UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2024
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	**27-2496053**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

982 Keynote Circle
Brooklyn Heights, Ohio 44131
(Address of principal executive offices) (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**

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

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, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐

Smaller reporting company ☐ Emerging growth 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of June 28, 2024 was $217.9 million, based on the closing price of the registrant's common stock as reported on the New York Stock Exchange as of the last business day of the registrant's most recently completed second quarter.

On February 7, 2025, 257,263,710 shares of our common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement (the "Proxy Statement") to be filed with the Securities and Exchange Commission relative to the registrant's 2025 Annual Meeting of Stockholders are incorporated by reference into Part III of this Report.

Table of Contents

PART I		1
Presentation of Financial, Market and Industry Data		1
Cautionary Note Regarding Forward-Looking Statements		1
Item 1.	Business	3
Item 1A.	Risk Factors	10
Item 1B.	Unresolved Staff Comments	21
Item 1C.	Cybersecurity	22
Item 2.	Properties	23
Item 3.	Legal Proceedings	23
Item 4.	Mine Safety Disclosures	25
	Information About Our Executive Officers	25
PART II		27
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	27
Item 6.	[Reserved]	27
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	28
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	46
Item 8.	Financial Statements and Supplementary Data	47
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	97
Item 9A.	Controls and Procedures	97
Item 9B.	Other Information	98
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	98
PART III		98
Item 10.	Directors, Executive Officers and Corporate Governance	98
Item 11.	Executive Compensation	99
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholders	100
Item 13.	Certain Relationships and Related Transactions, and Director Independence	100
Item 14.	Principal Accountant Fees and Services	100
PART IV		100
Item 15.	Exhibit and Financial Statement Schedules	100
Item 16.	Form 10-K Summary	105
Signatures		106

PART I

References herein to the "Company," "GrafTech," "we," "our," or "us" refer collectively to GrafTech International Ltd. and its subsidiaries.

Presentation of Financial, Market and Industry Data

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

Certain market and industry data included in this Annual Report on Form 10-K for the year ended December 31, 2024 (the "Annual Report" or "Report") has been obtained from third-party sources that we believe to be reliable. Market estimates are calculated by using independent industry publications, government publications and third-party forecasts in conjunction with our assumptions about our markets. 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 Annual Report. While we are not aware of any misstatements regarding any market, industry or similar data presented herein, such data involves risks and uncertainties and is subject to change based on various factors, including those discussed under the headings "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" in this Annual Report.

Cautionary Note Regarding Forward-Looking Statements

This Report may contain forward-looking statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements reflect our current views with respect to, among other things, financial projections, plans and objectives of management for future operations, future economic performance and short-term and long-term liquidity. Examples of forward-looking statements include, among others, statements we make regarding future estimated volume, pricing and revenue, anticipated levels of capital expenditures and cost of goods sold. You can identify these forward-looking statements by the use of forward-looking words such as "will," "may," "plan," "estimate," "project," "believe," "anticipate," "expect," "foresee," "intend," "should," "would," "could," "target," "goal," "continue to," "positioned to," "are confident," or the negative versions of those words or other comparable words. Any forward-looking statements contained in this Report are based upon our historical performance and on our current plans, estimates and expectations considering 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:

- our dependence on the global steel industry generally and the electric arc furnace ("EAF") steel industry, in particular;
- the cyclical nature of our business and the selling prices of our products, which may continue to decline in the future, and may lead to prolonged periods of reduced profitability and net losses or adversely impact liquidity;
- the sensitivity of our business and operating results to economic conditions, including any recession, and the possibility others may not be able to fulfill their obligations to us in a timely fashion or at all;
- the possibility that we may be unable to implement our business strategies in an effective manner;
- 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 raw materials, including decant oil and petroleum needle coke, and disruptions in supply chains for these materials;
- our primary reliance on one facility in Monterrey, Mexico for the manufacturing of connecting pins;
- the cost of electric power and natural gas, particularly in Europe;
- our manufacturing operations are subject to hazards;
- 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 further 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, such as a global pandemic, political crises or other catastrophic events;
- the risks and uncertainties associated with litigation, arbitration, and like disputes, including disputes related to contractual commitments;
- our dependence on third parties for certain construction, maintenance, engineering, transportation, warehousing and logistics services;
- the possibility that we are subject to information technology systems failures, cybersecurity incidents, network disruptions and breaches of data security, including with respect to our third-party suppliers and business partners;
- 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 sensitivity of long-lived assets on our balance sheet to changes in the market;
- our dependence on protecting our intellectual property and the possibility that third parties may claim that our products or processes infringe their intellectual property rights;
- the impact of inflation and our ability to mitigate the effect on our costs;
- the impact of macroeconomic and geopolitical events on our business, results of operations, financial condition and cash flows, and the disruptions and inefficiencies in our supply chain that may occur as a result of such events;
- the possibility that the imposition of new or increase of existing custom duties and other tariffs in the countries in which we, our customers and our suppliers operate could adversely affect our operations;
- 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;
- past increases in benchmark interest rates and the fact that any future borrowings may subject us to interest rate risk;
- risks and uncertainties associated with our ability to access the capital and credit markets could adversely affect our results of operations, cash flows and financial condition;
- the possibility that disruptions in the capital and credit markets could adversely affect our customers and suppliers;
- the possibility that restrictive covenants in our financing agreements could restrict or limit our operations;
- changes in, or more stringent enforcement of, health, safety and environmental regulations applicable to our manufacturing operations and facilities; and
- our ability to continue to meet the New York Stock Exchange ("NYSE") listing standards.

These factors should not be construed as exhaustive and should be read in conjunction with the Risk Factors and other cautionary statements that are included in this Report. The forward-looking statements made in this Report relate only to events as of the date on which the statements are made. Except as required by law, we do not undertake any obligation to publicly update or review any forward-looking statement, 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.

For a more complete discussion of these and other factors, see "Risk Factors" in Part I of this Report and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II of this Report.

Item 1. Business

Introduction

GrafTech International Ltd., founded in 1886 and incorporated in Delaware, is a leading manufacturer of high-quality graphite electrode products essential to the production of EAF steel and other ferrous and non-ferrous metals. We believe that we have a competitive portfolio of low-cost ultra-high power ("UHP") graphite electrode manufacturing facilities, with some of the highest capacity facilities in the world. We have graphite electrode manufacturing facilities in Calais, France; Pamplona, Spain; Monterrey, Mexico and St. Marys, Pennsylvania (idled in 2024). We are the only large-scale graphite electrode producer that is substantially vertically integrated into petroleum needle coke, our key raw material for graphite electrode manufacturing. This unique position provides us with competitive advantages in product quality and cost.

Our only reportable segment, Industrial Materials, is comprised of two major product categories: graphite electrodes and petroleum needle coke products. Our vision is to provide highly engineered graphite electrode products, services and solutions to EAF operators. Based on the high quality of our graphite electrodes, reliability of our petroleum needle coke supply and our excellent customer service, we believe that we are viewed as a preferred supplier to the global EAF steel producer market.

As of December 31, 2024, our stated production capacity was approximately 178 thousand metric tons ("MT")[1] through our primary manufacturing facilities in Calais, Pamplona and Monterrey. On February 14, 2024, the Company announced a cost rationalization and footprint optimization plan, in response to persistent softness in the commercial environment. This included an indefinite suspension of production activities at our St. Marys facility, with the exception of graphite electrode and pin machining. We also indefinitely idled certain assets within our remaining graphite electrode manufacturing footprint. As a result of these initiatives, our stated production capacity was reduced from approximately 202 thousand MT in 2023 to approximately 178 thousand MT[1] in 2024.

Our principal executive offices are located at 982 Keynote Circle, Brooklyn Heights, Ohio 44131 and our telephone number is (216) 676-2000. Our website address is www.graftech.com. Information on, or accessible through, our website is not part of this Annual Report. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website.

Products and Raw Materials

Graphite Electrodes

Graphite electrodes are an industrial consumable product used primarily in EAF steel production, one of the two primary methods of steel production and the steelmaking technology used by all "mini-mills." Electrodes act as conductors of electricity in the furnace, generating sufficient heat to melt scrap metal, iron ore-derived products or other raw materials used to produce steel or other metals. We estimate that, on average, the cost of graphite electrodes represents less than 5% of the total production cost of steel in a typical EAF, but they are essential to EAF steel production. Graphite electrodes are currently the only known commercially available products that have the high levels of electrical conductivity and the capability to sustain the high levels of heat generated in EAF steel production. As a result, EAF steel manufacturers require a reliable supply of high-quality graphite electrodes. Graphite electrodes are also used in steel refining ladle furnaces and in other processes, such as the production of titanium dioxide, stainless steel, silicon metals and other ferrous and non-ferrous metals.

With the growth of EAF steel production, graphite electrode production has become focused on the manufacturing of UHP electrodes, which have low electrical resistivity and strong durability to maximize efficient use of electricity in the EAF and minimize electrode consumption. The production of UHP electrodes requires an extensive proprietary manufacturing process and material science knowledge, including the use of higher quality needle coke blends. We manufacture graphite electrodes ranging in size up to 31.5 inches (800 millimeters) in diameter, over 11 feet (3,400 millimeters) in length, and weighing as much as 5,900 pounds (2.6 MT). In 2024, we expanded our product offerings to include the addition of the 800-millimeter super-sized electrode to our portfolio to serve a small but growing segment of the UHP electrode market. We also manufacture corresponding sizes of graphite connecting pins, which are used by customers to connect and fasten graphite electrodes together in a column for use in an EAF. Prior to 2023, all of our connecting pin production was performed at our Monterrey, Mexico facility. However, in 2023, we added pin production capabilities at our Pamplona, Spain facility to provide

[1] Production capacity reflects expected maximum production volume during the period through our Calais, Pamplona and Monterrey facilities depending on product mix and expected maintenance outage. Actual production may vary.

an alternative source, if needed, for this critical component. The Company continues to explore opportunities to increase its pin manufacturing capabilities. The total manufacturing time of a UHP graphite electrode and its associated connecting pin is, on average and except for special requests, approximately six months.

The size of the electrodes used in EAF steel production varies depending on the size of the furnace, the size of the furnace's electric transformer and the planned productivity of the furnace. In a typical furnace using alternating electric current and operating at a typical number of production cycles per day, three UHP graphite electrodes are fully consumed (requiring the addition of new electrodes), on average, every eight to ten operating hours. UHP graphite electrodes are consumed at a rate of approximately 1.7 kilograms per MT of steel production, on average, in EAF facilities.

The actual rate of consumption and addition of electrodes for a particular furnace depends primarily on the efficiency and productivity of the furnace. Therefore, demand for graphite electrodes is directly related to the amount and efficiency of EAF steel production. EAF steel production requires significant heat (as high as 5,000° F) to melt the raw materials, primarily scrap metal, in the furnace. Heat is generated as electricity (as much as 150,000 amps) passes through the electrodes and creates an electric arc between the electrodes and the raw materials.

Graphite Electrode Industry - Supply and Demand Trends

Supply trends

We estimate that as of the end of 2024, the graphite electrode industry globally (excluding China) had nameplate capacity to produce approximately 786 thousand MT of graphite electrodes. The industry is fairly consolidated, with the five largest global (excluding China) producers in the industry, GrafTech, Resonac Holdings Corporation, HEG Limited, Tokai Carbon Co., Ltd. and Graphite India Limited, collectively, representing approximately 82% of global (excluding China) graphite electrode production capacity. As of December 31, 2024, our stated production capacity was approximately 178 thousand MT through our Calais, Pamplona and Monterrey facilities and represented approximately 23% of the global (excluding China) graphite electrode production capacity.

