this new guidance, a goodwill impairment charge will be based on the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The guidance will become effective on a prospective basis for the Company on January 1, 2020 with early adoption permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The adoption of this standard is not expected to have a material effect on the Company's financial position, results of operations or cash flows.

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In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses* (Topic 326), which introduces the Current Expected Credit Losses ("CECL") accounting model. CECL requires earlier recognition of credit losses, while also providing additional transparency about credit risk. CECL utilizes a lifetime expected credit loss measurement objective for the recognition of credit losses at the time the financial asset is originated or acquired. The expected credit losses are adjusted each period for changes in expected lifetime credit losses. ASU No. 2016-13 is effective for the the Company on January 1, 2020. The Company is currently evaluating the impact of this standard.

(2) Revenue from Contracts with Customers

Disaggregation of Revenue

The following table provides information about disaggregated revenue by type of product and contract for the three and nine months ended September 30, 2019 and 2018:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(Dollars in thousands)</i>			
Graphite Electrodes - Three-to-five-year take-or-pay contracts	\$ 334,097	\$ 359,405	\$ 1,107,742	\$ 976,852
Graphite Electrodes - Short-term agreements and spot sales	67,704	51,475	191,249	261,949
By-products and other	18,996	44,010	77,190	124,320
Total Revenues	\$ 420,797	\$ 454,890	\$ 1,376,181	\$ 1,363,121

Effective the first quarter of 2019, the Graphite Electrodes revenue categories include only graphite electrodes manufactured by GrafTech. The revenue category "By-products and Other" now includes re-sales of low-grade electrodes purchased from third party suppliers, which represent a minimal contribution to our profitability. For comparability purposes, the prior period has been recast to conform to this presentation.

Contract Balances

Receivables, net of allowances for doubtful accounts, were \$264.2 million as of September 30, 2019 and \$248.3 million as of December 31, 2018. Accounts receivables are recorded when the right to consideration becomes unconditional. Payment terms on invoices range from 30 to 120 days depending on the customary business practices of the jurisdictions in which we do business.

Certain short-term and longer-term sales contracts require up-front payments prior to the Company's fulfillment of any performance obligation. These contract liabilities are recorded as current or long-term deferred revenue, depending on the lag between the pre-payment and the expected delivery of the related products. Additionally, under ASC 606, deferred revenue originates from contracts where the allocation of the transaction price to the performance obligations based on their relative stand-alone selling prices results in the timing of revenue recognition being different from the timing of the invoicing. In this case, deferred revenue is amortized into revenue based on the transaction price allocated to the remaining performance obligations.

Current deferred revenue is included in "Other accrued liabilities" and long-term deferred revenue is included in "Other long-term obligations" on the Condensed Consolidated Balance Sheets.

The following table provides information about deferred revenue from contracts with customers (in thousands):

	Current deferred revenue	Long-Term deferred revenue
	<i>(Dollars in thousands)</i>	
Balance as of December 31, 2018	\$ 5,380	\$ 7,716
Revenue recognized that was included in the deferred revenue balance at the beginning of the period	(4,606)	—
Increases due to cash received, excluding amounts recognized as revenue during the period	2,144	—
Foreign currency impact	4	(220)
Balance as of September 30, 2019	\$ 2,922	\$ 7,496

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Transaction Price Allocated to the Remaining Performance Obligations

The following table presents estimated revenues expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period. The estimated revenues do not include contracts with original duration of one year or less.

	Three-to-five-year take-or-pay contracts
	<i>(Dollars in thousands)</i>
Remainder of 2019	347,097
2020	1,366,579
2021	1,211,036
2022	1,144,574
Thereafter	29,461
Total	<u>\$ 4,098,747</u>

In addition to the expected remaining revenue to be recognized with the longer-term sales contracts, the Company recorded \$1,107.7 million of revenue pursuant to these contracts in the nine months ended September 30, 2019.

(3) Leases

We lease certain transportation and mobile manufacturing equipment such as railcars and forklifts, as well as real estate.

The Company adopted ASU 2016-02 "Leases: (Topic 842) ("ASC 842") on January 1, 2019. ASC 842 requires that all leases, financing and operating, be included on the balance sheet. The Company adopted ASC 842 using the modified retrospective approach under which prior periods' financial statements are not restated and a cumulative-effect adjustment to retained earnings at the beginning of the period of adoption is recorded, if applicable. The Company elected to adopt the transition package of practical expedients for lease identification, classification, initial direct costs and hindsight. At the adoption of ASC 842 on January 1, 2019, the Company recognized right-of-use ("RoU") assets and corresponding operating lease liabilities of \$7.5 million, with no cumulative-effect adjustment to retained earnings.

We determine if an arrangement is a lease at lease inception. When an arrangement contains a lease, we then determine if it meets any of the criteria for a financing lease. Leases with a term of 12 months or less are not recorded on the balance sheet.

RoU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. RoU assets and lease liabilities are recognized at the lease commencement date based on the present value of the lease payments over the lease term.

In order to compute the lease liability, when the rate implicit in the lease is not readily determinable, we discount the lease payments using our estimated incremental borrowing rate for secured fixed rate debt over the same term, derived from information available at the lease commencement date. Our lease term includes the option to extend the lease when it is reasonably certain that we will exercise that option.

The Company has elected to account for the lease and non-lease components as a single lease component, except for leases of warehouse space where they will be accounted for separately. Leases may include variable lease and variable non-lease components costs which are accounted for as variable lease expense in the income statement.

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Components of lease expense are as follows:

	For the Three Months Ended September 30, 2019	For the Nine Months Ended September 30, 2019
	<i>(Dollars in thousands)</i>	
Operating lease cost	1,078	3,162
Short-term lease cost	2	12
Variable lease cost	49	234
Total lease cost	\$ 1,129	\$ 3,408

Supplemental cash-flow and other information related to leases is as follows:

	For the Three Months Ended September 30, 2019	For the Nine Months Ended September 30, 2019
	<i>(Dollars in thousands)</i>	
RoU assets obtained in exchange for new operating lease liabilities (non-cash)	676	2,752
Operating (use of cash) from operating leases	(1,120)	(3,192)

Supplemental balance sheet information related to leases is as follows:

	As of September 30, 2019
	<i>(Dollars in thousands)</i>
Operating RoU Assets*	\$ 7,228
*Amount included in Other assets	
Current operating lease liabilities	3,752
Non-current operating lease liabilities	3,462
Total operating lease liabilities**	\$ 7,214
**Amounts included in other accrued liabilities and other long-term obligations	
Weighted average remaining lease term (in years)	2.60
Weighted average discount rate - operating leases	5.62%

As of September 30, 2019, lease commitments under non-cancelable operating leases extending for one year or more will require the following future payments:

	<i>(Dollars in thousands)</i>
Remainder 2019	\$ 1,085
2020	3,422
2021	2,085
2022	561
2023	322
2024 and thereafter	381
Total lease payments	\$ 7,856
Less: Imputed interest	(642)
Present value of lease payments	7,214
Less: Current operating lease liability	(3,752)
Non-current operating lease liability	\$ 3,462

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As of September 30, 2019, we have not entered into any additional operating lease commitments that have yet to commence.

Disclosure related to periods prior to adoption of the new lease standard

As of December 31, 2018, lease commitments under non-cancelable operating leases required the following future payments:

	<i>(Dollars in thousands)</i>
2019	\$ 4,474
2020	2,747
2021	1,497
2022	334
2023	269
2024 and thereafter	343
Total lease payments	<u>\$ 9,664</u>

Total lease expenses under non-cancelable operating leases approximated \$4.9 million in 2018.

(4) Retirement Plans and Postretirement Benefits

The components of our consolidated net pension costs are set forth in the following table:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(Dollars in thousands)</i>			
Service cost	\$ 574	\$ 498	\$ 1,724	\$ 1,494
Interest cost	1,316	1,239	3,948	3,721
Expected return on plan assets	(1,339)	(1,502)	(4,015)	(4,506)
Net cost	<u>\$ 551</u>	<u>\$ 235</u>	<u>\$ 1,657</u>	<u>\$ 709</u>

The components of our consolidated net postretirement costs are set forth in the following table:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(Dollars in thousands)</i>			
Service cost	\$ —	\$ 3	\$ —	\$ 3
Interest cost	236	229	717	731
Net cost	<u>\$ 236</u>	<u>\$ 232</u>	<u>\$ 717</u>	<u>\$ 734</u>

(5) Goodwill and Other Intangible Assets

We are required to review goodwill and indefinite-lived intangible assets annually for impairment. Goodwill impairment is tested at the graphite electrodes reporting unit level on an annual basis and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value.

The following tables represent the changes in the carrying value of goodwill and intangibles for the nine months ended September 30, 2019 which are reported in "Other assets" on the balance sheets:

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Goodwill

(Dollars in thousands)

Balance as of December 31, 2018	\$	171,117
Adjustments		—
Balance as of September 30, 2019	\$	171,117

Intangible Assets

	As of September 30, 2019			As of December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	<i>(Dollars in Thousands)</i>					
Trade name	\$ 22,500	\$ (9,336)	\$ 13,164	\$ 22,500	\$ (7,721)	\$ 14,779
Technological know-how	55,300	(27,808)	27,492	55,300	(23,503)	31,797
Customer-related intangible	64,500	(18,377)	46,123	64,500	(15,070)	49,430
Total finite-lived intangible assets	\$ 142,300	\$ (55,521)	\$ 86,779	\$ 142,300	\$ (46,294)	\$ 96,006

Amortization expense of acquired intangible assets was \$3.0 million and \$3.2 million in the three months ended September 30, 2019 and 2018, respectively, and \$9.2 million and \$9.8 million in the nine months ended September 30, 2019 and 2018, respectively. Estimated amortization expense will approximate \$2.9 million in the remainder of 2019, \$11.4 million in 2020, \$10.7 million in 2021, \$10.1 million in 2022 and \$9.2 million in 2023.

(6) Debt and Liquidity

The following table presents our long-term debt:

	As of September 30, 2019	As of December 31, 2018
	<i>(Dollars in thousands)</i>	
2018 Credit Facility (2018 Term Loan and 2018 Revolving Facility)	\$ 2,035,624	\$ 2,155,883
Other Debt	738	751
Total debt	2,036,362	2,156,634
Less: Short-term debt	(70,861)	(106,323)
Long-term debt	\$ 1,965,501	\$ 2,050,311

On February 13, 2019, we repaid \$125 million on our 2018 Term Loan Facility. The fair value of debt approximated the book value of \$2,036.4 million as of September 30, 2019.

Senior Notes and Old Credit Agreement

As of December 31, 2017, the Company had \$300 million of principal amount of 6.375% Senior Notes due 2020 (the "Senior Notes"). The Senior Notes were scheduled to mature on November 15, 2020.

Additionally, as of December 31, 2017, the Company was party to the Amended and Restated Credit Agreement ("Old Credit Agreement") which consisted of the "Old Revolving Facility" and the "Old Term Loan Facility". As of December 31, 2017, the Company had \$39.5 million of borrowings on the Old Revolving Facility and \$8.7 million of letters of credit drawn against the Old Credit Facility. The balance of the Old Term Loan Facility was \$18.7 million as of December 31, 2017.

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As described below, the outstanding indebtedness under the Senior Notes, Old Revolving Credit Facility and the Old Term Loan was repaid as of February 12, 2018 and all commitments thereunder have been terminated.