We believe that no new graphite electrode production facilities have been built outside of China for several years. In recent years, additional production capacity has been generated by optimization and debottlenecking of existing assets and limited brownfield expansion.

We primarily compete in the UHP segment of the graphite electrode market. We estimate that, as of the end of 2024, global (excluding China) UHP graphite electrode capacity was approximately 670 thousand MT, or approximately 85% of the global (excluding China) graphite electrode capacity.

Although graphite electrode production capacity within China exceeds that of the rest of the world combined, the production landscape in China is fragmented, and the quality of Chinese graphite electrodes varies greatly. We estimate that as of the end of 2024, total production capacity within China for the UHP segment of graphite electrodes was approximately 800 thousand MT. However, we believe that a significant portion of the UHP electrodes produced in China do not meet the quality standards needed to be exported for use in the most demanding EAF applications. In addition, the imposition of customs duties and other tariffs in key EAF steelmaking regions, including the United States and the European Union ("EU"), have further limited the quantity of graphite electrodes exported from China.

Demand trends

We estimate that annual global (excluding China) UHP graphite electrode demand has been approximately 660 thousand MT, on average, over the past three years. UHP graphite electrodes are primarily used in the EAF steelmaking process, and long-term global growth of EAF steel production has driven increased demand for graphite electrodes over time. EAF steelmaking has historically been the fastest-growing segment of the global steel market. According to data derived from World Steel Association ("WSA") reporting, global (excluding China) EAF steel production grew at a 2%-3% compound annual growth rate from 2015 to 2023, the most recent year for which WSA has published such figures. This compares to a 1% compound annual growth rate for overall global (excluding China) steel production during this same period. As a result, the EAF method of steelmaking accounted for 50% of the global (excluding China) steel production in 2023, compared to 44% in 2015, with share growth in nearly every region.

EAF steelmaking is more energy efficient and is advantaged in terms of its environmental footprint, compared to steel produced through the basic oxygen furnace ("BOF") steelmaking model. According to the Steel Manufacturers Association ("SMA"), EAF steelmaking produces 75% fewer carbon dioxide emissions compared to BOF steelmaking. Further, SMA notes that the EAF process is a sustainable model for recycling scrap-based raw materials into new steel, which is 100% (and infinitely) recyclable at the end of its useful life. In addition to these advantages, EAF steel producers benefit from their

flexibility in sourcing iron units, being able to make steel from either scrap or alternative sources of iron, such as direct reduced iron and hot briquetted iron, both made directly from iron ore.

Reflecting these and other competitive advantages, we believe EAF steel production will continue to grow at a faster rate than BOF steel production. Based on industry announcements of planned incremental EAF capacity additions and factoring in further production increases at existing EAF steel plants, we estimate this could result in global (excluding China) UHP graphite electrode demand growing at a compound annual growth rate of approximately 3% to 4% through 2029.

Petroleum Needle Coke

Petroleum needle coke, a crystalline form of carbon derived from decant oil, is the key raw material we use in the production of graphite electrodes. It is also a primary raw material utilized in the production of synthetic graphite used in anodes for lithium-ion batteries that power electric vehicles ("EV").

Petroleum needle coke is produced through a manufacturing process very similar to a refinery. The production process converts decant oil, a byproduct of the gasoline refining process, into petroleum needle coke. Pitch needle coke, used principally by Chinese graphite electrode manufacturers, is made from coal tar pitch, a byproduct of coking metallurgical coal used in BOF steelmaking. For the production of our graphite electrodes, we prefer petroleum needle coke because of the meaningfully shorter bake and graphitizing time required, compared to graphite electrodes produced using pitch needle coke.

We are substantially vertically integrated into petroleum needle coke through our Seadrift facility ("Seadrift"), located in Port Lavaca, Texas, which provides the majority of our petroleum needle coke requirements used to produce our graphite electrodes and insulates us from rapid changes in the petroleum needle coke market. In addition, we believe the quality of Seadrift's petroleum needle coke is superior for graphite electrode production compared to most of the petroleum needle coke available to our peers on the open market, allowing us to produce high-quality electrodes in a cost-efficient manner. Seadrift sources all of its decant oil requirements from reputable U.S.-based suppliers. Seadrift has developed a well-diversified pool of suppliers, which we believe is sufficient to meet our needs.

Graphite electrode producers combine petroleum needle coke and/or pitch needle coke with binders and other ingredients to form graphite electrodes. Petroleum needle coke and pitch needle coke, relative to other varieties of coke, are distinguished by their needle-like structure and their quality, which is measured by the presence of impurities, principally sulfur, nitrogen and ash. Petroleum needle coke and pitch needle coke are typically low in these impurities. Additionally, the needle-like structure of petroleum and pitch needle coke creates expansion along the length of the electrode, rather than the width, which reduces the likelihood of fractures.

Petroleum Needle Coke Industry - Supply and Demand Trends

Supply Trends

We estimate that, as of the end of 2024, the petroleum needle coke industry globally (excluding China) had capacity to produce approximately 750 thousand MT of petroleum needle coke. The global (excluding China) industry is highly concentrated as it is comprised of four producers, Phillips 66, GrafTech (via Seadrift), Petrocokes Japan Ltd. (a subsidiary of Sumitomo Corporation) and ENEOS Holdings, Inc. Our Seadrift facility, with nameplate capacity to produce approximately 140 thousand MT of calcined petroleum needle coke, represents nearly one-fifth of the global (excluding China) production capacity.

Petroleum needle coke production capacity outside of China has remained relatively flat for many years due to the capital intensity, technical know-how and long permitting lead times required to build greenfield needle coke production facilities.

Chinese petroleum needle coke production is expected to grow significantly in the coming years, with a primary focus on serving the EV market, as China is currently the largest producer of EV batteries. Although this may provide sufficient capacity to meet global petroleum needle coke needs for the next several years, as demand from emerging non-Chinese EV battery producers continues to increase, we believe that regional supply-demand imbalances will occur, particularly in North America and Europe, in the coming years.

Demand Trends

We estimate that global (excluding China) needle coke demand for use in UHP graphite electrode production has been approximately 550 thousand MT, on average, over the past three years with the majority being petroleum needle coke. With demand for UHP graphite electrodes expected to increase at a compound annual growth rate of approximately 3% to 4%

through 2029 (see "Graphite Electrode" section above), we expect this to result in a similar increase in demand for needle coke used in graphite electrode production.

While the vast majority of petroleum needle coke produced globally (excluding China) is currently used in the production of graphite electrodes, its use in lithium-ion batteries for the EV market is expected to grow with the increased production of these vehicles. Most EVs rely on lithium-ion batteries as their key performance component, with graphite being the key material used for the carbon anode portion of the batteries. Although both natural and synthetic graphite are used in anodes for lithium-ion batteries, EV manufacturers prefer synthetic graphite, which is produced using needle coke, because of its advantages in terms of charging rate and capacity, providing batteries with longer driving ranges and longevity.

Based on Benchmark Mineral Intelligence estimates for growth in battery anodes, we estimate this could result in global needle coke demand for use in EV applications increasing at a 20% or more compound annual growth rate through 2029. While synthetic graphite can be produced from either petroleum needle coke or pitch needle coke, petroleum needle coke has superior characteristics for EV battery applications, as it does with graphite electrode applications. As a result, demand growth for petroleum needle coke for use in the EV market is expected to be higher than that of overall needle coke demand growth. As noted above, with North American and European EV manufacturers increasing focus on domestic sourcing of battery material needs, we believe that regional supply-demand imbalances will occur for petroleum needle coke in the coming years.

Contracts and Customers

Our customers include major steel producers and other ferrous and non-ferrous metal producers in Europe, the Middle East and Africa (collectively, "EMEA"), the Americas, and Asia-Pacific ("APAC"), which sell their products primarily into the automotive, construction, appliance, machinery, equipment and transportation industries.

We sell our products under short-term purchase agreements, multi-year purchase agreements and spot sales.

Our short-term agreements are either annual, semi-annual or quarterly. Because of the long production time, the book building process is largely concentrated in the fourth quarter of each year for the annual short-term agreements as well as for the semi-annual agreements related to the first half of the upcoming year. Spot purchase orders are entered into with deliveries usually starting three or more months later. The price of our short-term agreements is determined through contract negotiations with our customers and is influenced by the then-prevailing price on spot purchase orders as well as the anticipated supply-demand situation at the time of the planned deliveries. There is a lag between the time we negotiate prices for our short-term agreements and when our electrodes are delivered and recognized as revenue.

There is no widely accepted graphite electrode reference price. Pricing has historically been cyclical, reflecting the demand trends of the global EAF steelmaking industry and supply of graphite electrodes. Moreover, as petroleum needle coke represents a significant percentage of the raw material cost of graphite electrodes, graphite electrodes have typically been priced at a spread to petroleum needle coke. Over the period from 2005 to 2024, the average graphite electrode spread over petroleum needle coke was approximately $4,000 per MT, on an inflation-adjusted basis using constant 2024 dollars, although recent spreads have been narrower. In tight demand markets, this spread has increased, resulting in higher graphite electrode prices. Historically, between 2005 and 2024, our weighted-average realized price of graphite electrodes, excluding volume sold under our take-or-pay agreements with initial term of three-to-five years ("LTAs"), was approximately $6,000 per MT, on an inflation-adjusted basis using constant 2024 dollars.

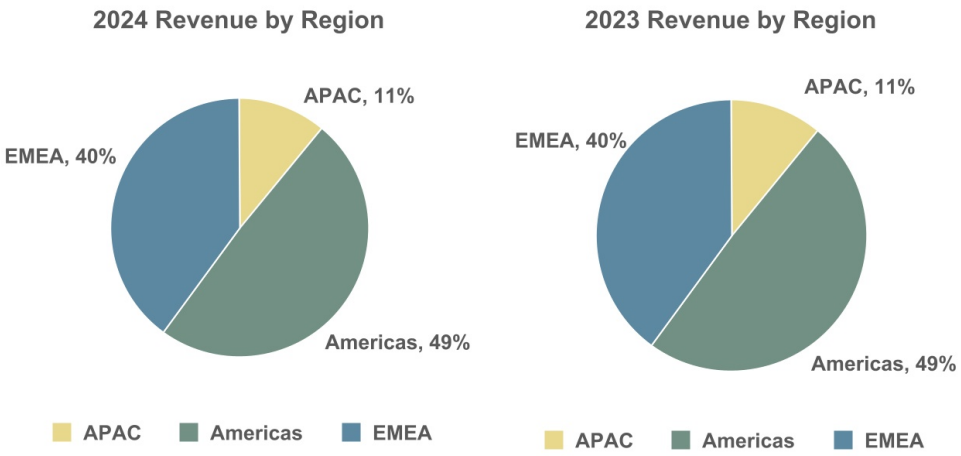
Our LTAs were entered into between the end of 2017 and early 2019, which coincided with a period of elevated market prices for graphite electrodes. As graphite electrodes are an essential consumable in the EAF steel production process, the LTAs provided certainty of supply of reliable, high-quality graphite electrodes in a periodically volatile market. These LTAs have fixed prices and volumes. Within the contract, our customers are contractually bound to purchase the specified volume of product at the price under the contract. Sales from our LTAs represented 22%, 41% and 68% of our net sales in 2024, 2023 and 2022, respectively. Sales from LTAs represented 18% of our net sales in the fourth quarter of 2024 and we are substantially complete with these agreements.

As the substantial majority of our LTAs have expired, our mix of business has shifted towards short-term purchase agreements and spot purchase orders ("non-LTAs"). We will continue to offer multi-year agreements, also known as electrode supply agreements, as an important part of our commercialization strategy and value proposition. Our substantial vertical integration into petroleum needle coke supports our ability to offer contracts with varying durations, providing our customers with flexibility and surety of supply. However, we do not anticipate that multi-year agreements will make up the majority of our portfolio moving forward.

2024 Revenue and Production By Region

Approximately 90% of our graphite electrodes were purchased by EAF steel producers in 2024. The remaining portion is primarily used in various other ferrous and non-ferrous melting applications, fused materials, chemical processing, and alloy metals. We sell our products in every major geographic region globally. Sales of our products to buyers outside the United States accounted for approximately 68%, 67% and 73% of net sales in 2024, 2023 and 2022, respectively. Overall, in 2024, we generated 89% of our net sales from EMEA and the Americas.

The charts below show our revenue by region for 2024 and 2023:



Sales and Customer Service

We differentiate and sell the value of our graphite electrodes primarily based on product quality and performance, delivery reliability and customer technical service.

We have a large customer technical service organization, with supporting application engineering and scientific groups and approximately 30 engineers and specialists around the world serving in this area. We believe that we are one of the industry leaders in providing value-added technical services to our customers.

Our direct sales force currently operates from 13 sales offices located around the world. We sell our graphite electrodes primarily through our direct sales force, independent sales representatives, and distributors, all of whom are trained and experienced with our products.

We have customer technical service personnel based around the world to assist customers to maximize their production and minimize their costs. A portion of our engineers and technicians provide technical service and advice to key steel and other metals customers. These services relate to furnace applications and operation, as well as furnace upgrades to reduce energy consumption, improve raw material costs and increase output.

We believe we have a competitive advantage in offering customers ArchiTech® Furnace Productivity System 6.0 ("ArchiTech"), which is an advanced support and technical service platform in the graphite electrode industry. ArchiTech, which has been installed in customer furnaces worldwide, enables our engineers to work with our customers seamlessly to maximize the performance of their furnaces and provide real-time diagnostics and troubleshooting. The arc furnace monitoring system team is continuously listening to our customers' needs and develops new functionalities for the ArchiTech environment.

Distribution

We deploy various demand management and inventory management techniques to seek to ensure that we can meet our customers' delivery requirements while still maximizing the utilization of our production capacity. We can experience significant variation in our customers' delivery requirements as their specific needs vary and change throughout the year. We

generally seek to maintain appropriate inventory levels, taking into account these factors as well as the significant differences in manufacturing cycle times for graphite electrode products and our customers' products.

Finished products are usually stored at our manufacturing facilities. Limited quantities of some finished products are also stored at local warehouses around the world to meet customer needs.

Research and Development

We have over 135 years of experience in the research and development ("R&D") of graphite- and carbon-based solutions. By focusing our management's attention and R&D spending on the graphite electrode business, we have been able to improve the quality of our graphite electrodes, maintain our position as an industry leader and improve our relationships with strategic customers. Our focus on improving the quality of petroleum needle coke through R&D has led to our petroleum needle coke production at Seadrift being best-in-class for use in the manufacturing of highly durable UHP electrodes. Simultaneously, the R&D team helps to evaluate technology in adjacent markets where GrafTech may have technological advantages. We believe that the above strengths and capabilities provide us with a competitive advantage.

Intellectual Property

We believe that our intellectual property, consisting primarily of patents and proprietary know-how, provides us with competitive advantages and is important to our growth opportunities. Our intellectual property portfolio is extensive, with approximately 100 U.S. and foreign patents and pending patent applications.

We own, have the right to use or have obtained licenses for various trade names and trademarks used in our businesses. For example, the UCAR trademark is owned by Union Carbide Corporation ("Union Carbide") (which was acquired by Dow Chemical Company) and is licensed to us on a worldwide, exclusive and royalty-free basis until January 2035. This particular license automatically renews for successive 10-year periods. It permits non-renewal by Union Carbide at the end of any renewal period upon five years notice of non-renewal.

We rely on patent, trademark, copyright and trade secret laws, as well as appropriate agreements to protect our intellectual property. Among other things, we seek to protect our proprietary know-how and information by requiring employees, consultants, strategic partners and others who have access to such proprietary information and know-how to enter into confidentiality or restricted use agreements.

Insurance

We maintain insurance against civil liabilities relating to personal injuries to third parties, for loss of or damage to property, for business interruptions, for directors and officers and for certain environmental matters, that provides coverage, subject to the applicable coverage limits, deductibles and retentions, and exclusions, that we believe is appropriate upon terms and conditions and for premiums that we consider fair and reasonable in the circumstances. There can be no assurance that we will not incur losses beyond the limits of or outside the coverage of our insurance.

Regulatory Matters

As a company with global operations, we are subject to the laws and regulations of the United States and the multiple foreign jurisdictions in which we operate or conduct business as well as the rules, reporting obligations and interpretations of all such requirements and obligations by various governing bodies, which may differ among jurisdictions. These include federal, state, local and foreign environmental laws and regulations, increasingly complex and changing laws and regulations enacted to protect business and personal data in the United States and other jurisdictions, including the EU's General Data Protection Regulation ("GDPR"), anti-corruption laws, import/export controls, anti-competition laws, U.S. securities laws and a variety of regulations including work-related and community safety laws. We believe we operate in compliance in all material respects with applicable laws and regulations, and maintaining compliance with them is not expected to materially affect our capital expenditures, earnings and competitive position. Estimates of future costs for compliance with U.S. and foreign environmental protection laws and regulations, and for environmental liabilities, are necessarily imprecise due to numerous uncertainties, including the impact of potential new laws and regulations, the availability and application of new and diverse technologies, the extent of insurance coverage, the potential discovery of contaminated properties, or the identification of new hazardous substance disposal sites at which we may be a potentially responsible party ("PRP") and, in the case of sites subject to the Comprehensive Environmental Response, Compensation and Liability Act and similar state and foreign laws, the final determination of remedial requirements and the ultimate allocation of costs among the PRPs. Subject to the inherent imprecision in estimating such future costs, but taking into consideration our experience to date regarding environmental matters of a similar nature and facts currently known, we estimate that our costs and capital expenditures (in each case, before adjustment for inflation) for environmental protection regulatory compliance programs and for remedial response actions will

not be material over the next several years. Furthermore, we establish accruals for environmental liabilities when it is probable that a liability has been or will be incurred, and the amount of the liability can be reasonably estimated. We adjust the accrual as new remedial actions or other commitments are made, as well as when new information becomes available that changes the prior estimates previously made and we believe our existing accruals are reasonable.

Human Capital Resources

Employment

As of December 31, 2024, we had 1,072 employees (excluding contractors), 629 of which were hourly employees. A total of 401 employees were in Mexico, 405 were in Europe, 230 were in the United States, 32 were in Brazil, three were in the Asia Pacific region and one was in the Middle East.

As of December 31, 2024, 647 employees, or approximately 60% of our worldwide employees, were covered by collective bargaining or similar agreements. We believe that, in general, our relationships with our employees' unions are good and that we will be able to renew or extend our collective bargaining or similar agreements on reasonable terms as they expire. We have not had any material work stoppages or strikes initiated by our employees during the past year.

Health and Safety

The health and safety of our global team is a top priority and is a core value of the Company. Our comprehensive programs strive to achieve zero injuries and no harm done. Our total recordable incident rate in 2024 was 0.59 per 200,000 work hours, compared to 0.61 per 200,000 work hours in 2023. Our global Health, Safety and Environmental Protection ("HS&EP") policy applies to all employees and governs our actions and decisions every day. We also have a Code of Conduct and Ethics for Suppliers and Contractors that includes HS&EP guidelines required for doing business with GrafTech. GrafTech's focus on HS&EP is a top priority for all employees. We have built risk recognition into our HS&EP programs. From pre-job planning, safety walks and inspections, planned job observations, or training employees on health and safety best practices, we strive to identify and mitigate risks. In the spirit of continuous improvement, regular inspections, internal reviews and corporate audits are conducted to foster compliance with our high standards.

Diversity and Inclusion

Diversity and inclusion are foundational to our culture, and all employees are expected to uphold these values in their day-to-day work. Our recruitment policies and hiring practices support our diversity and inclusion objectives. At both the corporate and site levels, we assign responsibilities for upholding policies, procedures, and practices for diverse and inclusive hiring and talent management. GrafTech affirms its position as an Equal Opportunity Employer and is committed to recruiting, employing, and promoting qualified veterans and disabled individuals, and we aim to ensure our people have equal opportunities related to job promotions, compensation and benefits, and personal development.

Our global footprint lends itself to organic diversity, and our employee base has varied educational backgrounds and life experiences. We measure and track our diversity and intentional talent acquisition, retention, and development practices.

Compensation and Total Rewards

We aim to attract and retain top talent from a diverse pool of skilled workers by providing competitive compensation and benefit programs to help meet the needs of our employees. Our programs are designed to support the profitable growth of our business; attract, reward, and retain the talent we need to succeed; support the health and overall well-being of our employees; and reinforce a performance-based culture.

In addition to base compensation, we offer individual and group-based performance bonuses. Benefits packages include, depending on the country, medical, dental, prescription, vision, group life insurance, short- and long-term disability, paid vacation and holidays, and tuition reimbursement. The tuition reimbursement program, in particular, helps employees who want to continue their education or seek specialized job training, and illustrates our commitment to continued learning and focus on professional development.

Employee Engagement

Employee engagement is a priority at GrafTech because we believe that engaged employees help us provide high-quality products and services to our customers. We conducted our last employee engagement survey in October 2022.

Approximately 56% of full-time GrafTech employees participated in the October 2022 survey. The survey requested feedback from our employees on a variety of important topics, including safety, pay, communication and training.

Employee Training and Development

As committed stakeholders in the professional development of our employees, we look for opportunities to help employees grow, innovate, and impact our business and industry. Each role within our organization has a detailed job profile, including job-specific competencies. These profiles help us measure performance, and they work in conjunction with our performance management system, which enables employees to create individualized career and growth paths. The performance management system connects employees with job-specific professional development training and continuing education opportunities to help them progress along their career and growth path.

We conduct mid-year and annual performance reviews for all salaried employees to assess both individual job competencies and performance relative to GrafTech's core competencies. During annual performance reviews, we discuss progress towards personal career goals, refine career aspirations, and connect employees with specific pathways to achievement. Employees are encouraged to work with their manager or human resources to further refine their career and growth paths at each annual review.

Available Information

We make available, free of charge, on or through our website, our annual reports on Form 10-K, our quarterly reports on Form 10-Q, our current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities and Exchange Act of 1934 (the "Exchange Act") as soon as reasonably practicable after we electronically file them with, or furnish them to, the U.S. Securities and Exchange Commission ("SEC"). We maintain our website at https://www.graftech.com. Information on, or accessible through, our website is not part of this Annual Report. We have included our website address only as an interactive textual reference and do not intend it to be an active link to our website.

Item 1A. Risk Factors

Our business, financial condition, results of operations, and cash flow can be affected by a number of factors, whether currently known or unknown, including but not limited to those described below. You should carefully read all of the information included in this Report and carefully consider, among other matters, the following risk factors, as well as any discussed under Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations." Although the risks are organized by headings, and each risk is discussed separately, many are interrelated. Moreover, the risks below are not the only risks we face and additional risks not currently known to us or that we presently deem immaterial may emerge or become material at any time. The occurrence of any of the following risks could materially and adversely affect our business, financial condition, results of operations, and cash flow, in which case, the market price of our securities could decline. You should not interpret the disclosure of any risk factor to imply that the risk has not already materialized.

Risks related to our business and industry

We are dependent on the global steel industry generally and the EAF steel industry in particular, which historically have been highly cyclical, and a downturn in these industries may materially adversely affect our business.