Refinancing

On February 12, 2018, the Company entered into a credit agreement (the "2018 Credit Agreement") among the Company, GrafTech Finance Inc., a Delaware corporation and a wholly owned subsidiary of GrafTech ("Finance"), GrafTech Switzerland SA, a Swiss corporation and a wholly owned subsidiary of GrafTech ("Swissco"), GrafTech Luxembourg II S.à.r.l., a Luxembourg société à responsabilité limitée and a wholly owned subsidiary of GrafTech ("Luxembourg Holdco" and, together with Finance and Swissco, the "Co-Borrowers"), the lenders and issuing banks party thereto and JPMorgan Chase Bank, N.A. as administrative agent and as collateral agent, which provides for (i) a \$1,500 million senior secured term facility (the "2018 Term Loan Facility") and (ii) a \$250 million senior secured revolving credit facility (the "2018 Revolving Credit Facility" and, together with the 2018 Term Loan Facility, the "Senior Secured Credit Facilities"), which may be used from time to time for revolving credit borrowings denominated in dollars or Euro, the issuance of one or more letters of credit denominated in dollars, Euro, Pounds Sterling or Swiss Francs and one or more swing line loans denominated in dollars. Finance is the sole borrower under the 2018 Term Loan Facility while Finance, Swissco and Luxembourg Holdco are Co-Borrowers under the 2018 Revolving Credit Facility. On February 12, 2018, Finance borrowed \$1,500 million under the 2018 Term Loan Facility (the "2018 Term Loans"). The 2018 Term Loans mature on February 12, 2025. The maturity date for the 2018 Revolving Credit Facility is February 12, 2023.

The proceeds of the 2018 Term Loans were used to (i) repay in full all outstanding indebtedness of the Co-Borrowers under the Old Credit Agreement and terminate all commitments thereunder, (ii) redeem in full the Senior Notes at a redemption price of 101.594% of the principal amount thereof plus accrued and unpaid interest to the date of redemption, (iii) pay fees and expenses incurred in connection with (i) and (ii) above and the Senior Secured Credit Facilities and related expenses, and (iv) declare and pay a dividend to the sole pre-IPO stockholder, with any remainder to be used for general corporate purposes. See Note 8 "Interest Expense" for a breakdown of expenses associated with these repayments. In connection with the repayment of the Old Credit Agreement and redemption of the Senior Notes, all guarantees of obligations under the Old Credit Agreement, the Senior Notes and related indenture were terminated, all mortgages and other security interests securing obligations under the Old Credit Agreement were released and the Old Credit Agreement and the indenture were terminated.

Borrowings under the 2018 Term Loan Facility bear interest, at Finance's option, at a rate equal to either (i) the Adjusted LIBO Rate (as defined in the 2018 Credit Agreement), plus an applicable margin initially equal to 3.50% per annum or (ii) the ABR Rate (as defined in the 2018 Credit Agreement), plus an applicable margin initially equal to 2.50% per annum, in each case with one step down of 25 basis points based on achievement of certain public ratings of the 2018 Term Loans.

Borrowings under the 2018 Revolving Credit Facility bear interest, at the applicable Co-Borrower's option, at a rate equal to either (i) the Adjusted LIBO Rate, plus an applicable margin initially equal to 3.75% per annum or (ii) the ABR Rate, plus an applicable margin initially equal to 2.75% per annum, in each case with two 25 basis point step downs based on achievement of certain senior secured first lien net leverage ratios. In addition, the Co-Borrowers will be required to pay a quarterly commitment fee on the unused commitments under the 2018 Revolving Credit Facility in an amount equal to 0.25% per annum.

All obligations under the 2018 Credit Agreement are guaranteed by GrafTech, Finance and each domestic subsidiary of GrafTech, subject to certain customary exceptions, and all obligations under the 2018 Credit Agreement of each foreign subsidiary of GrafTech that is a Controlled Foreign Corporation (within the meaning of Section 956 of the Internal Revenue Code of 1986, as amended from time to time (the "Code")) are guaranteed by GrafTech Luxembourg I S.à.r.l., a Luxembourg société à responsabilité limitée and an indirect wholly owned subsidiary of GrafTech ("Luxembourg Parent"), Luxembourg Holdco and Swissco (collectively, the "Guarantors").

For borrowings under both the 2018 Term Loan Facility and the 2018 Revolving Credit Facility, if the Administrative Agent determines that adequate and reasonable means do not exist for ascertaining the Adjusted LIBO Rate or the LIBO Rate and such circumstances are unlikely to be temporary or the relevant authority has made a public statement identifying a date after which the LIBO Rate shall no longer be used for determining interest rates for loans, then the Administrative Agent and the Co-Borrowers shall endeavor to establish an alternate rate of interest, which shall be effective so long as the majority in interest of the lenders for each Class (as defined in the 2018 Credit Agreement) of loans under the 2018 Credit Agreement do not notify the Administrative Agent otherwise. Until such an alternate rate of interest is determined, (a) any request for a borrowing denominated in dollars based on the Adjusted LIBO Rate will be deemed to be a request for a borrowing at the ABR Rate plus the applicable margin for an ABR Rate borrowing of such loan while any request for a borrowing denominated in any other currency will be ineffective and (b) any outstanding borrowings based on the Adjusted LIBO Rate denominated in dollars will be converted to a

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borrowing at the ABR Rate plus the applicable margin for an ABR Rate borrowing of such loan while any outstanding borrowings denominated in any other currency will be repaid.

All obligations under the 2018 Credit Agreement are secured, subject to certain exceptions and Excluded Assets (as defined in the 2018 Credit Agreement), by: (i) a pledge of all of the equity securities of Finance and each domestic Guarantor (other than GrafTech) and of each other direct, wholly owned domestic subsidiary of GrafTech and any Guarantor, (ii) a pledge on no more than 65% of the equity interests of each subsidiary that is a Controlled Foreign Corporation (within the meaning of Section 956 of the Code), and (iii) security interests in, and mortgages on, personal property and material real property of Finance and each domestic Guarantor, subject to permitted liens and certain exceptions specified in the 2018 Credit Agreement. The obligations of each foreign subsidiary of GrafTech that is a Controlled Foreign Corporation under the Revolving Credit Facility are secured by (i) a pledge of all of the equity securities of each Guarantor that is a Controlled Foreign Corporation and of each direct, wholly owned subsidiary of any Guarantor that is a Controlled Foreign Corporation, and (ii) security interests in certain receivables and personal property of each Guarantor that is a Controlled Foreign Corporation, subject to permitted liens and certain exceptions specified in the 2018 Credit Agreement.

The 2018 Term Loans amortize at a rate equal to 5% per annum of the original principal amount of the 2018 Term Loans payable in equal quarterly installments, with the remainder due at maturity. The Co-Borrowers are permitted to make voluntary prepayments at any time without premium or penalty, except in the case of prepayments made in connection with certain repricing transactions with respect to the 2018 Term Loans effected within twelve months of the closing date of the 2018 Credit Agreement, to which a 1.00% prepayment premium applies. Finance is required to make prepayments under the 2018 Term Loans (without payment of a premium) with (i) net cash proceeds from non-ordinary course asset sales (subject to customary reinvestment rights and other customary exceptions and exclusions), and (ii) commencing with the Company's fiscal year ending December 31, 2019, 75% of Excess Cash Flow (as defined in the 2018 Credit Agreement), subject to step-downs to 50% and 0% of Excess Cash Flow based on achievement of a senior secured first lien net leverage ratio greater than 1.25 to 1.00 but less than or equal to 1.75 to 1.00 and less than or equal to 1.25 to 1.00, respectively. Scheduled quarterly amortization payments of the 2018 Term Loans during any calendar year reduce, on a dollar-for-dollar basis, the amount of the required Excess Cash Flow prepayment for such calendar year, and the aggregate amount of Excess Cash Flow prepayments for any calendar year reduce subsequent quarterly amortization payments of the 2018 Term Loans as directed by Finance.

The 2018 Credit Agreement contains customary representations and warranties and customary affirmative and negative covenants applicable to GrafTech and restricted subsidiaries, including, among other things, restrictions on indebtedness, liens, investments, fundamental changes, dispositions, and dividends and other distributions. The 2018 Credit Agreement contains a financial covenant that requires GrafTech to maintain a senior secured first lien net leverage ratio not greater than 4.00:1.00 when the aggregate principal amount of borrowings under the 2018 Revolving Credit Facility and outstanding letters of credit issued under the 2018 Revolving Credit Facility (except for undrawn letters of credit in an aggregate amount equal to or less than \$35 million), taken together, exceed 35% of the total amount of commitments under the 2018 Revolving Credit Facility. The 2018 Credit Agreement also contains customary events of default.

Brookfield Promissory Note

On April 19, 2018, we declared a dividend in the form of a \$750 million promissory note (the "Brookfield Promissory Note") to the sole pre-IPO stockholder. The \$750 million Brookfield Promissory Note was conditioned upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (each as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the \$750 million Brookfield Promissory Note and (iii) the satisfaction of the conditions occurring within 60 days from the dividend record date. Upon publication of our 2018 first quarter report on Form 10-Q, these conditions were met and, as a result, the Brookfield Promissory Note became payable.

The Brookfield Promissory Note had a maturity of eight years from the date of issuance and bore interest at a rate equal to the Adjusted LIBO Rate (as defined in the Brookfield Promissory Note) plus an applicable margin equal to 4.50% per annum, with an additional 2.00% per annum starting from the third anniversary from the date of issuance. We were permitted to make voluntary prepayments at any time without premium or penalty. All obligations under the Brookfield Promissory Note were unsecured and guaranteed by all of our existing and future domestic wholly owned subsidiaries that guarantee, or are borrowers under, the Senior Secured Credit Facilities. No funds were lent or otherwise contributed to us by the pre-IPO stockholder in connection with the Brookfield Promissory Note. As a result, we received no consideration in connection with its issuance. As described below, the Promissory Note was repaid in full on June 15, 2018.

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First Amendment to 2018 Credit Agreement

On June 15, 2018, the Company entered into a first amendment (the "First Amendment") to its 2018 Credit Agreement. The First Amendment amended the 2018 Credit Agreement to provide for an additional \$750 million in aggregate principal amount of incremental term loans (the "Incremental Term Loans") to Finance. The Incremental Term Loans increased the aggregate principal amount of term loans incurred by Finance under the 2018 Credit Agreement from \$1,500 million to \$2,250 million. The Incremental Term Loans have the same terms as those applicable to the 2018 Term Loans, including interest rate, payment and prepayment terms, representations and warranties and covenants. The Incremental Term Loans mature on February 12, 2025, the same date as the 2018 Term Loans. GrafTech paid an upfront fee of 1.00% of the aggregate principal amount of the Incremental Term Loans on the effective date of the First Amendment.

The proceeds of the Incremental Term Loans were used to repay, in full, the \$750 million of principal outstanding on the Brookfield Promissory Note.

(7) Inventories

Inventories are comprised of the following:

	As of September 30, 2019	As of December 31, 2018
	<i>(Dollars in thousands)</i>	
Inventories:		
Raw materials	\$ 94,471	\$ 99,935
Work in process	143,192	125,767
Finished goods	77,292	68,015
Total	\$ 314,955	\$ 293,717

(8) Interest Expense

The following tables present the components of interest expense:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
	<i>(Dollars in thousands)</i>			
Interest incurred on debt	\$ 30,222	\$ 32,278	\$ 93,731	\$ 67,751
Related-party Promissory Note interest expense	—	—	—	5,090
Senior Note redemption premium	—	—	—	4,782
Accretion of fair value adjustment on Senior Notes	—	—	—	19,414
Accretion of original issue discount on 2018 Term Loans	549	549	1,647	906
Amortization of debt issuance costs	1,032	1,028	3,094	2,444
Total interest expense	\$ 31,803	\$ 33,855	\$ 98,472	\$ 100,387

Interest Rates

The 2018 Credit Agreement had an effective interest rate of 5.54% as of September 30, 2019. The Old Revolving Facility and Old Term Loan Facility had an effective interest rate of 4.57% as of December 31, 2018 and the Senior Notes had a fixed interest rate of 6.375%, both of which were repaid on February 12, 2018 as part of our refinancing (see Note 6 "Debt and Liquidity"). During the third quarter of 2019, the Company entered into four interest rate swap contracts to fix our cash flows associated with the risk in variability in the one-month US LIBO Rate for a portion of our outstanding debt. See Note 11 "Derivative Instruments" for details of these transactions.