We sell our products primarily to the EAF steel production industry. The EAF steel production industry historically has been highly cyclical and is affected significantly by general economic conditions. As a result, we have experienced periods of significant net losses.

Significant customers for the steel industry include companies in the automotive, construction, appliance, machinery, equipment and transportation industries, which are industries that were negatively affected by the general economic downturn and the deterioration in financial markets, including severely restricted liquidity and credit availability, in the past.

Our customers, including major steel producers, have in the past experienced and may again experience downturns or financial distress that could adversely impact our ability to collect our accounts receivable on a timely basis or at all.

Pricing for graphite electrodes has historically been cyclical and the price of graphite electrodes may continue to decline in the future.

Pricing for graphite electrodes has historically been cyclical, reflecting the demand trends of the global EAF steelmaking industry and the supply of graphite electrodes. In addition, as petroleum needle coke reflects a significant

percentage of the raw material cost of graphite electrodes, graphite electrodes have historically been priced at a spread to petroleum needle coke, which in the past has increased in tight demand markets. Between 2005 and 2024, our weighted-average realized price of graphite electrodes for non-LTAs was approximately $6,000 per MT (on an inflation-adjusted basis using constant 2024 dollars).

During the last demand trough in 2016, our weighted-average realized price of graphite electrodes for non-LTAs fell to approximately $3,000 per MT, on an inflation-adjusted basis using constant 2024 dollars. Following the significant rationalization of graphite electrode production globally, the resumption of growth in EAF steel production, falling scrap prices, reductions in Chinese steel exports and constrained supply of needle coke, graphite electrode prices reached record highs in 2018.

Prices as of December 31, 2024 have receded from the highs of 2018, and the price of graphite electrodes may continue to decline in the future. Beginning in 2023 and continuing throughout 2024, spot prices began decreasing given the softer commercial environment. Spot prices for the year ended December 31, 2024 were approximately $4,200 per MT on a weighted-average basis. Our business, financial condition and operating results are being materially and adversely affected by the spot price of graphite electrodes as of December 31, 2024 and could be materially and adversely affected further to the extent prices for graphite electrodes continue to decline in the future, particularly as we implement our price increase initiative as described below.

We may be unable to realize the benefits of our initiative to increase prices on our products in certain of our regions and furthermore may lose market share in these regions as a result of this initiative, which could have a material adverse effect on our results of operations, cash flow, liquidity and financial condition.

In February 2025, we informed our customers of our intention to increase prices on volume that is not yet committed. This is just one initiative we expect to accelerate our path to profitability and support our ability to invest in our business for the long term. We operate in a highly competitive industry and, as a result, we may not be successful in raising or maintaining our existing prices. General economic, competitive or market-specific conditions may limit our ability to raise prices or otherwise impact our plans with respect to implementing price increases. In addition, we may lose customers who choose to source their graphite electrodes from a competitor who has not increased prices. If we are unable to successfully execute this initiative to increase prices, there may be material adverse effects on our market share, results of operations, cash flow, liquidity and financial condition.

Global graphite electrode overcapacity has adversely affected graphite electrode prices in the past, and is currently doing so now, which is negatively impacting our sales, margins and profitability.

Overcapacity in the graphite electrode industry has adversely affected pricing in the past, and is currently doing so now. Global graphite electrode production capacity that outpaces demand for graphite electrodes adversely affects the price of graphite electrodes. Excess production capacity is resulting in manufacturers producing and exporting electrodes at prices that are lower than prevailing domestic prices, and sometimes at or below their cost of production. Excessive imports into the Americas and EMEA, which markets collectively made up 89% of our net sales for the year ended December 31, 2024, can also exert downward pressure on graphite electrode prices, which negatively affects our sales, margins and profitability.

The graphite industry is highly competitive. Our market share, net sales or net income could decline due to vigorous price and other competition.

Competition in the graphite industry (other than, generally, with respect to new products) is based primarily on price, quality/performance, local presence, product portfolio, delivery reliability and customer service. Graphite electrodes, in particular, are subject to rigorous price competition. Competition with respect to new products is, and is expected to continue to be, based primarily on price, performance and cost effectiveness, customer service and product innovation. Competition could prevent implementation of price increases, including those described above, require price reductions or require increased spending on R&D, marketing and sales that could adversely affect us. In such a competitive market, changes in market conditions, including customer demand and technological development, as well as increased exports by Chinese EAF steel suppliers could adversely affect our competitiveness, sales and/or profitability.

We are dependent on the supply of petroleum needle coke. Our results of operations could deteriorate if disruptions in the supply of petroleum needle coke occur for an extended period.

Petroleum needle coke is our key raw material used in the production of graphite electrodes. At full operating levels, Seadrift provides a substantial portion of our petroleum needle coke requirements, with third party purchases making up the balance. A disruption in Seadrift's production of petroleum needle coke could require us to obtain additional petroleum needle coke from third-party sources. There is no assurance that we would be able to obtain acceptable alternative sources on a cost-

effective or timely basis, or at all. An extended interruption of suitable needle coke for our operations could have a material adverse effect on our business, financial condition or operating results.

We rely primarily on one facility in Monterrey, Mexico for the manufacturing of connecting pins, a necessary component of our graphite electrodes. Our results of operations could deteriorate if this facility would become unable to provide us with the required volume of connecting pins.

We manufacture graphite connecting pins, which are used by customers to connect and fasten graphite electrodes together in a column for use in an EAF. For the past several years, all of our connecting pin production was performed at our Monterrey, Mexico facility. While we have added capability at our Pamplona, Spain facility, we primarily rely on one production location for this critical component. If our Monterrey, Mexico facility were to become unable to continue to provide us with connecting pins in required volumes, at suitable quality levels, or in a cost-effective manner, we would be required to shift production to our Pamplona, Spain facility or identify and obtain additional replacement manufacturing sources. There is no assurance that we would be able to obtain acceptable alternative sources on a cost-effective or timely basis, or at all. An extended interruption in the supply of connecting pins would result in the loss of sales, which could have a material adverse effect on our business, financial condition or operating results.

We are dependent on supplies of raw materials (in addition to petroleum needle coke). Our results of operations could deteriorate if those supplies increase in cost or are substantially disrupted for an extended period.

We purchase raw materials from a variety of sources. In many cases, we purchase them under short-term contracts or on the spot market, in each case at fluctuating prices. The availability and price of raw materials may be subject to curtailment or change due to:

- limitations, which may be imposed under new legislation or regulation;
- suppliers' allocations to meet demand from other purchasers during periods of shortage;
- interruptions or terminations in production by suppliers; and
- market and other events and conditions.

Petroleum and coal products, including decant oil and coal tar pitch, which are our principal raw materials other than petroleum needle coke, and energy, have been subject to significant price fluctuations. For example, Seadrift may not always be able to obtain an adequate quantity of suitable low-sulfur decant oil for the manufacture of petroleum needle coke, and capital may not be available to install equipment to allow use of higher sulfur decant oil (which is more readily available in the United States) if supplies of low-sulfur decant oil become more limited in the future. Further, low-sulfur emissions regulations adopted in 2020 by the International Maritime Organization have at times negatively affected pricing for low-sulfur decant oil and they may again in the future cause similar adverse impacts.

We have in the past entered into, and may continue in the future to enter into, derivative contracts and short-duration fixed-rate purchase contracts to effectively fix a portion of our exposure to certain products. These hedging strategies may not be available or successful in eliminating our exposure. A substantial increase in raw material prices that cannot be mitigated or passed on to customers or a continued interruption in supply, particularly in the supply of decant oil, would have a material adverse effect on our business, financial condition, results of operations or cash flows. These hedges may be insufficient or ineffective in protecting against the impact of these fluctuations.

Our business and our customers are subject to market changes in the cost of electricity and natural gas that could adversely affect our business.

We are in an energy intensive industry that requires both natural gas and electricity in our manufacturing process. We primarily rely on third parties for the supply of our energy resources consumed in the manufacture of our products. The prices for third-party electricity and natural gas are subject to volatile market conditions, particularly in Europe. These market conditions often are affected by factors beyond our control and we may be unable to raise the price of our products to mitigate the effects of increased energy costs in our manufacturing processes. In addition, our customers are subject to these same market conditions.

Failure to retain our existing senior management team or the inability to attract and retain qualified personnel could hurt our business and inhibit our ability to operate and grow successfully.

Our success will continue to depend to a significant extent on the strength of our executive management team and the ability to recruit, hire and retain other key management and plant operating personnel, including factory and production workers

and other staff to support our growth and operational initiatives and replace those who retire or resign. Failure to retain our leadership team and workforce and to attract and retain other important management and technical personnel could place a constraint on our global growth and operational initiatives, possibly resulting in inefficient and ineffective management and operations, which would likely harm our revenues, operations and product development efforts and eventually result in a decrease in profitability.

Our operations are subject to hazards which could result in significant liability to us.

Our operations are subject to hazards associated with manufacturing and the related use, storage, transportation and disposal of raw materials, products and wastes. These hazards include explosions, fires, severe weather (including but not limited to hurricanes or other adverse weather that may be increasing as a result of climate change) and natural disasters, industrial accidents, mechanical failures, discharges or releases of toxic or hazardous substances or gases, transportation interruptions, human error and terrorist activities. These hazards can cause personal injury and loss of life, severe damage to or destruction of property and equipment as well as environmental damage, and may result in suspension of operations and the imposition of civil and criminal liabilities, including penalties and damage awards. While we believe our insurance policies are in accordance with customary industry practices, such insurance may not cover all risks associated with the hazards of our business and is subject to limitations, including deductibles and maximum liabilities covered. We may incur losses beyond the limits, or outside the coverage, of our insurance policies. In the future, we may not be able to obtain coverage at current levels, and our premiums may increase significantly on coverage that we maintain. Costs associated with unanticipated events in excess of our insurance coverage could have a material adverse effect on our business, competitive or financial position or our ongoing results of operations.

We are subject to a variety of legal, economic, social and political risks associated with our substantial operations in multiple countries, which could have a material adverse effect on our financial and business operations.

A substantial majority of our net sales are derived from sales outside the United States, and a majority of our operations and our property, plant and equipment and other long-lived assets are located outside the United States. As a result, we are subject to risks associated with operating in multiple countries, including:

- currency fluctuations and devaluations in currency exchange rates, including impacts of transactions in various currencies, translation of various currencies into dollars for U.S. reporting and financial covenant compliance purposes, and impacts on results of operations due to the fact that the costs of our non-U.S. operations are primarily incurred in local currencies while their products are primarily sold in dollars and euros;
- imposition of or increase in customs duties and other tariffs or the loss of the protection thereof;
- imposition of or increases in currency exchange controls, including imposition of or increases in limitations on conversion of various currencies into dollars, euros, or other currencies, making of intercompany loans by subsidiaries or remittance of dividends, interest or principal payments or other payments by subsidiaries;
- imposition of or increases in revenue, income or earnings taxes and withholdings and other taxes on remittances and other payments by subsidiaries;
- inflation, deflation and stagflation in any country in which we have a manufacturing facility;
- imposition of or increases in investment or trade restrictions by the United States or other jurisdictions or trade sanctions adopted by the United States;
- compliance with laws on anti-corruption, export controls, customs, sanctions, environmental and other laws governing our operations, including in challenging jurisdictions;
- inability to determine or satisfy legal requirements, effectively enforce contract or legal rights, including our rights under our LTAs and intellectual property rights, and obtain complete financial or other information under local legal, judicial, regulatory, disclosure and other systems; and
- nationalization or expropriation of assets, and other risks that could result from a change in government or government policy, or from other political, social or economic instability.

Any of these risks could have a material adverse effect on our business, financial condition, results of operations or cash flows, and we may not be able to mitigate these effects.