As a result of our February 12, 2018 refinancing, we paid a prepayment premium for the redemption of our Senior Notes totaling \$4.8 million. The accretion of the August 15, 2015 fair value adjustment to our Senior Notes totaling \$19.4 million included

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accelerated accretion of \$18.7 million for the nine months ended September 30, 2018 resulting from the prepayment. Amortization of debt issuance costs included \$0.3 million of accelerated amortization related to the refinancing.

(9) Contingencies

Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, environmental compliance programs and other legal proceedings arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Litigation has been pending in Brazil brought by employees seeking to recover additional amounts and interest thereon under certain wage increase provisions applicable in 1989 and 1990 under collective bargaining agreements to which employers in the Bahia region of Brazil were a party (including our subsidiary in Brazil). Companies in Brazil have settled claims arising out of these provisions and, in May 2015, the litigation was remanded by the Brazilian Supreme Court in favor of the employees. After denying an interim appeal by the Bahia region employers on June 26, 2019, the Brazilian Supreme Court finally ruled in favor of the employees union on September 26, 2019. The employers union is currently evaluating the merits of seeking annulment of such decision. Separately, on October 1, 2015, a related action was filed by current and former employees against our subsidiary in Brazil to recover amounts under such provisions, plus interest thereon, which amounts together with interest could be material to us. If the Brazilian Supreme Court proceeding above had been determined in favor of the employers union, it would also have resolved this proceeding in our favor. In the first quarter of 2017, the state court initially ruled in favor of the employees. We have appealed this state court ruling as well and intend to vigorously defend it. As of September 30, 2019, we are unable to assess the potential loss associated with these proceedings as the claims do not currently specify the number of employees seeking damages or the amount of damages being sought.

Product Warranties

We generally sell products with a limited warranty. We accrue for known warranty claims if a loss is probable and can be reasonably estimated. We also accrue for estimated warranty claims incurred based on a historical claims charge analysis. Claims accrued but not yet paid and the related activity within the accrual for the nine months ended September 30, 2019, are presented below:

	<i>(Dollars in thousands)</i>
Balance as of December 31, 2018	\$ 1,528
Product warranty accruals and adjustments	700
Settlements	(656)
Balance as of September 30, 2019	\$ 1,572

Tax Receivable Agreement

On April 23, 2018, the Company entered into a tax receivable agreement (the "TRA") that provides Brookfield, as the sole pre-IPO stockholder, the right to receive future payments from us for 85% of the amount of cash savings, if any, in U.S. federal income tax and Swiss tax that we and our subsidiaries realize as a result of the utilization of certain tax assets attributable to periods prior to our IPO, including certain federal net operating losses ("NOLs"), previously taxed income under Section 959 of the Code, foreign tax credits, and certain NOLs in Swissco (collectively, the "Pre-IPO Tax Assets"). In addition, we will pay interest on the payments we will make to Brookfield with respect to the amount of these cash savings from the due date (without extensions) of our tax return where we realize these savings to the payment date at a rate equal to LIBO Rate plus 1.00% per annum. The term of the TRA commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

There was no liability recognized on the date we entered into the TRA as there was a full valuation allowance recorded against our deferred tax assets. During the second quarter of 2018, it was determined that the conditions were appropriate for the Company to release a valuation allowance of certain tax assets as we exited our three year cumulative loss position. This release and subsequent adjustment in the fourth quarter resulted in an \$86.5 million liability related to the TRA as of December 31, 2018. In the first quarter of 2019, we reclassified \$23.9 million to the current liability "Related party payable - tax receivable agreement" on the balance sheet, as we expect this portion to be settled within twelve months. \$62.6 million of the liability remains as a long-term liability in "Related party payable - tax receivable agreement" on the balance sheet as of September 30, 2019.

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Long-term Incentive Plan

The long-term incentive plan ("LTIP") was adopted by the Company effective as of August 17, 2015, as amended and restated as of March 15, 2018. The purpose of the plan is to retain senior management of the Company, to incentivize them to make decisions with a long-term view and to influence behavior in a way that is consistent with maximizing value for the pre-IPO stockholder of the Company in a prudent manner. Each participant is allocated a number of profit units, with a maximum of 30,000 profit units (or Profit Units) available under the plan. Awards of Profit Units generally vest in equal increments over a five-year period beginning on the first anniversary of the grant date and subject to continued employment with the Company through each vesting date. Any unvested Profit Units that have not been previously forfeited will accelerate and become fully vested upon a "Change in Control" (as defined below).

Profit Units will generally be settled in a lump sum payment within 30 days following a Change in Control based on the "Sales Proceeds" (as defined below) received by Brookfield Capital Partners IV, L.P. (or, together with its affiliates, Brookfield Capital IV) in connection with the Change in Control. The LTIP defines "Change in Control" as any transaction or series of transactions (including, without limitation, the consummation of a combination, share purchases, recapitalization, redemption, issuance of capital stock, consolidation, reorganization or otherwise) pursuant to which (a) a Person not affiliated with Brookfield Capital IV acquires securities representing more than seventy percent (70%) of the combined voting power of the outstanding voting securities of the Company or the entity surviving or resulting from such transaction, (b) following a public offering of the Company's stock, Brookfield Capital IV has ceased to have a beneficial ownership interest in at least 30% of the Company's outstanding voting securities (effective on the first of such date), or (c) the Company sells all or substantially all of the assets of the Company and its subsidiaries on a consolidated basis. It is intended that the occurrence of a Change in Control in which Sales Proceeds exceed the Threshold Value would constitute a "substantial risk of forfeiture" within the meaning of Section 409A of the Code. The LTIP defines "Threshold Value" as, as of any date of determination, an amount equal to \$855,000,000, (which represents the amount of the total invested capital of Brookfield Capital IV as of August 17, 2015), plus the dollar value of any cash or other consideration contributed to or invested in the Company by Brookfield Capital IV after August 17, 2015. The Threshold Value shall be determined by the Board of Directors in its sole discretion. The LTIP defines "Sales Proceeds" as, as of any date of determination, the sum of all proceeds actually received by the Brookfield Capital IV, net of all Sales Costs (as defined below), (i) as consideration (whether cash or equity) upon the Change in Control and (ii) as distributions, dividends, repurchases, redemptions or otherwise as a holder of such equity interests in the Company. Proceeds that are not paid upon or prior to or in connection with the Change in Control, including earn-outs, escrows and other contingent or deferred consideration shall become "Sale Proceeds" only as and when such proceeds are received by Brookfield Capital IV. "Sales Costs" means any costs or expenses (including legal or other advisor costs), fees (including investment banking fees), commissions or discounts payable directly by Brookfield Capital IV in connection with, arising out of or relating to a Change in Control, as determined by the Board of Directors in its sole discretion.

Given the successful completion of the IPO in the second quarter of 2018, it is reasonably possible that a Change in Control, as defined above, may ultimately happen and that the awarded Profit Units will be subsequently paid out to the participants. Assuming 100% vesting of the awarded Profit Units and depending on Brookfield's sales proceeds, the potential liability triggered by a Change in Control is estimated to be in the range of \$65 million to \$90 million. As of September 30, 2019, the awards are 80% vested.

(10) Income Taxes

We compute and apply to ordinary income an estimated annual effective tax rate on a quarterly basis based on current and forecasted business levels and activities, including the mix of domestic and foreign results and enacted tax laws. The estimated annual effective tax rate is updated quarterly based on actual results and updated operating forecasts. Ordinary income refers to income (loss) before income tax expense excluding significant, unusual, or infrequently occurring items. The tax effect of an unusual or infrequently occurring item is recorded in the interim period in which it occurs as a discrete item of tax.

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The following tables summarize the provision for income taxes for the three and nine months ended September 30, 2019 and September 30, 2018:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
<i>(Dollars in thousands)</i>				
Tax expense	\$ 20,755	\$ 24,871	\$ 90,940	\$ 36,250
Pretax income	196,631	225,063	660,620	660,252
Effective tax rates	10.6%	11.1%	13.8%	5.5%

The effective tax rate for the three months ended September 30, 2019 was 10.6%. This rate differs from the U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates and was further improved by the provision to return adjustment recorded in the third quarter of 2019 as a result of filing income tax returns in foreign jurisdictions.

The effective tax rate for the three months ended September 30, 2018 was 11.1%. This rate differs from the U.S. statutory rate of 21% primarily due to the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes and the tax impact of worldwide earnings from various countries taxed at different rates.

Tax expense decreased from \$24.9 million for the three months ended September 30, 2018 to \$20.8 million for the three months September 30, 2019. This change is primarily related to the reduction in profits and further reduced by the provision to return adjustment recorded in the third quarter of 2019 as a result of filing income tax returns in foreign jurisdictions.

The effective tax rate for the nine months ended September 30, 2019 was 13.8%. This rate differs from the 2019 U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates.

The effective tax rate for the nine months ended September 30, 2018 was 5.5%. This rate differs from the U.S. statutory rate of 21% primarily due to the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes and the tax impact of worldwide earnings from various countries taxed at different rates.

Tax expense increased from \$36.3 million in the nine months ended September 30, 2018 to \$90.9 million in the nine months ended September 30, 2019, primarily due to a partial release in the first nine months of 2018 of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes.

As of September 30, 2019, we had unrecognized tax benefits of \$2.2 million which, if recognized, would have a favorable impact on our effective tax rate.

We file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. All U.S. federal tax years prior to 2015 are generally closed by statute or have been audited and settled with the applicable domestic tax authorities. All other jurisdictions are still open to examination beginning after 2012.

We continue to assess the realization of our deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. Examples of positive evidence would include a strong earnings history, an event or events that would increase our taxable income through a continued reduction of expenses, and tax planning strategies that would indicate an ability to realize deferred tax assets. In circumstances where the significant positive evidence does not outweigh the negative evidence in regards to whether or not a valuation allowance is required, we have established and maintained valuation allowances on those net deferred tax assets.

Tax Cuts and Jobs Act

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act (the "Tax Act"), which significantly revised the U.S. corporate income tax system. These changes included a federal statutory rate reduction from 35% to 21%, the elimination or reduction of certain domestic deductions and credits and limitations on the deductibility of interest expense and executive compensation. The Tax Act also transitions international taxation from a worldwide system to a modified territorial system and includes base erosion prevention measures which have the effect of subjecting certain earnings of our foreign subsidiaries to U.S. taxation as global intangible low taxed income ("GILTI"). In general, these changes were effective beginning in 2018. The

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Tax Act also included a one-time mandatory deemed repatriation or transition tax on the accumulated previously untaxed foreign earnings of our foreign subsidiaries.

On August 1, 2018, the U.S. Department of Treasury and the U.S. Internal Revenue Service ("IRS") issued proposed regulations under code section 965 and on January 15, 2019, the IRS issued final 965 regulations. As of September 30, 2019, the tax impact of the final 965 regulations to the Company's financial statements was immaterial. The Company continues to analyze the effects of the Tax Act and newly issued proposed regulation on its financial statements. The final impact of the Tax Act may differ from the amounts that have been recognized, possibly materially, due to, among other things, changes in the Company's interpretation of the Tax Act, legislative or administrative actions to clarify the intent of the statutory language provided that differ from the Company's current interpretation, any changes in accounting standards for income taxes or related interpretations in response to the Tax Act, or any updates or changes to estimates utilized to calculate the impacts, including changes to current year earnings estimates and applicable foreign exchange rates.

The Company also continues to evaluate the impact of the GILTI provisions under the Tax Act, which are complex and subject to continuing regulatory interpretation by the IRS. The Company is required to make an accounting policy election of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred (the "period cost method") or (2) factoring such amounts into the Company's measurement of its deferred taxes (the "deferred method"). The Company has elected to treat taxes due on future U.S. inclusions in taxable income related to GILTI as a current period expense when incurred.

(11) Derivative Instruments

We use derivative instruments as part of our overall foreign currency, interest rate and commodity risk management strategies to manage the risk of exchange rate movements that would reduce the value of our foreign cash flows, manage the risk associated with fluctuations in interest rate indices and to minimize commodity price volatility. Foreign currency exchange rate movements create a degree of risk by affecting the value of sales made and costs incurred in currencies other than the U.S. dollar.

Certain of our derivative contracts contain provisions that require us to provide collateral. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not anticipate nonperformance by any of the counterparties to our instruments. Our derivative assets and liabilities are included within "Other long-term assets", "Prepaid expenses and other current assets", "Long-term liabilities" and "Other current liabilities" on the Condensed Consolidated Balance Sheets and effects of these derivatives are recorded in "Other comprehensive income", "Cost of sales", "Interest expense" and "Other income (expense)" on the Condensed Consolidated Statements of Operations.

Interest rate swap contracts

During the third quarter of 2019, the Company entered into four interest rate swap contracts. The contracts are "pay fixed, receive variable" with notional amounts of \$500 million maturing in two years and another \$500 million maturing in five years. The Company's risk management objective was to fix its cash flows associated with the risk in variability in the one-month US LIBO Rate for a portion of our outstanding debt. It is expected that these swaps will fix the cash flows associated with the forecasted interest payments on this notional amount of debt to an effective fixed interest rate of 5.1%, which could be lowered to 4.85% depending on credit ratings. Within Accumulated Other Comprehensive Income we recorded a net unrealized pre-tax gain of \$0.7 million as of September 30, 2019. The fair value of these contracts was determined using Level 2 inputs.

Foreign currency derivatives

We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency instruments, which include, but are not limited to, forward exchange contracts and purchased currency options, are used to hedge global currency exposures such as foreign currency denominated debt, sales, receivables, payables, and purchases.

We had no foreign currency cashflow hedges outstanding as of September 30, 2019 and December 31, 2018 and therefore, no unrealized gains or losses reported under accumulated other comprehensive income (loss).

As of September 30, 2019, we had outstanding Mexican peso, euro, Swiss franc, South African rand, and Japanese yen currency contracts with an aggregate notional amount of \$75.1 million. These foreign currency derivatives outstanding as of

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
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September 30, 2019 have maturities through December 31, 2019. As of December 31, 2018, we had outstanding Mexican peso, South African rand, euro, Swiss franc and Japanese yen currency contracts, with an aggregate notional amount of \$19.6 million.

Commodity derivative contracts

We have entered into commodity derivative contracts for refined oil products. These contracts are entered into to protect against the risk that eventual cash flows related to these products will be adversely affected by future changes in prices. We had outstanding commodity derivative contracts as of September 30, 2019 with notional amount of \$111.0 million with maturities from October 2019 to June 2022. The outstanding commodity derivative contracts represented a pre-tax net unrealized loss within "Other Comprehensive Income" of \$17.2 million as of September 30, 2019. We had outstanding commodity derivative contracts as of December 31, 2018 with notional amount of \$142.1 million representing a pre-tax net unrealized loss of \$10.7 million.

Net Investment Hedges

We use certain intercompany debt to hedge a portion of our net investment in our foreign operations against currency exposure (net investment hedge). Intercompany debt denominated in foreign currency and designated as a non-derivative net investment hedging instrument was \$9.0 million as of September 30, 2019 and \$9.5 million as of December 31, 2018. Within the currency translation adjustment portion of "Other Comprehensive Income", we recorded gains of \$0.7 million and \$0.5 million for the three and nine months ended September 30, 2019, respectively. We recorded gains of \$0.4 million and \$1.9 million in the three and nine months ended September 30, 2018, respectively.

The fair value of all derivatives is recorded as assets or liabilities on a gross basis in our Condensed Consolidated Balance Sheets. As of September 30, 2019 and December 31, 2018, the fair value of our derivatives and their respective balance sheet locations are presented in the following table:

	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of September 30, 2019				
<i>(Dollars in thousands)</i>				
Derivatives designated as cash flow hedges:				
Commodity derivative contracts	Prepaid and other current assets	\$ 6	Other accrued liabilities	\$ 9,290
	Other long-term assets	49	Other long-term obligations	7,940
Interest rate swap contracts	Prepaid and other current assets	1,033	Other accrued liabilities	—
	Other long-term assets	22	Other long-term obligations	317
Total fair value		\$ 1,110		\$ 17,547
As of December 31, 2018				
Derivatives designated as cash flow hedges:				
Commodity derivative contracts	Prepaid and other current assets	\$ 90	Other accrued liabilities	\$ 4,630
	Other long-term assets	260	Other long-term obligations	6,393
Total fair value		\$ 350		\$ 11,023

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
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	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of September 30, 2019				
<i>(Dollars in thousands)</i>				
Derivatives not designated as hedges:				
Foreign currency derivatives	Prepaid and other current assets	\$ 189	Other current liabilities	\$ 971

As of December 31, 2018

Derivatives not designated as hedges:				
Foreign currency derivatives	Prepaid and other current assets	\$ —	Other current liabilities	\$ 43

The realized (gains) losses resulting from the settlement of commodity derivative contracts remain in Accumulated Other Comprehensive Income until they are recognized in the Statement of Operations when the hedged item impacts earnings, which is when the finished product is sold. As of September 30, 2019 and September 30, 2018, net realized pre-tax gains of \$7.3 million and \$5.4 million, respectively, were reported under Accumulated Other Comprehensive Income and will be and were, respectively, released to earnings within the following 12 months. See table below for amounts recognized in the Statement of Operations.

The amount of pre-tax realized (gains) losses on commodity derivatives, interest rate swaps and on undesignated foreign currency derivatives recognized in the Statement of Operations for the periods ended September 30, 2019 and September 30, 2018 are as follows :

		Amount of (Gain)/Loss Recognized	
		For the Three Months Ended September 30,	
		2019	2018
Location of (Gain)/Loss Recognized in the Consolidated Statement of Operations			
Derivatives designated as cash flow hedges:		(Dollars in thousands)	
Commodity contract hedges	Cost of sales	\$ (3,145)	\$ 421
Interest rate swap contracts	Interest expense	(323)	—
		\$ (3,468)	\$ 421
Derivatives not designated as hedges:			
Foreign currency derivatives	Cost of sales, Other (income) expense	\$ 173	(159)

		Amount of (Gain)/Loss Recognized	
		For the Nine Months Ended September 30,	
		2019	2018
Location of (Gain)/Loss Recognized in the Consolidated Statement of Operations			
Derivatives designated as cash flow hedges:		(Dollars in thousands)	
Commodity contract hedges	Cost of sales	\$ (6,994)	421
Interest rate swap contracts	Interest expense	(323)	—
		\$ (7,317)	\$ 421
Derivatives not designated as hedges:			
Foreign currency derivatives	Cost of sales, Other (income) expense	\$ (648)	137

(12) Accumulated Other Comprehensive Income (Loss)

The balance in our accumulated other comprehensive income (loss) is set forth in the following table:

	As of September 30, 2019	As of December 31, 2018
<i>(Dollars in thousands)</i>		
Foreign currency translation adjustments, net of tax	\$ (16,441)	\$ (2,922)
Commodities, interest rate and foreign currency derivatives, net of tax	(7,236)	(2,878)
Total accumulated comprehensive income (loss)	\$ (23,677)	\$ (5,800)

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
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(13) Earnings per Share

The following table shows the information used in the calculation of our basic and diluted earnings per share calculation as of September 30, 2019 and September 30, 2018.

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Weighted average common shares outstanding for basic calculation	290,112,233	296,136,564	290,410,859	300,173,831
Add: Effect of stock options, deferred stock units and restricted stock units	15,063	8,889	11,492	4,873
Weighted average common shares outstanding for diluted calculation	290,127,296	296,145,453	290,422,351	300,178,704

Basic earnings per common share are calculated by dividing net income (loss) by the weighted average number of common shares outstanding, which includes 36,546 and 28,914 shares of participating securities in the three and nine months ended September 30, 2019, respectively, and 8,890 and 2,996 shares of participating securities in the three and nine months ended September 30, 2018, respectively. Diluted earnings per share are calculated by dividing net income (loss) by the sum of the weighted average number of common shares outstanding plus the additional common shares that would have been outstanding if potentially dilutive securities had been issued.

The weighted average common shares outstanding for the diluted earnings per share calculation excludes consideration of 1,303,854 and 1,203,220 equivalent shares in the three and nine months ended September 30, 2019, respectively, and 946,610 and 544,292 equivalent shares in the three and nine months ended September 30, 2018, respectively, as these shares are anti-dilutive. During the three months ended September 30, 2019, we repurchased 879,134 shares of our common stock under the previously announced repurchase program. These shares were subsequently retired.

(14) Stock-Based Compensation

Stock-based compensation awards granted by our Board of Directors for the three and nine months ended September 30, 2019 and 2018 were as follows:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Award type:				
Stock options	—	67,000	207,000	979,790
Deferred stock units	16,176	9,286	23,121	28,621
Restricted stock units	1,551	—	235,170	6,740

In the three months ended September 30, 2019 and 2018, we recognized \$0.7 million and \$0.5 million, respectively, in stock-based compensation expense. A majority of the expense, \$0.6 million and \$0.4 million respectively, was recorded as selling and administrative expenses in the Consolidated Statement of Operations, with the remaining expenses incurred as cost of sales and research and development.

In the nine months ended September 30, 2019 and 2018, we recognized \$1.6 million and \$0.7 million, respectively, in stock-based compensation expense. A majority of the expense, \$1.4 million and \$0.6 million respectively, was recorded as selling and administrative expenses in the Consolidated Statement of Operations, with the remaining expenses incurred as cost of sales and research and development.

As of September 30, 2019, unrecognized compensation cost related to non-vested stock options, deferred stock units and restricted stock units represents \$7.9 million, which will be recognized over the remaining weighted average life of 4.0 years.

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Stock Option, Deferred Stock Unit and Restricted Stock Unit awards activity under the Omnibus Equity Incentive Plan for the nine months ended September 30, 2019 was as follows:

Stock options

	Number of Shares	Weighted- Average Exercise Price
Outstanding unvested as of December 31, 2018	968,720	15.68
Granted	207,000	13.03
Vested	(188,810)	15.70
Forfeited	(52,622)	15.00
Outstanding unvested as of September 30, 2019	934,288	15.13

Deferred Stock Unit and Restricted Stock Unit awards

	Number of Shares	Weighted- Average Grant Date Fair Value
Outstanding unvested as of December 31, 2018	27,570	12.88
Granted	258,291	12.85
Vested	(22,687)	12.52
Outstanding unvested as of September 30, 2019	263,174	12.95

(15) Subsequent Events

On November 6, 2019, the Board of Directors declared our regular quarterly dividend of \$0.085 per share to stockholders of record as of the close of business on November 29, 2019, to be paid on December 31, 2019.