Our results of operations could deteriorate if our manufacturing operations were substantially disrupted for an extended period for any reason, including equipment failure, legal proceedings, climate change, natural disasters, public health crises, political crises or other catastrophic events.

Our manufacturing operations are subject to disruption due to equipment failure, extreme weather conditions, floods, hurricanes and tropical storms and similar events, major industrial accidents, including fires or explosions, cybersecurity incidents, strikes and lockouts, adoption of new laws or regulations, changes in interpretations of existing laws or regulations or changes in governmental enforcement policies, civil disruption, riots, terrorist attacks, war, public health crises and other events. These events may also impact the operations of one or more of our suppliers. For example, the potential physical impacts of climate change on our operations are uncertain and will likely be particular to the geographic circumstances. These physical impacts may include changes in rainfall and storm patterns, shortages of water or other natural resources, changing sea levels, changes in the frequency of natural or human induced disasters, including earthquakes, tsunamis, storms, hurricanes, floods, fires, droughts, tornadoes and other extreme weather events or conditions, and changing global average temperatures. For instance, our Seadrift facility in Texas and our Calais facility in France are located in geographic areas less than 50 feet above sea level. As a result, any future rising sea levels could have an adverse impact on their operations and on their suppliers. In the event manufacturing operations are substantially disrupted at one of our primary operating facilities, such as the September 2022 temporary suspension of our operations located in Monterrey, Mexico, we may not have the ability to increase production at our remaining operating facilities in order to compensate without considerable time and expense. To the extent any of these events occur, our business, financial condition and operating results could be materially and adversely affected.

Plant operational improvements may be delayed or may not achieve the expected benefits.

Our ability to complete future operational improvements may be delayed, interrupted or otherwise limited by the need to obtain environmental and other regulatory approvals, unexpected cost increases, financial constraints, availability of labor and materials, unforeseen hazards such as weather conditions, and other risks customarily associated with construction projects. Moreover, the costs of these activities could have a negative impact on our results of operations. In addition, these operational improvements may not achieve the expected benefits as a result of changes in market conditions, raw material shortages or other unforeseen contingencies.

We depend on third parties for certain construction, maintenance, engineering, transportation, warehousing and logistics services.

We contract with third parties for certain services relating to the design, construction and maintenance of various components of our production facilities and other systems. If these third parties fail to comply with their obligations, the facilities may not operate as intended, which may result in delays in the production of our products and materially adversely affect our ability to meet our production targets and satisfy customer requirements or we may be required to recognize impairment charges. In addition, production delays could cause us to miss deliveries and breach our contracts, which could damage our relationships with our customers and subject us to claims for damages under our contracts. Any of these events could have a material adverse effect on our business, financial condition, results of operations or cash flows.

We also rely primarily on third parties for the transportation of the products we manufacture. In particular, a significant portion of the goods we manufacture are transported to different countries, which requires sophisticated warehousing, logistics and other resources. If any of the third parties that we use to transport products are unable to deliver the goods we manufacture in a timely manner, we may be unable to sell these products at full value or at all, which could cause us to miss deliveries and breach our contracts, which could damage our relationships with our customers and subject us to claims for damages under our contracts. Any of these events could have a material adverse effect on our business, financial condition, results of operations or cash flows.

We may be subject to information technology systems failures, cybersecurity incidents, network disruptions and breaches of data security, which could compromise our information and expose us to liability.

Our information technology systems are an important element for effectively operating our business. Information technology systems or processes, and the information technology systems or processes of our customers, our third-party business partners, our vendors or other parties that have been entrusted with our information, including risks associated with any failure to maintain or upgrade our systems, network disruptions and breaches of data security could disrupt our operations by impeding our processing of transactions, our ability to protect customer or company information or our financial reporting, leading to increased costs. It is possible that future technological developments could adversely affect the functionality of our computer systems and require further action and substantial funds to prevent or repair computer malfunctions. Our computer systems, including our back-up systems, could be damaged or interrupted by power outages, computer and telecommunications failures, computer viruses, cybercrimes, internal or external security breaches, events such as fires, earthquakes, floods, tornadoes and hurricanes, errors by our employees, or other cybersecurity incidents. Cybersecurity incidents and similar attacks

vary in their form and can include the deployment of harmful malware or ransomware, denial-of-service attacks, and other attacks, which may affect business continuity and threaten the availability, confidentiality and integrity of our systems and information. Cybersecurity incidents can also include employee or personnel failures, fraud, phishing or other social engineering attempts or other methods to cause confidential information, payments, account access or access credentials, or other data to be transmitted to an unintended recipient. Cybersecurity threat actors also may attempt to exploit vulnerabilities in software that is commonly used by companies in cloud-based services and bundled software. Although we have taken steps to address these concerns by implementing network security, back-up systems and internal control measures, these steps may be insufficient or ineffective. Security and/or privacy breaches, cybersecurity incidents, acts of vandalism or terror, misplaced, corrupted, altered or lost data, programming, and/or human error or other similar events with respect to our information technology systems or processes, or the information technology systems or processes of third-parties that have been entrusted with our information, could have a material adverse effect on our business strategy, financial condition, results of operations or cash flows, including major disruptions to business operations, loss of intellectual property, release of confidential information, alteration or corruption of data or systems, costs related to remediation or the payment of ransom, litigation, administrative, and civil or criminal investigations or actions, regulatory intervention and sanctions or fines, investigation and remediation costs and possible prolonged negative publicity.

If we are unable to successfully negotiate with the representatives of our employees, including labor unions, we may experience strikes and work stoppages.

We are party to collective bargaining agreements and similar agreements with our employees. As of December 31, 2024, 647 employees, or approximately 60% of our worldwide employees, were covered by collective bargaining or similar agreements. Although we believe that, in general, our relationships with our employees are good, we cannot predict the outcome of current and future negotiations and consultations with employee representatives, which could have a material adverse effect on our business. We may not succeed in renewing or extending these agreements on terms satisfactory to us. Although we have not had any material work stoppages or strikes initiated by our employees during the past decade, they may occur in the future during renewal or extension negotiations or otherwise. A material work stoppage, strike or other union dispute could adversely affect our business, financial condition, results of operations and cash flows.

Our ability to grow and compete effectively depends on protecting our intellectual property. Failure to protect our intellectual property could adversely affect our business.

We believe that our intellectual property, consisting primarily of patents and proprietary know-how and information, is important to our growth. Our intellectual property portfolio is extensive, with approximately 100 U.S. and foreign patents and pending patent applications, which we believe is more than any of our major competitors in the businesses in which we operate. Failure to protect our intellectual property may result in the loss of the exclusive right to use our technologies. We rely on patent, trademark, copyright and trade secret laws and confidentiality and restricted-use agreements to protect our intellectual property. However, some of our intellectual property is not covered by any patent or patent application or any such agreement. Intellectual property protection does not protect against technological obsolescence due to developments by others or changes in customer needs.

Patents are subject to complex factual and legal considerations. Accordingly, the validity, scope and enforceability of any particular patent can be uncertain. Therefore, we cannot assure you that:

- any of the U.S. or non-U.S. patents now or hereafter owned by us, or that third parties have licensed to us or may in the future license to us, will not be circumvented, challenged or invalidated;
- any of the U.S. or non-U.S. patents that third parties have non-exclusively licensed to us, or may non-exclusively license to us in the future, will not be licensed to others; or
- any of the patents for which we have applied or may in the future apply will be issued at all or with the breadth of claim coverage we seek.

Moreover, patents, even if valid, only provide protection for a specified limited duration. In addition, effective patent, trademark and trade secret protection may be limited or unavailable or we may not apply for it in the United States or in any of the other countries in which we operate.

The protection of our intellectual property rights may be achieved, in part, by prosecuting claims against others who we believe have misappropriated our technology or have infringed upon our intellectual property rights, as well as by defending against misappropriation or infringement claims brought by others against us. Our involvement in litigation to protect or defend our rights in these areas could result in a significant expense to us, adversely affect the development of sales of the related products, and divert the efforts of our technical and management personnel, regardless of the outcome of such litigation.

We cannot assure you that agreements designed to protect our proprietary know-how and information will not be breached, that we will have adequate remedies for any such breach, or that our strategic alliance suppliers and customers, consultants, employees or others will not assert rights against us with respect to intellectual property arising out of our relationships with them.

Third parties may claim that our products or processes infringe their intellectual property rights, which may cause us to pay unexpected litigation costs or damages or prevent us from selling our products or services.

From time to time, we may become subject to legal proceedings, including allegations and claims of alleged infringement or misappropriation by us of the patents and other intellectual property rights of third parties. We cannot assure you that the use of our patented technology or proprietary know-how or information does not infringe the intellectual property rights of others. In addition, attempts to enforce our own intellectual property claims may subject us to counterclaims that our intellectual property rights are invalid, unenforceable or are licensed to the party against whom we are asserting the claim or that we are infringing that party's alleged intellectual property rights. We may also be obligated to indemnify affiliates or other partners who are accused of violating third parties' intellectual property rights by virtue of those affiliates or partners' agreements with us, and this could increase our costs in defending such claims and our damages.

Legal proceedings involving intellectual property rights, regardless of merit, are highly uncertain and can involve complex legal and scientific analyses, can be time consuming, expensive to litigate or settle and can significantly divert resources, even if resolved in our favor. Our failure to prevail in such matters could result in loss of intellectual property rights or judgments awarding substantial damages and injunctive or other equitable relief against us. If we were to be held liable or discover or be notified that our products or processes potentially infringe or otherwise violate the intellectual property rights of others, we may face a loss of reputation and may not be able to exploit some or all of our intellectual property rights or technology. If necessary, we may seek licenses to intellectual property of others. However, we may not be able to obtain the necessary licenses on terms acceptable to us or at all. Our failure to obtain a license from a third-party for that intellectual property necessary for the production or sale of any of our products could cause us to incur substantial liabilities and/or suspend the production or shipment of products or the use of processes requiring the use of that intellectual property. We may be required to substantially re-engineer our products or processes to avoid infringement.

Any of the foregoing may require considerable effort and expense, result in substantial increases in operating costs, delay or inhibit sales or preclude us from effectively competing in the marketplace, which in turn could have a material adverse effect on our business and financial results.

Our business, financial condition and results of operations could be adversely impacted by increased costs.

Our business may be negatively impacted by increased costs for manufacturing inputs, including needle coke, energy, and freight. We may not be able to offset or pass on these costs, which could lead to further adverse impacts on our business, financial condition and results of operations.

We currently benefit from U.S. and EU anti-dumping duties and tariffs against certain Chinese and Indian imports that if reduced or not extended could have a material adverse effect on our results of operations, cash flow, liquidity and financial condition.

These anti-dumping duties and tariffs are generally subject to periodic reviews and challenges, which can result in their revocation or reduction. There can be no assurance that these anti-dumping duties and tariffs will be continued in the future or that such anti-dumping duties and tariffs will adequately combat unfairly traded imports. If these anti-dumping duties and tariffs were to be revoked or reduced in the future, our business, financial condition and results would be adversely impacted.

Implementation of tariffs and changes to or uncertainties related to tariffs and trade agreements could adversely affect our business.

The U.S. government has imposed tariffs on certain foreign goods from a variety of countries and regions, most notably China, that it perceives as engaging in unfair trade practices, and previously raised the possibility of imposing significant, additional tariff increases or expanding the tariffs to capture other types of goods from other countries. In response, many of these foreign governments have imposed retaliatory tariffs on goods that their countries import from the U.S. Uncertainties with respect to tariffs, trade agreements or any potential trade wars could negatively affect the global economy and could affect demand for our products and could have a material adverse effect on our financial condition, results of operations and cash flows. Changes in tariffs and trade barriers could also result in adverse changes in the cost and availability of our raw materials, and our ability to manufacture globally to support global sales which could lead to increased costs that we

may not be able to effectively pass on to customers, each of which could materially adversely affect our operating margins, results of operations and cash flows.

Risks related to our indebtedness

Our indebtedness could limit our financial and operating activities and adversely affect our ability to incur additional debt to fund future needs and our ability to fulfill our obligations under our existing and future indebtedness.

Our credit agreement (as amended, the "2018 Credit Agreement") currently provides for a $225 million senior secured revolving credit facility after giving effect to the December 2024 amendment (the "Fourth Amendment") that decreased the revolving commitments under the 2018 Credit Agreement by $105 million from $330 million (the "2018 Revolving Credit Facility"). As any borrowings under the 2018 Revolving Credit Facility remain subject to compliance with the financial covenant in our 2018 Revolving Credit Facility, our operating performance resulted in a reduction of the availability under our 2018 Revolving Credit Facility.

As of December 31, 2024, we had approximately $1.1 billion of secured indebtedness outstanding including borrowings under our new 4.625% notes due 2029 (the "New 4.625% Notes") and our new 9.875% notes due 2029 (the "New 9.875% Notes", together with the New 4.625% Notes, the "New Notes"). As of December 31, 2024, we had $108.0 million available for borrowing under the 2018 Revolving Credit Facility (taking into account approximately $7.4 million of outstanding letters of credit issued thereunder).

Our indebtedness could:

- require us to dedicate a substantial portion of our cash flow to the payment of principal and interest, thereby reducing the funds available for operations and future business opportunities;
- make it more difficult for us to satisfy our obligations;
- limit our ability to borrow additional money if needed for other purposes, including working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes, on satisfactory terms or at all;
- limit our ability to adjust to changing economic, business and competitive conditions;
- place us at a competitive disadvantage with competitors who may have less indebtedness or greater access to financing;
- require us to reduce or delay capital expenditures or sell assets or operations to meet our scheduled debt service obligations;
- make us more vulnerable to a downturn in our operating performance or a decline in general economic conditions; and
- make us more susceptible to changes in credit ratings, which could impact our ability to obtain financing in the future and increase the cost of such financing.

Compliance with our debt obligations under the 2018 Revolving Credit Facility, the New Notes and the Initial First Lien Term Loan Facility (as defined below), and any future indebtedness could materially limit our financial or operating activities, or hinder our ability to adapt to changing industry conditions, which could result in our losing market share, a decline in our revenue or a negative impact on our operating results.

The 2018 Revolving Credit Facility, the Initial First Lien Term Loan Facility and the indentures governing the New Notes include covenants that could restrict or limit our financial and business operations.

The 2018 Revolving Credit Facility, the Initial First Lien Term Loan Facility and the indentures governing the New Notes contain a number of restrictive covenants that, subject to certain exceptions and qualifications, restrict or limit our ability and the ability of our subsidiaries to, among other things:

- incur, repay or refinance indebtedness;
- create liens on or sell our assets;
- engage in certain fundamental corporate changes or changes to our business activities;
- make investments or engage in mergers or acquisitions;

- pay dividends or repurchase stock;
- engage in certain affiliate transactions;
- enter into agreements or otherwise restrict our subsidiaries from making distributions or paying dividends to the borrowers under the 2018 Revolving Credit Facility or to us or certain of our subsidiaries, as applicable; and
- repay intercompany indebtedness or make intercompany distributions or pay intercompany dividends.

The 2018 Revolving Credit Facility also contains certain affirmative covenants and contains a financial covenant that requires us to maintain a senior secured first lien net leverage ratio not greater than 4.00:1.00, tested quarterly, to the extent outstanding revolving loans and letters of credit (subject to certain exclusions) exceed 51.3% of the amount of commitments then-existing under the 2018 Revolving Credit Facility.

These covenants and restrictions could affect our ability to operate our business and may limit our ability to react to market conditions or take advantage of potential business opportunities as they arise. Additionally, our ability to comply with these covenants may be affected by events beyond our control, including general economic and credit conditions and industry downturns.

If we fail to comply with the covenants in the 2018 Revolving Credit Facility, the Initial First Lien Term Loan Facility and the indentures governing the New 4.625% Notes and the New 9.875% Notes, and are unable to obtain a waiver or amendment, an event of default would result, and the lenders and noteholders could, among other things, declare outstanding amounts due and payable or, with respect to the 2018 Revolving Credit Facility and the Initial First Lien Term Loan Facility (with respect to the Delayed Draw Commitments thereunder), refuse to lend additional amounts to us or require deposit of cash collateral in respect of outstanding letters of credit. If we were unable to repay or pay the amounts due, the lenders under the 2018 Revolving Credit Facility, the Initial First Lien Term Loan Facility and the noteholders could, among other things, proceed against the collateral granted to them to secure the indebtedness, which includes substantially all of our and our U.S. subsidiaries' assets and certain assets of certain of our non-U.S. subsidiaries.

Risks related to tax matters

We are required to make payments under a Tax Receivable Agreement for certain tax benefits we may claim in the future, and the amounts we may pay could be significant.

In connection with the completion of our initial public offering ("IPO"), we entered into a tax receivable agreement (as amended and restated, the "Tax Receivable Agreement") that provides Brookfield Corporation and its affiliates (together, "Brookfield") the right to receive future payments from us of 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 GrafTech Switzerland S.A. (collectively, the "Pre-IPO Tax Assets"). In addition, we pay interest on the payments we make to Brookfield with respect to the amount of this cash savings from the due date (without extensions) of our tax return where we realize this savings to the payment date at a rate equal to the forward looking term rate based on the secured overnight financing rate ("SOFR") administered by the Federal Reserve Bank of New York (or a successor administrator of the SOFR) for a one-month period plus 1.10%. The term of the Tax Receivable Agreement commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

We have made payments of approximately $63.3 million related to the Tax Receivable Agreement. We expect that, based on current tax laws, future payments under the Tax Receivable Agreement relating to the Pre-IPO Tax Assets will be approximately $6.0 million in the aggregate. The maximum amount over the term of the agreement is approximately $70.0 million.

Risks related to our legal and regulatory environment

Stringent health, safety and environmental laws and regulations applicable to our manufacturing operations and facilities could result in substantial costs related to compliance, sanctions or material liabilities and may affect the availability of raw materials.

We are subject to stringent environmental, health and safety laws and regulations relating to our current and former properties (including former onsite landfills over which we have retained ownership), other properties that neighbor ours or to which we sent wastes for treatment or disposal, as well as our current raw materials, products, and operations. Some of our products (including our raw materials) are subject to extensive environmental and industrial hygiene regulations governing the registration and safety analysis of their component substances. Coal tar pitch, which is classified as a substance of very high

concern under the EU's Registration, Evaluation, Authorization and Restriction of Chemical Regulation ("REACH") regulations, is used in certain of our processes but in a manner that we believe does not currently require us to obtain a specific authorization under the REACH guidelines. Violations of these laws and regulations, or of the terms and conditions of permits required for our operations, can result in damage claims, reputational harm, the imposition of substantial fines and sanctions and require the installation of costly pollution control or safety equipment or costly changes in operations to limit pollution or decrease the likelihood of injuries. In addition, we are currently conducting remediation and/or monitoring at certain current and former properties, including at our Monterrey, Mexico facility, and may become subject to material liabilities in the future for the investigation and cleanup of contaminated properties, including with respect to emerging contaminants or for properties on which we have ceased operations. We have been in the past, and could be in the future, subject to claims alleging personal injury, death or property damage resulting from exposure to hazardous substances, accidents or otherwise for conditions creating an unsafe workplace. Further, noncompliance or alleged noncompliance with or stricter enforcement of, or changes in interpretations of, existing laws and regulations, adoption of more stringent new laws and regulations, discovery of previously unknown contamination or imposition of new or increased requirements could require us to incur costs or become the basis of new or increased liabilities or reputational harm that have a material adverse impact on our operations, costs or results of operations. It is also possible that the impact of safety and environmental regulations on our suppliers could affect the availability and cost of our raw materials.

For example, legislators, regulators and others, as well as many companies, are considering ways to reduce emissions of greenhouse gases ("GHGs") due to scientific, political and public concern that GHG emissions are altering the atmosphere in ways that are affecting, and are expected to continue to affect, the global climate. The EU has established GHG regulations and is revising its emission trading system for the period after 2020 in a manner that may require us to incur additional costs. The United States has required annual reporting of GHG emissions from certain large sources beginning in 2011 and various and regional state efforts to reduce GHG emissions have also been implemented. Further measures, in the United States, EU and many other countries, may be enacted in the future. In particular, in December 2015, more than 190 countries participating in the United Nations Framework Convention on Climate Change reached an international agreement related to curbing GHG emissions (the "Paris Agreement"). Further GHG regulations under the Paris Agreement or otherwise may take the form of a national or international cap-and-trade emissions permit system, a carbon tax, emissions controls, reporting requirements, or other regulatory initiatives. For more information, see the section entitled "Business."

The further regulation of GHG emissions or other environmental regulations in countries in which we operate or market our products could impose additional costs, both direct and indirect, on our business, and on the businesses of our customers and suppliers, such as increased energy and insurance rates, higher taxes, new environmental compliance program expenses, including capital improvements, environmental monitoring and the purchase of emission credits, and other administrative costs necessary to comply with current and potential future requirements or limitations that may be imposed, as well as other unforeseen or unknown costs. To the extent that similar requirements and limitations are not imposed globally, this regulation may impact our ability to compete with companies located in countries that do not have these requirements or limitations. We may also experience a change in competitive position relative to industry peers, changes in prices received for products sold and changes to profit or loss arising from increased or decreased demand for our products. The impact of any future GHG regulatory requirements on our global business will be dependent upon the design of the regulatory schemes that are ultimately adopted and, as a result, we are unable to predict their significance to our operations at this time.

Global data and privacy protection laws applicable to us require substantial costs related to compliance, and any failure to comply could result in significant liability to us, including fines and penalties.

We collect data, including personally identifiable information of our employees, in the course of our business activities and transfer such data between our affiliated entities, to and from our business partners and to third-party service providers, which may be subject to global data privacy laws and cross-border transfer restrictions. While we take steps to comply with these legal requirements, any changes to such laws may impact our ability to effectively transfer data across borders in support of our business operations and any breach of such laws may lead to administrative, civil or criminal liability, as well as reputational harm to the Company and its employees. For example, the GDPR introduced a number of obligations for subject companies, including obligations relating to data transfers and the security of personal data they process. We take steps to protect the security and integrity of the information we collect, but there is no guarantee that the steps we have taken will prevent inadvertent or unauthorized use or disclosure of such information, or prevent third parties from gaining unauthorized access to this information despite our efforts. Any such incident could result in legal claims or proceedings, liability under laws that protect the privacy of personally identifiable information (including the GDPR) and damage to our reputation.

The cost of ongoing compliance with global data protection and privacy laws and the potential fines and penalties levied in the event of a breach of such laws may have an adverse effect on our business and operations. For example, the GDPR currently provides that supervisory authorities in the EU may impose administrative fines for non-compliance of up to €20.0 million or 4% of the subject company's annual, group-wide turnover (whichever is higher) and individuals who have suffered

damage as a result of a subject company's non-compliance with the GDPR also have the right to seek compensation from such company. We will need to continue dedicating financial resources and management time to compliance efforts with respect to global data protection and privacy laws, including the GDPR.

Risks related to our common stock

Certain provisions, including in our Amended Certificate of Incorporation and our Amended By-Laws, could hinder, delay or prevent a change in control, which could adversely affect the price of our common stock.