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Outlook

GrafTech is a leading manufacturer of graphite electrodes, the critical consumable for the electric arc furnace ("EAF") industry. We are the only graphite electrode producer that is substantially vertically integrated into petroleum needle coke, the key raw material for graphite electrodes. Vertical integration has allowed us to adopt a commercial strategy with long-term, fixed price, fixed volume, take-or-pay contracts providing earnings stability and visibility. These contracts define volumes and prices, along with price-escalation mechanisms for inflation, and include significant termination payments (typically, 50% to 70% of remaining contracted revenue) and, in certain cases, parent guarantees and collateral arrangements to manage our customer credit risk. The outstanding three-to-five-year take-or-pay contracts represent approximately 146,000, 142,000, 125,000 and 117,000 metric tons ("MT") in 2019, 2020, 2021 and 2022, respectively. These amounts are slightly lower than amounts reported in previous quarters due to the financial condition of certain of our customers. Approximately 83% of these volumes are under pre-determined fixed annual volume contracts, while approximately 17% of the volumes are under contracts with a specified volume range. The aggregate difference between the midpoint and the minimum volumes across our cumulative portfolio of take-or-pay contracts with specified volume ranges is approximately 5,000 MT per year. Volumes per year may further vary based on the actual timing of product shipments and the financial condition of our customers. We have contracted approximately two-thirds of our production capacity through these contracts.

We have announced a series of operational improvement projects at our Monterrey and St. Marys facilities. These projects are intended to help optimize our manufacturing footprint while improving environmental performance and increasing production flexibility. We expect these projects to be completed in the first half of 2021, at which time we will be able to shift additional graphitization and machining from Monterrey to St. Marys. We estimate that capital spending would be near current levels which includes these projects as well as maintenance and capital projects, subject to the approval by our Board.

Our weighted average realized price of GrafTech manufactured electrodes was \$9,960 per MT in the third quarter of 2019 compared to \$9,664 per MT in the third quarter of 2018, which has been recast as described below. While spot prices have come down from recent historic highs, they still remain well above their historical average. Strong economics for the EAF producers that we serve has led to EAF production since 2016 resuming growth in line with its historical trend (2.8% annually from 1984-2017) in recent history. Steelmakers have announced EAF capacity expansions representing a potential 15 to 20% increase in graphite electrode demand in the U.S. by 2022. However, recent steel production and graphite electrode consumption has slowed in some regions, notably Europe and South America.

A tight needle coke market is also contributing to these elevated prices. Needle coke demand from electric vehicle batteries is currently disrupting the supply chain and resulting in increased pricing and higher costs of sales. Although our vertical integration largely protects us from the increase in needle coke costs, we expect to purchase approximately one third of our needle coke supply from third parties. These higher needle coke costs will continue to impact our earnings.

We are impacted in varying degrees, both positively and negatively, as global, regional or country economic conditions fluctuate. Our discussions about market data and global economic conditions below are derived from published industry accounts and statistics. In its October 2019 report, the International Monetary Fund ("IMF") reported that they were again lowering their 2019 growth forecast from their July forecast by 0.2% to 3.0% and lowering their 2020 forecast by 0.1% to 3.4%, as rising trade and geopolitical tensions have increased uncertainty about the future of the global trading system.

Graphite electrode demand is primarily linked to the global production of steel in EAFs, and to a lesser extent, with the total production of steel and certain other metals. The World Steel Association's ("WSA") October 2019 Short Range Outlook estimated that global steel demand outside of China increased by 1.6% in 2018, which was revised down 0.6% from their April 2019 estimate. WSA also decreased their growth forecast for steel demand outside of China for 2019 from 1.7% in their April forecast to 0.2% as uncertainty, trade tensions and geopolitical issues have weighed on investment and trade. WSA's growth forecast for steel demand outside of China for 2020 was revised down to 2.5% from their April estimate of 2.8%.

Key metrics used by management to measure performance

In addition to measures of financial performance presented in our Condensed Consolidated Financial Statements in accordance with GAAP, we use certain other financial measures and operating metrics to analyze the performance of our company. The "non-GAAP" financial measures consist of EBITDA from continuing operations and adjusted EBITDA from continuing operations, which help us evaluate growth trends, establish budgets, assess operational efficiencies and evaluate our overall financial performance. The key operating metrics consist of sales volume, weighted average realized price, production volume, production capacity and capacity utilization.

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Key financial measures

(in thousands)	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Net sales	\$ 420,797	\$ 454,890	\$ 1,376,181	\$ 1,363,121
Net income	175,876	199,466	569,680	624,587
EBITDA from continuing operations ⁽¹⁾	242,026	274,406	802,569	807,317
Adjusted EBITDA from continuing operations ⁽¹⁾	245,454	276,812	813,673	879,108

⁽¹⁾ Non-GAAP financial measures; see below for information and a reconciliation of EBITDA and adjusted EBITDA to net income, the most directly comparable financial measure calculated and presented in accordance with GAAP.

Key operating metrics

In an effort to improve transparency, beginning in the first quarter of 2019, we recast the key operating metrics of sales volume and weighted average realized price per metric ton as set forth in the table below to include only graphite electrodes manufactured by GrafTech. This better reflects management's assessment of our revenue and profitability and excludes re-sales of low grade graphite electrodes manufactured by third-party suppliers. For comparability purposes, the prior periods have been recast to conform to this presentation.

(in thousands, except price data)	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
Sales volume (MT) ⁽¹⁾	40	42	130	126
Weighted average realized price ⁽²⁾	\$ 9,960	\$ 9,664	\$ 9,977	\$ 9,811
Production volume (MT) ⁽³⁾	40	39	136	127
Production capacity excluding St. Marys during idle period (MT) ⁽⁴⁾⁽⁵⁾	48	39	150	128
Capacity utilization excluding St. Marys during idle period ⁽⁴⁾⁽⁶⁾	83%	100%	91%	99%
Total production capacity (MT) ⁽⁵⁾⁽⁷⁾	55	46	171	149
Total capacity utilization ⁽⁶⁾⁽⁷⁾	73%	85%	80%	85%

⁽¹⁾ Sales volume has been recast to reflect the total sales volume of GrafTech manufactured electrodes for which revenue has been recognized during the period. For additional information see "Key Operating Metrics" below.

⁽²⁾ Weighted average realized price has been recast to reflect the total revenues from sales of GrafTech manufactured electrodes for the period divided by the GrafTech manufactured electrode volume for that period. For additional information see "Key Operating Metrics" below.

⁽³⁾ Production volume reflects graphite electrodes we produced during the period.

⁽⁴⁾ The St. Marys, Pennsylvania facility was temporarily idled effective the second quarter of 2016 except for the machining of semi-finished products sourced from other plants. In the first quarter of 2018, our St. Marys facility began graphitizing a limited amount of electrodes sourced from our Monterrey, Mexico facility.

⁽⁵⁾ Production capacity reflects expected maximum production volume during the period under normal operating conditions, standard product mix and expected maintenance outage. Actual production may vary.

⁽⁶⁾ Capacity utilization reflects production volume as a percentage of production capacity.

⁽⁷⁾ Includes graphite electrode facilities in Calais, France; Monterrey, Mexico; Pamplona, Spain and St. Marys, Pennsylvania.

Non-GAAP financial measures

In addition to providing results that are determined in accordance with GAAP, we have provided certain financial measures that are not in accordance with GAAP. EBITDA from continuing operations and adjusted EBITDA from continuing operations are non-GAAP financial measures. We define EBITDA from continuing operations, a non-GAAP financial measure, as net income or loss plus interest expense, minus interest income, plus income taxes, discontinued operations and depreciation and amortization from continuing operations. We define adjusted EBITDA from continuing operations as EBITDA from continuing operations plus any pension and other post-employment benefit ("OPEB") plan expenses, initial and follow-on public offering expenses, non-cash gains or losses from foreign currency remeasurement of non-operating liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar, related party Tax Receivable Agreement expense, stock-based compensation and non-cash fixed asset write-offs. Adjusted EBITDA from continuing operations is the primary metric used by our management and our board of directors to establish budgets and operational goals for managing our business and evaluating our performance.

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We monitor adjusted EBITDA from continuing operations as a supplement to our GAAP measures, and believe it is useful to present to investors, because we believe that it facilitates evaluation of our period-to-period operating performance by eliminating items that are not operational in nature, allowing comparison of our recurring core business operating results over multiple periods unaffected by differences in capital structure, capital investment cycles and fixed asset base. In addition, we believe adjusted EBITDA from continuing operations and similar measures are widely used by investors, securities analysts, ratings agencies, and other parties in evaluating companies in our industry as a measure of financial performance and debt-service capabilities.

Our use of adjusted EBITDA from continuing operations has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- adjusted EBITDA from continuing operations does not reflect changes in, or cash requirements for, our working capital needs;
- adjusted EBITDA from continuing operations does not reflect our cash expenditures for capital equipment or other contractual commitments, including any capital expenditure requirements to augment or replace our capital assets;
- adjusted EBITDA from continuing operations does not reflect the interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- adjusted EBITDA from continuing operations does not reflect tax payments that may represent a reduction in cash available to us;
- adjusted EBITDA from continuing operations does not reflect expenses relating to our pension and OPEB plans;
- adjusted EBITDA from continuing operations does not reflect the non-cash gains or losses from foreign currency remeasurement of non-operating liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar;
- adjusted EBITDA from continuing operations does not reflect initial and follow-on public offering expenses;
- adjusted EBITDA from continuing operations does not reflect related party Tax Receivable Agreement expense;
- adjusted EBITDA from continuing operations does not reflect stock-based compensation or the non-cash write-off of fixed assets; and
- other companies, including companies in our industry, may calculate EBITDA from continuing operations and adjusted EBITDA from continuing operations differently, which reduces its usefulness as a comparative measure.

In evaluating EBITDA from continuing operations and adjusted EBITDA from continuing operations, you should be aware that in the future, we will incur expenses similar to the adjustments in this presentation. Our presentations of EBITDA from continuing operations and adjusted EBITDA from continuing operations should not be construed as suggesting that our future results will be unaffected by these expenses or any unusual or non-recurring items. When evaluating our performance, you should consider EBITDA from continuing operations and adjusted EBITDA from continuing operations alongside other financial performance measures, including our net income (loss) and other GAAP measures.

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The following table reconciles our non-GAAP key financial measures to the most directly comparable GAAP measures:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	2018	2019	2018
(in thousands)				
Net income	175,876	199,466	569,680	624,587
Add:				
Discontinued operations	—	726	—	(585)
Depreciation and amortization	15,357	16,050	46,387	47,746
Interest expense	31,803	33,855	98,472	100,387
Interest income	(1,765)	(562)	(2,910)	(1,068)
Income taxes	20,755	24,871	90,940	36,250
EBITDA from continuing operations	242,026	274,406	802,569	807,317
Adjustments:				
Pension and OPEB plan expenses ⁽¹⁾	800	483	2,397	1,478
Initial and follow-on public offering expenses ⁽²⁾	160	43	1,409	5,164
Non-cash loss on foreign currency remeasurement ⁽³⁾	(185)	1,404	842	1,629
Stock-based compensation ⁽⁴⁾	706	476	1,568	657
Non-cash fixed asset write-off ⁽⁵⁾	1,947	—	4,888	1,062
Related party Tax Receivable Agreement expense ⁽⁶⁾	—	—	—	61,801
Adjusted EBITDA from continuing operations	245,454	276,812	813,673	879,108

- (1) Service and interest cost of our OPEB plans. Also includes a mark-to-market loss (gain) for plan assets as of December of each year.
(2) Legal, accounting, printing and registration fees associated with the initial and follow-on public offerings.
(3) Non-cash loss from foreign currency remeasurement of non-operating liabilities of our non-U.S. subsidiaries where the functional currency is the U.S. dollar.
(4) Non-cash expense for stock-based compensation grants.
(5) Non-cash fixed asset write-off recorded for obsolete assets.
(6) Non-cash expense for future payment to our sole pre-IPO stockholder for tax assets that are expected to be utilized.

Key Operating Metrics

Key operating metrics consist of sales volume, weighted average realized price, production volume, production capacity and capacity utilization.

Sales volume reflects the total volume of GrafTech manufactured graphite electrodes sold for which revenue has been recognized during the period. Weighted average realized price reflects the total revenues from sales of GrafTech manufactured graphite electrodes for the period divided by the sales volume of the GrafTech manufactured electrodes for that period. Beginning in the first quarter of 2019, sales volume and weighted average realized price are presented excluding re-sales of low-grade graphite electrodes manufactured by third-party suppliers. Sales of these third-party manufactured electrodes are now included in the revenue category of “by-products and other,” which represents a minimal contribution to our profitability. This change aligns these metrics with management's assessment of our revenue performance and profit margin and will help investors understand the factors that drive our profitability. For comparability purposes, the prior period sales volume and weighted average realized price have been recast to conform to this presentation.

Production volume reflects graphite electrodes produced during the period. Production capacity reflects expected maximum production volume during the period under normal operating conditions, standard product mix and expected maintenance downtime. Capacity utilization reflects production volume as a percentage of production capacity. Production volume, production capacity and capacity utilization help us understand the efficiency of our production, evaluate cost of sales and consider how to approach our contract initiative.

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Results of Operations

The Three Months Ended September 30, 2019 Compared to the Three Months Ended September 30, 2018

The tables presented in our period-over-period comparisons summarize our Condensed Consolidated Statements of Operations and illustrate key financial indicators used to assess the consolidated financial results. Throughout our Management's Discussion and Analysis ("MD&A"), insignificant changes may be deemed not meaningful and are generally excluded from the discussion.

	For the Three Months Ended September 30,		Increase/ Decrease	% Change
	2019	2018		
	(Dollars in thousands)			
Net sales	\$ 420,797	\$ 454,890	\$ (34,093)	(7)%
Cost of sales	178,497	180,280	(1,783)	(1)%
Gross profit	242,300	274,610	(32,310)	(12)%
Research and development	611	518	93	18 %
Selling and administrative expenses	15,708	14,234	1,474	10 %
Operating income	225,981	259,858	(33,877)	(13)%
Other (income) expense, net	(688)	1,502	(2,190)	(146)%
Interest expense	31,803	33,855	(2,052)	(6)%
Interest income	(1,765)	(562)	(1,203)	214 %
Income from continuing operations before provision for income taxes	196,631	225,063	(28,432)	(13)%
Provision for income taxes	20,755	24,871	(4,116)	(17)%
Net income from continuing operations	175,876	200,192	(24,316)	(12)%
Loss from discontinued operations, net of tax	—	(726)	726	(100)%
Net income	\$ 175,876	\$ 199,466	\$ (23,590)	(12)%

Net sales. Net sales decreased from \$454.9 million in the three months ended September 30, 2018 to \$420.8 million in the three months ended September 30, 2019. The decrease was primarily driven by a 5% decrease in sales volume of graphite electrodes. Partially offsetting this decrease in volumes was an increase in the weighted average realized price to \$9,960 per MT in the three months ended September 30, 2019 from \$9,664 per MT in the same period of the prior year. These increases were partially offset by decreased sales of by-products and other.

Cost of sales. We experienced a decrease in cost of sales from \$180.3 million in the three months ended September 30, 2018 to \$178.5 million in the three months ended September 30, 2019 as a result of lower sales volume. This decrease was partially offset by sales of inventory that was manufactured using higher priced third-party needle coke.

Selling and administrative expenses. Selling and administrative expenses increased by \$1.5 million, or 10%, from \$14.2 million in the three months ended September 30, 2018 to \$15.7 million in the three months ended September 30, 2019. This change was primarily due to the write-off of receivables related to a customer that entered into bankruptcy proceedings.

Other expense (income). Other expense (income) decreased from \$1.5 million of expense in the three months ended September 30, 2018 to \$0.7 million of income in the three months ended September 30, 2019, primarily due to \$1.6 million of advantageous non-cash foreign currency impacts on non-operating assets and liabilities.

Interest Expense. Interest expense decreased from \$33.9 million in the three months ended September 30, 2018, to \$31.8 million in the three months ended September 30, 2019, primarily due to reduced borrowings resulting from our \$125.0 million payment on our term loans in February 2019.

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Provision for income taxes. The following table summarizes the expense for income taxes:

	For the Three Months Ended September 30,	
	2019	2018
<i>(Dollars in thousands)</i>		
Tax expense	\$ 20,755	\$ 24,871
Pretax income	196,631	225,063
Effective tax rates	10.6%	11.1%

The effective tax rate for the three months ended September 30, 2019 was 10.6%. This rate differs from the U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates and further improved by the provision to return adjustment recorded in the third quarter as a result of filing income tax returns in foreign jurisdictions.

The effective tax rate for the three months ended September 30, 2018 was 11.1%. This rate differs from the U.S. statutory rate of 21% primarily due to the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes and the tax impact of worldwide earnings from various countries taxed at different rates.

Tax expense decreased from \$24.9 million for the three months ended September 30, 2018 to \$20.8 million for the three months ended September 30, 2019. This change is primarily related the reduction in profits and further reduced by the provision to return adjustment recorded in the third quarter as a result of filing income tax returns in foreign jurisdictions.

The Nine Months Ended September 30, 2019 Compared to the Nine Months Ended September 30, 2018

The tables presented in our period-over-period comparisons summarize our Condensed Consolidated Statements of Operations and illustrate key financial indicators used to assess the consolidated financial results. Throughout our MD&A, insignificant changes may be deemed not meaningful and are generally excluded from the discussion.

	For the Nine Months Ended September 30,		Increase/ Decrease	% Change
	2019	2018		
	(Dollars in thousands)			
Net sales	\$ 1,376,181	\$ 1,363,121	\$ 13,060	1 %
Cost of sales	571,068	491,339	79,729	16 %
Gross profit	805,113	871,782	(66,669)	(8)%
Research and development	1,961	1,528	433	28 %
Selling and administrative expenses	46,328	46,349	(21)	— %
Operating income	756,824	823,905	(67,081)	(8)%
Other expense	642	2,533	(1,891)	(75)%
Related party Tax Receivable Agreement expense	—	61,801	(61,801)	N/A
Interest expense	98,472	100,387	(1,915)	(2)%
Interest income	(2,910)	(1,068)	(1,842)	172 %
Income from continuing operations before provision for income taxes	660,620	660,252	368	— %
Provision for income taxes	90,940	36,250	54,690	151 %
Net income from continuing operations	569,680	624,002	(54,322)	(9)%
Income from discontinued operations, net of tax	—	585	(585)	(100)%
Net income	\$ 569,680	\$ 624,587	\$ (54,907)	(9)%

Net sales. Net sales increased by \$13.1 million, or 1%, from \$1,363.1 million in the nine months ended September 30, 2018 to \$1,376.2 million in the nine months ended September 30, 2019. This increase was driven by a 3% increase in sales volume in the nine months ended September 30, 2019 compared to the same period in 2018, primarily due to the completion of our

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debottlenecking initiative. The weighted average realized price of GrafTech manufactured graphite electrodes was \$9,977 per MT in the nine months ended September 30, 2019, which was slightly higher than the \$9,811 per MT we realized in the nine months ended September 30, 2018. These increases were partially offset by decreased sales of by-products and other.

Cost of sales. Cost of sales increased by \$79.7 million, or 16%, from \$491.3 million in the nine months ended September 30, 2018 to \$571.1 million in the nine months ended September 30, 2019. This increase was primarily the result of higher input costs for needle coke and higher volumes, increasing as a result of our debottlenecking projects coming online.

Selling and administrative expenses. Selling and administrative expenses were flat for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018 as decreased costs related to our public offerings of \$3.8 million were offset by an increase to the allowance for doubtful accounts related to a customer that entered into bankruptcy proceedings and the ongoing costs of being a public company.

Other expense (income). Other expense decreased by \$1.9 million, or 75%, from \$2.5 million in the nine months ended September 30, 2018 to \$0.6 million in the nine months ended September 30, 2019. This decrease was primarily due to advantageous non-cash foreign currency impacts on non-operating assets and liabilities.

Related party Tax Receivable Agreement expense. During the second quarter of 2018, the Company recorded \$61.8 million of expense as a result of our tax receivable agreement liability, after it was estimated that we would realize certain deferred tax assets.

Interest expense. Interest expense was largely consistent in the nine months ended September 30, 2019 compared to the same period of 2018. In the first quarter of 2018, we redeemed our Senior Notes resulting in accelerated accretion of the fair value adjustment on the Senior Notes of \$18.7 million and a premium redemption of \$4.8 million. This decrease was offset by increased borrowing costs due to higher levels of debt in the nine months ended September 30, 2019.

Provision for income taxes. The following table summarizes the expense for income taxes:

	For the Nine Months Ended September 30,	
	2019	2018
<i>(Dollars in thousands)</i>		
Tax expense	\$ 90,940	\$ 36,250
Pretax income	660,620	660,252
Effective tax rates	13.8%	5.5%

The effective tax rate for the nine months ended September 30, 2019 was 13.8%. This rate differs from the U.S. statutory rate of 21% primarily due to worldwide earnings from various countries taxed at different rates.

The effective tax rate for the nine months ended September 30, 2018 was 5.5%. This rate differed from the U.S. statutory rate of 21% primarily due to the partial release of a valuation allowance recorded against the deferred tax asset related to U.S. tax attributes worldwide earnings from various countries taxed at different rates.

Tax expense increased from \$36.3 million for the nine months ended September 30, 2018, to \$90.9 million for the nine months ended September 30, 2019. This change is primarily due to a partial release in the first nine months of 2018 of a valuation allowance recorded against the deferred tax asset related to US tax attributes.

Effects of Changes in Currency Exchange Rates

When the currencies of non-U.S. countries in which we have a manufacturing facility decline (or increase) in value relative to the U.S. dollar, this has the effect of reducing (or increasing) the U.S. dollar equivalent cost of sales and other expenses with respect to those facilities. In certain countries in which we have manufacturing facilities, and in certain export markets, we sell in currencies other than the U.S. dollar. Accordingly, when these currencies increase (or decline) in value relative to the U.S. dollar, this has the effect of increasing (or reducing) net sales. The result of these effects is to increase (or decrease) operating profit and net income.

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Many of the non-U.S. countries in which we have a manufacturing facility have been subject to significant economic and political changes, which have significantly impacted currency exchange rates. We cannot predict changes in currency exchange rates in the future or whether those changes will have net positive or negative impacts on our net sales, cost of sales or net income.

The impact of these changes in the average exchange rates of other currencies against the U.S. dollar on our net sales was an increase of \$0.2 million and a decrease of \$4.0 million for the three and nine months ended September 30, 2019, respectively, compared to the same period of 2018. The impact of these changes on our cost of sales was decreases of \$2.1 million and \$10.6 million for the three and nine months ended September 30, 2019, respectively, compared to the same period of 2018.

We have in the past and may in the future use various financial instruments to manage certain exposures to risks caused by currency exchange rate changes, as described under “Part I, Item 3—Quantitative and Qualitative Disclosures about Market Risk”.

Liquidity and Capital Resources

Our sources of funds have consisted principally of cash flow from operations and debt, including our credit facilities (subject to continued compliance with the financial covenants and representations). Our uses of those funds (other than for operations) have consisted principally of dividends, capital expenditures, scheduled debt repayments, optional debt prepayments, share repurchases and other obligations. Disruptions in the U.S. and international financial markets could adversely affect our liquidity and the cost and availability of financing to us in the future.

We believe that we have adequate liquidity to meet our needs. As of September 30, 2019, we had liquidity of \$628.1 million consisting of \$246.9 million of availability on our 2018 Revolving Facility (subject to continued compliance with the financial covenants and representations) and cash and cash equivalents of \$381.2 million. We had long-term debt of \$1,965.5 million and short-term debt of \$70.9 million as of September 30, 2019. As of December 31, 2018, we had liquidity of \$295.4 million consisting of \$245.5 million available on our 2018 Revolving Facility (subject to continued compliance with the financial covenants and representations) and cash and cash equivalents of \$49.9 million. We had long-term debt of \$2,050.3 million and short-term debt of \$106.3 million as of December 31, 2018.