Our Amended Certificate of Incorporation and Amended By-Laws contain provisions that could make it more difficult for a third-party to acquire us without the consent of our Board of Directors, including:

- provisions in our Amended Certificate of Incorporation and Amended By-Laws that prevent stockholders from calling special meetings of our stockholders, except where the Delaware General Corporation Law ("DGCL") confers the right to fix the date of such meetings upon stockholders;
- advance notice requirements by stockholders with respect to director nominations and actions to be taken at annual meetings;
- provisions in our Amended Certificate of Incorporation provide for a classified Board of Directors such that only one of three classes of directors is elected each year, which prevents our stockholders from replacing the majority our directors at once;
- no provision in our Amended Certificate of Incorporation or Amended By-Laws provides for cumulative voting in the election of directors, which means that the holders of a majority of the outstanding shares of our common stock can elect all the directors standing for election;
- under our Amended Certificate of Incorporation, our Board of Directors have authority to cause the issuance of preferred stock from time to time in one or more series and to establish the terms, preferences and rights of any such series of preferred stock, all without approval of our stockholders; and
- nothing in our Amended Certificate of Incorporation precludes future issuances without stockholder approval of the authorized but unissued shares of our common stock.

These provisions may make it difficult and expensive for a third-party to pursue a tender offer, change in control or takeover attempt that is opposed by our Board of Directors. Stockholders who might desire to participate in these types of transactions may not have an opportunity to do so, even if the transaction is favorable to such stockholders. These anti-takeover provisions could substantially impede the ability of stockholders to benefit from a change in control or to change our management and Board of Directors and, as a result, may adversely affect the market price of our common stock and your ability to realize any potential change of control premium.

Our Amended Certificate of Incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our Amended Certificate of Incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a breach of fiduciary duty;
- any action asserting a claim against us arising under the DGCL, our Amended Certificate of Incorporation or our Amended By-Laws; and
- any action asserting a claim against us that is governed by the internal-affairs doctrine.

This exclusive forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees. If a court were to find the exclusive forum provision in our Amended Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could harm our business.

We cannot guarantee that our stock repurchase program will be fully consummated or that it will enhance long-term stockholder value. Stock repurchases could also increase the volatility of the trading price of our stock and will diminish our cash reserves.

Although our Board of Directors has authorized a stock repurchase program that does not have an expiration date, the program does not obligate us to acquire any particular amount of shares of common stock, and the stock repurchase program may be suspended or discontinued at any time at our discretion. We did not repurchase any shares of common stock under this program in 2024. We cannot guarantee that the program will be fully consummated or that it will enhance long-term stockholder value. The program could affect the trading price of our stock, and increase volatility, and any announcement of a termination of this program may result in a decrease in the trading price of our common stock. In addition, our use of this program will diminish our cash.

We may not be able to remain in compliance with the continued listing requirements of the NYSE, and if the NYSE delists our common stock, it could have an adverse impact on the trading, liquidity and market price of our common stock.

The Company's common stock is listed on the NYSE under the symbol "EAF". The price of our common stock may be adversely affected due to, among other things, our financial results and market conditions. There can be no assurance that we will continue to remain in compliance with the NYSE's minimum share price standard or that we will remain in compliance with any of the other applicable continued listing standards of the NYSE.

Any failure to remain in compliance with the NYSE's continued listing standards, and any subsequent failure to timely resume compliance with the NYSE's continued listing standards within the applicable cure period, could have adverse consequences including, among others, reducing the number of investors willing to hold or acquire our common stock, reducing the liquidity and market price of our common stock, adverse publicity and a reduced interest in us from investors, analysts and other market participants. In addition, a suspension or delisting could impair our ability to raise additional capital through the public markets and our ability to attract and retain employees by means of equity compensation.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

Risk Management and Strategy

We have an overarching cybersecurity program for assessing, identifying, and managing material risks from cybersecurity threats that includes documented policies and procedures and incorporates a layered cybersecurity defense. We utilize a variety of technologies that are designed to target detection of malicious attempts to infiltrate our information systems. We also maintain an endpoint threat detection and response tool which uses artificial intelligence to alert our managed security service provider. On a regular basis, we hire a third-party cybersecurity service provider that performs a penetration test on our information systems and the Company seeks to address vulnerabilities that are found. We also utilize a third-party cybersecurity training company to educate our employees about cybersecurity threats. On a regular basis, we send out test phishing emails with a follow up email explaining to end users the "red flags" in these emails. Where appropriate, we utilize dual-factor authentication on our information systems. On an annual basis, we receive system and organization control reports from many of our key external IT vendors as these will reveal any sort of potential security issues these companies have had in the past year.

We have experienced cybersecurity threats to our information technology infrastructure and have experienced non-material cybersecurity incidents, attempts to breach our systems, fraudulent activity and other similar incidents. As of the filing of this Annual Report, we are not aware of any risks from cybersecurity threats, including as a result of any previous cybersecurity incidents, that have materially affected, or are reasonably likely to materially affect, the Company, including our business strategy, results of operations, or financial condition. However, future security and/or privacy breaches, cybersecurity incidents, acts of vandalism or terror, misplaced, corrupted, altered or lost data, programming, and/or human error or other similar events with respect to our information technology systems or processes or the information technology systems or, processes of third-parties that have been entrusted with our information, could have a material adverse effect on our business strategy, financial condition, results of operations or cash flows. Risks related to cybersecurity events are detailed in the section of this Annual Report titled "Risk Factors—Risks related to our business and industry—We may be subject to information technology systems failures, cybersecurity incidents, network disruptions and breaches of data security, which could compromise our information and expose us to liability."

Governance

The Board oversees risks from cybersecurity threats through the same framework it uses to oversee the management of our risk exposure in general. Cybersecurity risks, including operations disruptions, outdated enterprise software and damage reputation, have been specifically incorporated into our enterprise risk management processes. These risks are scored based on impact, likelihood and established controls. Action plans are then established for each of the risks and are incorporated into objectives. Risks are then tracked and integrated into reporting and disclosure processes. Risks are reviewed at least bi-annually by a committee made up of representatives from finance, internal audit, treasury, operations, legal and others. Management at least annually provides to the Board updated information concerning cybersecurity threats, as well as management's efforts to mitigate such threats. The Board then is responsible for overseeing that management responds appropriately. The Audit Committee, which is made up solely of independent directors, is responsible for overseeing Company policies and practices with respect to cybersecurity issues.

Our Vice President, Information Technology is responsible for managing and assessing material risks from cybersecurity threats and leads our information security program and team, which is comprised of several members devoted to infrastructure and information systems security and management. Our Vice President, Information Technology has over 20 years of industry experience, including over 15 years at our Company, serving in roles throughout his career such as engineer, infrastructure manager, Director of Information Technology Infrastructure, and Global Director of IT.

Item 2. Properties

The Company uses the following principal physical properties in connection with the manufacturing, sales and services of graphite electrodes, pins and corporate administrative operations, all of which serve its only reportable segment, Industrial Materials. The total capacity utilization, reflecting production volume as a percentage of production capacity, of our graphite electrode manufacturing facilities in Calais, France, Monterrey, Mexico and Pamplona, Spain, was 55% and 44% for the years ended December 31, 2024 and December 31, 2023, respectively. Production capacity reflects expected maximum production volume during the period depending on product mix and expected maintenance outage. Actual production may vary. In the first quarter of 2024, we announced a set of initiatives designed to reduce our cost structure and optimize our manufacturing footprint. As part of these initiatives, we indefinitely suspended production activities at our St. Marys, Pennsylvania facility, with the exception of graphite electrode and pin machining. In addition, we indefinitely idled certain assets within our remaining graphite electrode manufacturing footprint. As a result, our graphite electrode production capacity has been reduced to approximately 178 thousand MT in 2024. Our properties located in St. Marys, Pennsylvania, Port Lavaca, Texas, Monterrey, Mexico and Pamplona, Spain are encumbered by our Initial First Lien Term Loan Facility, 2018 Credit Agreement, our New 4.625% Notes and our New 9.875% Notes.

Location of Facility	Primary Use	Owned or Leased
Americas		
Brooklyn Heights, Ohio	Corporate Headquarters	Leased
Monterrey, Mexico	Graphite Electrode and Pin Manufacturing Facility, Sales and Service Office	Owned
St. Marys, Pennsylvania	Graphite Electrode Manufacturing Facility, Sales and Service Office	Owned
Port Lavaca, Texas	Petroleum Needle Coke Manufacturing Facility (Seadrift)	Owned
Salvador, Bahia, Brazil	Graphite Electrode Machine Shop, Sales and Service Office	Owned
Europe		
Calais, France	Graphite Electrode Manufacturing Facility, Sales and Service Office	Owned
Pamplona, Spain	Graphite Electrode Manufacturing Facility, Sales and Service Office	Owned
Bussigny, Switzerland	Global Sales and Production Planning Office	Leased

Item 3. 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. Additionally, we are involved in the following legal proceedings.

Monterrey, Mexico Suspension of Operations

Background

On September 15, 2022, inspectors from the State Attorney's Office for the Secretary of Environment of the State of Nuevo León, Mexico visited GrafTech Mexico S.A. De C.V.'s ("GrafTech Mexico") graphite electrode manufacturing facility located in Monterrey, Mexico to inspect GrafTech Mexico's facility and certain of the facility's environmental and operating permits. At the conclusion of the inspection, the inspectors issued a Record of Inspection providing for the results of the inspection, their observations, and the imposition of a temporary suspension of GrafTech Mexico's facilities within seven days. In parallel, the Director of Comprehensive Atmospheric Management of the Undersecretary of Climate Change and Air Quality of the Ministry of the Environment of the State of Nuevo León formally denied GrafTech Mexico's previously requested modification to its operating license stating that such license was no longer valid. On September 22, 2022, GrafTech Mexico submitted observations and responses to the Record of Inspection, requested an extension of the shutdown of the facility until October 7, 2022, and requested a clarification of the scope of the shutdown. On September 23, 2022, inspectors from the State Attorney's Office for the Secretary of Environment visited GrafTech Mexico's manufacturing facility to verify the information presented in GrafTech Mexico's observations and responses submitted on September 22, 2022. On October 4, 2022, the State Attorney's Office for the Secretary of Environment granted an extension of the shutdown of the facility until October 7, 2022

and clarified the suspension permitting GrafTech Mexico to perform several activities, including extracting or withdrawing finished or unfinished product. On November 17, 2022, the State Attorney's Office for the Secretary of Environment lifted the suspension notice, subject to the completion of certain agreed-upon activities, including the submission of an environmental impact study with respect to the facility's operations, allowing the Monterrey facility to resume operations. Notwithstanding the suspension notice having been conditionally lifted and the Monterrey facility having resumed operations, GrafTech Mexico believes it is prudent to continue to pursue the related legal proceeding set forth below.

Administrative Proceeding

On November 17, 2022, the State Attorney's Office for the Secretary of Environment issued a summons opening an administrative proceeding against GrafTech Mexico, citing the lack of an environmental impact authorization and environmental risk study with respect to the facility's operations. The summons ordered GrafTech Mexico to submit an environmental impact authorization and risk study within 30 business days. GrafTech Mexico submitted its environmental impact authorization and risk study for the full site on November 25, 2022, and filed its response to the summons on December 2, 2022. On August 29, 2024, the State Attorney's Office for the Secretary of Environment initiated the summary argument period providing GrafTech Mexico the opportunity to draft final arguments. GrafTech Mexico was notified of such initiation on September 5, 2024. GrafTech Mexico submitted its final summary arguments on September 10, 2024. On October 3, 2024, the State Attorney's Office for the Secretary of Environment imposed a fine in the amount of approximately $37,152, using an exchange rate of 1 Mexican peso equals 0.051 United States dollars, for failure to have an environmental impact authorization at the time of the inspection that gave rise to the administrative proceeding. On November 5, 2024, GrafTech Mexico paid the fine under protest stating that an environmental impact authorization was not required because GrafTech Mexico began operations in 1960, such requirement to obtain an environmental impact authorization was introduced in the regulations in 1989, and requiring GrafTech Mexico to obtain an environmental impact authorization for all of its facilities, including those that have been operating since 1960, would constitute a retroactive application of such legislation.