As of September 30, 2019 and December 31, 2018, \$176.6 million and \$38.4 million, respectively, of our cash and cash equivalents were located outside of the United States. We repatriate funds from our foreign subsidiaries through dividends. All of our subsidiaries face the customary statutory limitation that distributed dividends do not exceed the amount of retained and current earnings. In addition, for our subsidiary in South Africa, the South Africa Central Bank requires that certain solvency and liquidity ratios remain above defined levels after the dividend distribution, which historically has not materially affected our ability to repatriate cash from this jurisdiction. The cash and cash equivalents balances in South Africa were \$1.6 million and \$0.2 million as of September 30, 2019 and December 31, 2018, respectively. Upon repatriation to the United States, the foreign source portion of dividends we receive from our foreign subsidiaries is no longer subject to U.S. federal income tax as a result of the Tax Act.

Cash flow and plans to manage liquidity. Our cash flow typically fluctuates significantly between quarters due to various factors. These factors include customer order patterns, fluctuations in working capital requirements, timing of tax payments, timing of capital expenditures, acquisitions, divestitures and other factors. Cash flow from operations is expected to remain at positive sustained levels due to the predictable earnings generated by our three-to-five-year sales contracts with our customers.

As of September 30, 2019, we had access to the \$250 million 2018 Revolving Facility. We had \$3.1 million of letters of credit, for a total availability on the 2018 Revolving Facility of \$246.9 million. We also had \$2.5 million of surety bonds outstanding as of September 30, 2019. As of December 31, 2018, we had availability on the 2018 Revolving Facility of \$245.5 million resulting from \$4.5 million of letters of credit. We also had \$0.5 million of surety bonds outstanding as of December 31, 2018.

On February 12, 2018, we entered into the 2018 Credit Agreement, which provides for the 2018 Revolving Facility and the 2018 Term Loan Facility. On February 12, 2018, our wholly owned subsidiary, GrafTech Finance, borrowed \$1,500 million under the 2018 Term Loan Facility. The funds received were used to pay off our outstanding debt, including borrowings under our Old Credit Agreement and the Senior Notes and accrued interest relating to those borrowings and the Senior Notes, declare and pay a dividend of \$1,112.0 million to our sole pre-IPO stockholder, pay fees and expenses incurred in connection therewith and for other general corporate purposes.

On April 19, 2018, we declared a dividend in the form of the Brookfield Promissory Note to the sole pre-IPO stockholder. The \$750 million Brookfield Promissory Note was conditioned upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (each as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the \$750 million Brookfield Promissory Note and (iii) the satisfaction of the conditions

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described in (i) and (ii) above occurring within 60 days from the dividend record date. Upon publication of our 2018 first quarter report on Form 10-Q, these conditions were met and, as a result, the Brookfield Promissory Note became payable.

The Brookfield Promissory Note had a maturity of eight years from the date of issuance and bore interest at a rate equal to the Adjusted LIBO Rate (as defined in the Brookfield Promissory Note) plus an applicable margin equal to 4.50% per annum, with an additional 2.00% per annum starting from the third anniversary from the date of issuance. We were permitted to make voluntary prepayments at any time without premium or penalty. All obligations under the Brookfield Promissory Note were unsecured and guaranteed by all of our existing and future domestic wholly owned subsidiaries that guarantee, or are borrowers under, the Senior Secured Credit Facilities. No funds were lent or otherwise contributed to us by Brookfield in connection with the Brookfield Promissory Note. As a result, we received no consideration in connection with its issuance. As described below, the Brookfield Promissory Note was repaid, in full, on June 15, 2018.

On April 19, 2018, we declared a \$160 million cash dividend payable to Brookfield, the sole pre-IPO stockholder. Payment of this dividend was conditional upon (i) the Senior Secured First Lien Net Leverage Ratio (as defined in the 2018 Credit Agreement), as calculated based on our final financial results for the first quarter of 2018, being equal to or less than 1.75 to 1.00, (ii) no Default or Event of Default (as defined in the 2018 Credit Agreement) having occurred and continuing or that would result from the payment of the dividend and (iii) the payment occurring within 60 days from the dividend record date. The conditions of this dividend were met upon filing of our first quarter 2018 report on Form 10-Q and the dividend was paid on May 8, 2018.

On June 15, 2018, GrafTech entered into the First Amendment to its 2018 Credit Agreement. The First Amendment amends the 2018 Credit Agreement to provide for the additional \$750 million in aggregate principal amount of the Incremental Term Loans to GrafTech Finance. The Incremental Term Loans increase the aggregate principal amount of term loans incurred by GrafTech Finance under the 2018 Credit Agreement from \$1,500 million to \$2,250 million. The Incremental Term Loans have the same terms as those applicable to the existing term loans under the 2018 Credit Agreement, including interest rate, payment and prepayment terms, representations and warranties and covenants. The Incremental Term Loans mature on February 12, 2025, the same date as the existing term loans. GrafTech paid an upfront fee of 1.00% of the aggregate principal amount of the Incremental Term Loans on the effective date of the First Amendment. The proceeds of the Incremental Term Loans were used to repay, in full, the \$750 million in principal outstanding on the Brookfield Promissory Note.

On August 13, 2018, the Company repurchased 11,688,311 shares directly from Brookfield. These shares were retired upon repurchase. The price per share paid by the Company was equal to the price at which the underwriters purchased the shares from Brookfield in Brookfield's August 2018 public secondary offering of 23,000,000 shares of our common stock, net of underwriting commissions and discounts. GrafTech funded the share repurchase from cash on hand.

On July 30, 2019, our Board of Directors authorized a program to repurchase up to \$100 million of our outstanding common stock. We may purchase shares from time to time on the open market, including under Rule 10b5-1 and/or Rule 10b-18 plans. The amount and timing of repurchases are subject to a variety of factors including liquidity, stock price, applicable legal requirements, other business objectives and market conditions. As of September 30, 2019 we had repurchased 879,134 shares of common stock totaling \$9.5 million under this program.

We currently pay a quarterly cash dividend of \$0.085 per share, or an aggregate of \$0.34 per share on an annualized basis. Additionally, on December 31, 2018, we paid a special dividend of \$0.70 per share totaling \$203.4 million. There can be no assurance that we will pay dividends in the future in these amounts or at all. Our Board of Directors may change the timing and amount of any future dividend payments or eliminate the payment of future dividends in its sole discretion, without any prior notice to our stockholders. Our ability to pay dividends will depend upon many factors, including our financial position and liquidity, results of operations, legal requirements, restrictions that may be imposed by the terms of our current and future credit facilities and other debt obligations and other factors deemed relevant by our Board of Directors.

On February 13, 2019, we repaid \$125 million on our 2018 Term Loan Facility. We are targeting to return approximately 50-60% of our cash flow after capital expenditures to stockholders in 2019 with the remainder to be used for debt repayment. During the nine months ended September 30, 2019, we paid \$87.0 million to various tax collecting agencies worldwide.

Potential uses of our liquidity include dividends, share repurchases, capital expenditures, acquisitions, scheduled debt repayments, optional debt prepayments and other general purposes. An improving economy, while resulting in improved results of operations, could increase our cash requirements to purchase inventories, make capital expenditures and fund payables and other obligations until increased accounts receivable are converted into cash. A downturn could significantly and negatively impact our results of operations and cash flows, which, coupled with increased borrowings, could negatively impact our credit ratings, our ability to comply with debt covenants, our ability to secure additional financing and the cost of such financing, if available.

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In order to seek to minimize our credit risks, we may reduce our sales of, or refuse to sell (except for prepayment, cash on delivery or under letters of credit or parent guarantees), our products to some customers and potential customers. Our unrecovered trade receivables worldwide have not been material during the last two years individually or in the aggregate.

We manage our capital expenditures by taking into account quality, plant reliability, safety, environmental and regulatory requirements, prudent or essential maintenance requirements, global economic conditions, available capital resources, liquidity, long-term business strategy and return on invested capital for the relevant expenditures, cost of capital and return on invested capital of the Company as a whole and other factors.

We have announced a series of operational improvement projects at our Monterrey and St. Marys facilities. These projects are intended to help optimize our manufacturing footprint while improving environmental performance and increasing production flexibility. We expect these projects to be completed in the first half of 2021, at which time we will be able to shift additional graphitization and machining from Monterrey to St. Marys. We estimate that capital spending would be near current levels which includes these projects as well as maintenance and capital projects, subject to the approval by our Board.

In the event that operating cash flows fail to provide sufficient liquidity to meet our business needs, including capital expenditures, any such shortfall would need to be made up by increased borrowings under our 2018 Revolving Facility, to the extent available.

Cash Flows

The following table summarizes our cash flow activities:

	For the Nine Months Ended September 30,	
	2019	2018
	<i>in millions</i>	
Cash flow provided by (used in):		
Operating activities	\$ 584.8	\$ 612.2
Investing activities	\$ (44.0)	\$ (46.8)
Financing activities	\$ (208.5)	\$ (474.7)

Operating Activities

Cash flow from operating activities represents cash receipts and cash disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting net income (loss) for:

- Non-cash items such as depreciation and amortization, impairment, post retirement obligations, and severance and pension plan changes;
- Gains and losses attributed to investing and financing activities such as gains and losses on the sale of assets and unrealized currency transaction gains and losses; and
- Changes in operating assets and liabilities which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in results of operations.

The net impact of the changes in working capital (operating assets and liabilities), which are discussed in more detail below, include the impact of changes in: receivables, inventories, prepaid expenses, accounts payable, accrued liabilities, accrued taxes, interest payable, and payments of other current liabilities.

During the nine months ended September 30, 2019, changes in working capital resulted in a net use of funds of \$80.3 million which was impacted by:

- net cash outflows in accounts receivable of \$20.7 million from the increase in accounts receivable due to the timing of sales and collections;
- net cash outflows from increases in inventory of \$19.9 million, due primarily to higher priced raw materials;
- net cash inflows from the utilization of prepaid assets of \$5.7 million;

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

- net cash outflows from decreased income taxes payable of \$28.2 million resulting from required tax payments as our profitability has increased; and
- net cash outflows from decreases in accounts payable and accruals of \$17.3 million, due to the timing of payments.

Uses of cash in the nine months ended September 30, 2019 included contributions to pension and other benefit plans of \$2.3 million, cash paid for interest of \$93.6 million and taxes paid of \$87.0 million.

During the nine months ended September 30, 2018, changes in working capital resulted in a net use of funds of \$143.7 million which was impacted by:

- net cash outflows in accounts receivable of \$96.0 million from the increase in accounts receivable due to increased sales driven by higher weighted average realized prices, partially offset by improved collections;
- net cash outflows from increases in inventory of \$93.8 million, due primarily to higher priced raw materials;
- net cash inflows from increases in accounts payable of \$4.3 million, due primarily to higher priced raw materials;
- net cash inflows from decreased prepaid expense of \$7.8 million due to the reduction of advanced payments; and
- net cash inflows from increased income taxes payable of \$35.4 million resulting from increased profitability.

Other uses of cash in the nine months ended September 30, 2018 included contributions to pension and other benefit plans of \$6.6 million, cash paid for interest of \$74.5 million and taxes paid of \$19.4 million.

Investing Activities

Net cash used in investing activities was \$44.0 million during the nine months ended September 30, 2019, resulting from capital expenditures.

Net cash used in investing activities was \$46.8 million during the nine months ended September 30, 2018, resulting from capital expenditures of \$47.6 million partially offset by proceeds from the sale of fixed assets of \$0.9 million.

Financing Activities

Net cash outflow from financing activities was \$208.5 million during the nine months ended September 30, 2019, which was the result of our \$125.0 million payment on our long-term debt, \$74.0 million of total dividends to stockholders and \$9.5 million of stock repurchases.

Net cash outflow from financing activities was \$474.7 million during the nine months ended September 30, 2018, which was the net impact of our February 12, 2018 refinancing and subsequent amendment, proceeds of which were used to repay outstanding debt, pay dividends of \$1,316.2 million, and repay the \$750 million Brookfield Promissory Note to Brookfield. We also repurchased \$225 million of our common stock from Brookfield on August 13, 2018.

Related Party Transactions

We have engaged, from time to time, in transactions with affiliates or related parties and we expect to continue to do so in the future. These transactions include, among others, entry into agreements with Brookfield such as the Stockholder Rights Agreement, the Registration Rights Agreement, the Tax Receivable Agreement and the Share Repurchase Agreement.

We have also reimbursed certain costs incurred by Brookfield as required under the Investment Agreement dated May 4, 2015 between Brookfield and GrafTech, including in connection with, transactions with our current or former subsidiaries, compensatory transactions with directors and officers including employee benefits (including reimbursement to Brookfield for compensation costs incurred by it for certain personnel who devote substantially all of their working time to us), stock option and restricted stock grants, compensation deferral, stock purchases, and customary indemnification and expense advancement arrangements.

Recent Accounting Pronouncements

We discuss recently adopted accounting standards in Note 1, "Organization and Summary of Significant Accounting Policies" of the Notes to Condensed Consolidated Financial Statements.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Description of Our Financing Structure

We discuss our financing structure in more detail in Note 6, “Debt and Liquidity” of the Notes to Condensed Consolidated Financial Statements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks, primarily from changes in interest rates, currency exchange rates, energy commodity prices and commercial energy rates. From time to time, we enter into transactions that have been authorized according to documented policies and procedures in order to manage these risks. These transactions relate primarily to financial instruments described below. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not use financial instruments for trading purposes.

Our exposure to changes in interest rates results primarily from floating rate long-term debt tied to LIBO Rate or Euro LIBO Rate.

Our exposure to changes in currency exchange rates results primarily from:

- sales made by our subsidiaries in currencies other than local currencies;
- raw material purchases made by our foreign subsidiaries in currencies other than local currencies; and
- investments in and intercompany loans to our foreign subsidiaries and our share of the earnings of those subsidiaries, to the extent denominated in currencies other than the U.S. dollar.

Our exposure to changes in energy commodity prices and commercial energy rates results primarily from the purchase or sale of refined oil products and the purchase of natural gas and electricity for use in our manufacturing operations.

Interest rate risk management. We periodically enter into agreements with financial institutions that are intended to limit our exposure to additional interest expense due to increases in variable interest rates. These instruments effectively cap our interest rate exposure. During the third quarter of 2019, we entered into interest rate swaps resulting in a net unrealized pre-tax gain of \$0.7 million as of September 30, 2019.

Currency rate management. We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency derivatives, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures. Forward exchange contracts are agreements to exchange different currencies at a specified future date and at a specified rate. Purchased currency options are instruments which give the holder the right, but not the obligation, to exchange different currencies at a specified rate at a specified date or over a range of specified dates. Forward exchange contracts and purchased currency options are carried at market value.

The outstanding foreign currency derivatives represented a net loss of \$0.8 million as of September 30, 2019 and no net gain or loss as of December 31, 2018.

Energy commodity management. We have entered into commodity derivative contracts to effectively fix some or all of our exposure to refined oil products. The outstanding commodity derivative contracts represented a net unrealized pre-tax loss of \$17.2 million and \$10.7 million as of September 30, 2019 and December 31, 2018, respectively.

Sensitivity analysis. We use sensitivity analysis to quantify potential impacts that market rate changes may have on the underlying exposures as well as on the fair values of our derivatives. The sensitivity analysis for the derivatives represents the hypothetical changes in value of the hedge position and does not reflect the related gain or loss on the forecasted underlying transaction.

A hypothetical increase in interest rates of 100 basis points (1%) would have increased our interest expense by \$15.0 million for the nine months ended September 30, 2019. The same 100 basis points increase would have resulted in an increase of \$28.9 million in the fair value of our interest rate swap portfolio.

As of September 30, 2019, a 10% appreciation or depreciation in the value of the U.S. dollar against foreign currencies from the prevailing market rates would have resulted in a corresponding decrease of \$4.8 million or a corresponding increase of \$4.8 million, respectively, in the fair value of the foreign currency hedge portfolio.

PART I (CONT'D)
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

A 10% increase or decrease in the value of the underlying commodity prices that we hedge would have resulted in a corresponding increase or decrease of \$11.1 million in the fair value of the commodity hedge portfolio as of September 30, 2019. Because of the high correlation between the hedging instrument and the underlying exposure, fluctuations in the value of the instruments are generally offset by reciprocal changes in the value of the underlying exposure.

For further information related to the financial instruments described above, see Note 11 "Derivative Instruments" to the Consolidated Financial Statements.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. Management is responsible for establishing and maintaining adequate disclosure controls and procedures at the reasonable assurance level. Disclosure controls and procedures are designed to ensure that information required to be disclosed by a reporting company in the reports that it files or submits under the Section 13 or 15(d) of the Securities and Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by it in the reports that it files under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of September 30, 2019. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these controls and procedures are effective at the reasonable assurance level as of September 30, 2019.

Changes in Internal Control over Financial Reporting. There have been no changes in our internal control over financial reporting that occurred during the three months ended September 30, 2019 that materially affected or are reasonably likely to materially affect our internal control over financial reporting.

PART II. OTHER INFORMATION

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Item 1. Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, labor disputes and other legal proceedings, including with respect to environmental and human exposure or other personal injury matters, arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters and proceedings, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Litigation has been pending in Brazil brought by employees seeking to recover additional amounts and interest thereon under certain wage increase provisions applicable in 1989 and 1990 under collective bargaining agreements to which employers in the Bahia region of Brazil were a party (including our subsidiary in Brazil). Companies in Brazil have settled claims arising out of these provisions and, in May 2015, the litigation was remanded by the Brazilian Supreme Court in favor of the employees. After denying an interim appeal by the Bahia region employers on June 26, 2019, the Brazilian Supreme Court finally ruled in favor of the employees union on September 26, 2019. The employers union is currently evaluating the merits of seeking annulment of such decision. Separately, on October 1, 2015, a related action was filed by current and former employees against our subsidiary in Brazil to recover amounts under such provisions, plus interest thereon, which amounts together with interest could be material to us. If the Brazilian Supreme Court proceeding above had been determined in favor of the employers union, it would also have resolved this proceeding in our favor. In the first quarter of 2017, the state court initially ruled in favor of the employees. We have appealed this state court ruling as well and intend to vigorously defend it. As of September 30, 2019, we are unable to assess the potential loss associated with these proceedings as the claims do not currently specify the number of employees seeking damages or the amount of damages being sought.

On March 1, 2019, the Department of Sustainable Development of the State of Nuevo León provided notice of an administrative proceeding with respect to the Company's Monterrey facility. The proceeding requires the Company to design and implement certain corrective measures involving certain potential violations of state environmental law relating to emissions. The Company cooperated with the Department with respect to this matter, including payment of certain fines that were not material to the Company. In September 2019, the Department of Sustainable Development formally closed the proceeding.

Item 1A. Risk Factors

There have been no material changes to the Risk Factors disclosed in Part I - Item 1A of our Annual Report on Form 10-K filed on February 22, 2019.

Item 2. Unregistered Sale of Equity Securities and Use of Proceeds

The table below sets forth the information on a monthly basis regarding GrafTech's purchases of its common stock, par value \$0.01 per share, during the third quarter of 2019.

<u>Period</u>	<u>Total Number of Shares Purchased (1)</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)</u>	<u>Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs</u>
July 1 through July 31, 2019	—	\$ —	—	\$ —
August 1 through August 31, 2019	879,134	\$ 10.79	879,134	90,515,936
September 1 through September 30, 2019	—	\$ —	—	\$ —
Total	879,134	\$ 10.79	879,134	\$ 90,515,936

(1) Represents shares repurchased in open market transactions pursuant to the Share Repurchase Program.

(2) Share repurchases were made pursuant to our previously announced program to repurchase, which was authorized by our Board of Directors on July 30, 2019 (the "Share Repurchase Program"). The Share Repurchase Program was announced on July 31, 2019 and allows for the purchase of up to \$100 million of outstanding shares of our common stock from time to time on the open market, including under Rule 10b5-1 and/or Rule 10b-18 plans.

PART II. OTHER INFORMATION
GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

Item 6. Exhibits

The exhibits listed in the following table have been filed as part of this Report.

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
3.1	<u>Amended and Restated Certificate of Incorporation of GrafTech International Ltd. (incorporated by reference to Exhibit 3.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed May 1, 2019).</u>
3.2	<u>Amended and Restated By Laws of GrafTech International Ltd. (incorporated by reference to Exhibit 3.2 to GrafTech International Ltd.'s Registration Statement on Form S 1/A (Registration No. 333 223791) filed April 13, 2018).</u>
31.1*	<u>Certification pursuant to Rule 13a-14(a) under the Exchange Act by David J. Rintoul, President and Chief Executive Officer (Principal Executive Officer).</u>
31.2*	<u>Certification pursuant to Rule 13a-14(a) under the Exchange Act by Quinn J Coburn, Vice President and Chief Financial Officer (Principal Financial Officer).</u>
32.1*	<u>Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by David J. Rintoul, President and Chief Executive Officer (Principal Executive Officer).</u>
32.2*	<u>Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by Quinn J Coburn, Vice President and Chief Financial Officer (Principal Financial Officer).</u>
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: November 7, 2019

GRAFTECH INTERNATIONAL LTD.
By: /s/ Quinn J. Coburn
Quinn J. Coburn
Chief Financial Officer, Vice President Finance and Treasurer (Principal
Financial Officer)

CERTIFICATION

I, David J. Rintoul, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GrafTech International Ltd. (the "Registrant");
2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;
3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this Report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of the annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

By: /s/ David J. Rintoul

David J. Rintoul
President and Chief Executive Officer,
(Principal Executive Officer)

November 7, 2019

CERTIFICATION

I, Quinn J. Coburn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GrafTech International Ltd. (the "Registrant");
2. Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;
3. Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this Report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this Report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of the annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

By: /s/ Quinn J. Coburn

Quinn J. Coburn
Chief Financial Officer, Vice President Finance and Treasurer
(Principal Financial and Accounting Officer)

November 7, 2019

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In accordance with the rules and regulations of the Securities and Exchange Commission, the following Certification shall not be deemed to be filed with the Commission under the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of Section 18 of the Exchange Act and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, notwithstanding any general incorporation by reference of the Quarterly Report of GrafTech International Ltd. (the "Corporation") on Form 10-Q for the period ended September 30, 2019, as filed with the Commission on the date hereof (the "Report"), into any other document filed with the Commission.

In connection with the Report, I, David J. Rintoul, President and Chief Executive Officer of the Corporation, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

By: /s/ David J. Rintoul
David J. Rintoul
President and Chief Executive Officer,
(Principal Executive Officer)
November 7, 2019

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In accordance with the rules and regulations of the Securities and Exchange Commission, the following Certification shall not be deemed to be filed with the Commission under the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of Section 18 of the Exchange Act and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, notwithstanding any general incorporation by reference of the Quarterly Report of GrafTech International Ltd. (the "Corporation") on Form 10-Q for the period ended September 30, 2019, as filed with the Commission on the date hereof (the "Report"), into any other document filed with the Commission.

In connection with the Report, I, Quinn J. Coburn, Vice President and Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

By: /s/ Quinn J. Coburn

Quinn J. Coburn
Chief Financial Officer, Vice President Finance and Treasurer
(Principal Financial and Accounting Officer)

November 7, 2019