Brazil Clause IV

Pending litigation in Brazil has been 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 union. 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 has determined not to seek 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 appealed this state court ruling, and the appellate court issued a decision in our favor on May 19, 2020. The employees have further appealed and, on December 16, 2020, the court upheld the decision in favor of GrafTech Brazil. On February 22, 2021, the employees filed a further appeal and, on April 28, 2021, the court rejected the employees' appeal in favor of GrafTech Brazil. The employees filed a further appeal and on September 12, 2022, we filed our response in opposition. We intend to vigorously defend our position. As of December 31, 2024, 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.

Mexico Value-Added Tax ("VAT")

In July 2019, the Mexican Tax Authority ("MTA") opened an audit of the VAT filings of GrafTech Comercial de Mexico S. de R.L. de C.V. ("GrafTech Commercial Mexico") for the period of January 1 to April 30, 2019. In September 2021, the MTA issued a tax assessment, claiming improper use of a certain VAT exemption rule for purchases from a foreign affiliate. As of December 31, 2024, the tax assessment for the four month period under audit amounted to approximately $26.1 million, including penalties, inflation and interest. Interest will continue to accrue up to five years from the date the corresponding VAT returns were filed and inflation will continue to accrue with the passage of time. GrafTech Commercial Mexico filed an administrative appeal against the tax assessment with the MTA's appeals office. In November 2022, the MTA's appeals office concluded its review and confirmed the tax assessment. GrafTech Commercial Mexico believes that the purchases from a foreign affiliate are exempt from VAT back-up withholding and in December 2022, GrafTech Commercial Mexico filed a Claim for Nullity with the Chamber Specialized in exclusive resolution of substance of the Federal Court of Administrative Justice. On February 17, 2023, the MTA filed the response to the nullity petition. On May 31, 2023, the court held a hearing to determine the scope of the issues to be decided in the proceedings. At the court's request, GrafTech Commercial Mexico submitted formal pleadings on August 1, 2023. On January 8, 2024, the court ruled in GrafTech

Commercial Mexico's favor and annulled the tax assessment. On January 31, 2024, the MTA filed an appeal for review. On March 15, 2024, GrafTech Commercial Mexico filed the Tax Adhesive Appeal for Review before the Collegiate Court in Administrative Matters who has authority to hear the MTA's appeal. The MTA's appeal and the Adhesive appeal are still pending to be resolved.

In March 2022, the MTA opened another audit of the VAT filings of GrafTech Commercial Mexico for the period January 1 to December 31, 2018. In the proposed assessment received in January 2023, the MTA is alleging the same improper use of certain VAT exemption rules on purchases from a foreign affiliate and has provided notice of its intent to assess approximately $51.0 million, including penalties, inflation and interest. Interest would continue to accrue up to five years from the date the corresponding VAT returns were filed and inflation would continue to accrue with the passage of time. In Mexico, each tax assessment requires a separate claim. In the first quarter of 2023, GrafTech Commercial Mexico requested a conclusive agreement with the Mexican ombudsman ("PRODECON") to reach a settlement with the MTA. The MTA responded to GrafTech Commercial Mexico's request on May 30, 2023. On August 2, 2023, GrafTech Commercial Mexico filed a motion exhibiting additional information and reaffirming its position. On September 22, 2023, the MTA responded to GrafTech Commercial Mexico's motion. On October 2, 2023, GrafTech Commercial Mexico filed a motion requesting a formal meeting with the MTA and PRODECON, which occurred on November 14, 2023. During the meeting, the parties agreed that GrafTech Commercial Mexico will provide additional documentation and information to be evaluated by the MTA, and, on November 29, 2023, GrafTech Commercial Mexico filed the information requested. On January 24, 2024, the MTA filed its response. On that same day, GrafTech Commercial Mexico submitted before PRODECON the favorable ruling it obtained on January 8, 2024 in connection with the 2019 proceeding for the MTA's consideration. On February 1, 2024, the MTA confirmed its position, holding that GrafTech Commercial Mexico was required to withhold the VAT. On March 20, 2024, a meeting was held at PRODECON where the parties confirmed their final positions. No agreement between the parties was reached, the conclusive agreement procedure came to an end, and the tax audit process resumed. On July 10, 2024, the MTA concluded the tax audit and determined that there is no tax deficiency to be assessed for the period January 1, 2018 to December 31, 2018.

As evidenced by the favorable court decision issued on January 8, 2024 with respect to the 2019 proceeding and the MTA's conclusion of the tax audit for the 2018 proceeding, GrafTech Commercial Mexico's application of the VAT exemption rules is appropriate and, accordingly, GrafTech Commercial Mexico does not believe that it is probable that it will incur a loss related to this matter for the 2019 proceeding under the MTA's audit. The Company intends to vigorously defend its position in the 2019 proceeding.

Stockholder Class Action

On January 25, 2024, a stockholder of the Company filed a class action complaint on behalf of a putative class consisting of purchasers of GrafTech common stock between February 8, 2019 and August 3, 2023 in the United States District Court for the Northern District of Ohio. The complaint, as amended, names the Company, certain past and present executive officers, and three entities associated with Brookfield as defendants. The complaint alleges that certain public filings and statements made by the Company contained material misrepresentations or omissions relating to the circumstances before and after the prior temporary suspension of the Company's graphite electrode manufacturing facility located in Monterrey, Mexico, in September 2022. The complaint seeks unspecified compensatory damages, costs and expenses, and unspecified equitable or injunctive relief. On May 15, 2024, the Court appointed the University of Puerto Rico Retirement System as the lead plaintiff. On October 7, 2024, the plaintiff filed an amended complaint. On December 6, 2024, the Company filed a motion to dismiss the complaint. At this stage of the proceedings, it is too early to determine if the matter would reasonably be expected to have a material adverse effect on our financial condition.

Item 4. Mine Safety Disclosures

Not applicable.

Supplemental Item. Information about our Executive Officers

The following table sets forth information with respect to our current executive officers, including their ages.

Name	Age	Position
Timothy K. Flanagan	47	Chief Executive Officer and President
Rory O'Donnell	47	Chief Financial Officer and Senior Vice President
Jeremy S. Halford	52	Executive Vice President, Chief Operating Officer
Andrew J. Renacci	37	Interim Chief Legal Officer and Corporate Secretary
Iñigo Perez Ortiz	53	Senior Vice President, Commercial and CTS

Timothy K. Flanagan became Chief Executive Officer and President in March 2024. Mr. Flanagan had previously served as the Company's Interim Chief Executive Officer and President since November 2023. He joined the Company as Chief Financial Officer, Senior Vice President of Finance and Treasurer in November 2021. Mr. Flanagan previously served as Executive Vice President, Chief Financial Officer of Cleveland-Cliffs Inc. (NYSE: CLF), a flat-rolled steel producer and supplier of iron ore pellets, from January 2017 to February 2019. Prior to being promoted to Executive Vice President, Chief Financial Officer of Cleveland-Cliffs, he held a variety of financial leadership roles at Cleveland-Cliffs Inc. since joining in 2008, including being responsible for the accounting, reporting, treasury and financial planning and analysis functions and serving as the Vice President, Corporate Controller and Chief Accounting Officer from March 2012 to December 2016. Before joining the Company, Mr. Flanagan served as Chief Financial Officer of Benesch, Friedlander, Coplan & Aronoff LLP, an AmLaw 200 law firm, from June 2019 to November 2021. He has a Bachelor of Science degree in Accounting from the University of Dayton.

Rory O'Donnell became Chief Financial Officer and Senior Vice President in September 2024. Mr. O'Donnell previously served as Senior Vice President, Controller and Principal Accounting Officer of Covia Corporation, a provider of mineral-based and material solutions for the industrial and energy markets, since February 2019. While at Covia Corporation, he also served as Interim Chief Financial Officer from August 2022 to July 2023. At Covia Corporation, Mr. O'Donnell was responsible for internal and external financial reporting and compliance, tax planning and compliance, and managing working capital, among other responsibilities. Prior to Covia Corporation, Mr. O'Donnell served as Senior Vice President, Controller at Signet Jewelers Limited (NYSE: SIG), a retailer of diamond jewelry, from 2014 to 2019. Before joining Signet Jewelers Limited, Mr. O'Donnell served as Director, Accounting & Reporting at Cleveland-Cliffs Inc. (NYSE: CLF), a North America-based steel producer. Mr. O'Donnell began his career at KPMG LLP, a professional services firm. Mr. O'Donnell has a Bachelor of Science degree in Accounting from the University of Dayton and is a Certified Public Accountant licensed in Ohio.

Jeremy S. Halford became Executive Vice President, Chief Operating Officer in October 2021. Mr. Halford joined the Company in May 2019 as Senior Vice President, Operations and Development. Mr. Halford previously served as the President of Arconic Engineered Structures, a producer of highly engineered titanium and aluminum components for the aerospace, defense and oil and gas markets, a position he held since January 2017. Mr. Halford also was President of Doncasters Aerospace, a manufacturer of components and assemblies for the civil and military aero engine and airframe markets, from 2014 to 2016, and Vice President, Global Business Development, Doncasters Group Limited from 2013 to 2014. Previously, he also was President of Mayfran International from 2012 to 2013, and spent seven years at Alcoa Corporation (NYSE: AA) ("Alcoa") in a variety of general management and strategy roles. Mr. Halford holds a Master of Business Administration degree from Harvard University and a Bachelor of Science degree in Mechanical Engineering from GMI Engineering and Management Institute (now Kettering University).

Andrew J. Renacci was appointed Interim Chief Legal Officer and Corporate Secretary in January 2025. Prior to that, Mr. Renacci served as GrafTech's Senior Corporate Counsel from April 2021 to January 2025, where he was responsible for advising GrafTech in matters related to corporate governance, executive compensation, capital markets, ESG, securities laws, stock exchange rules and regulations, periodic reporting responsibilities and strategic transactions. Prior to joining GrafTech, Mr. Renacci spent approximately nine years in the corporate and securities group at Squire Patton Boggs (US) LLP, an international law firm, where he advised clients in the chemicals, manufacturing and entertainment and recreation industries on similar matters. Mr. Renacci holds a bachelor's degree from the University of Michigan and a Juris Doctor from Cleveland State University College of Law. He is admitted to practice law in the State of Ohio.

Iñigo Perez Ortiz joined the Company as Senior Vice President, Commercial and CTS in February 2020. Mr. Perez most recently served as Vice President, Europe and Asia, Sales and Customer Service at Alcoa, a global industry leader in bauxite, alumina, and aluminum products, a position he held since 2017. Previously at Alcoa, Mr. Perez was Commercial Director, Europe and Asia Pacific from 2011 to 2017, Sales Manager, Europe from 2007 to 2011 and Sales Office Manager from 2002 to 2007. Prior to his career at Alcoa, Mr. Perez served in a variety of senior commercial roles at Autopulit S.A., Warner Electric and Babcock Wilcox Espanola, S.A. Mr. Perez holds a Master in Industrial Plans Management, Lean Manufacturing and Engineering degree from Polytechnic University of Barcelona, an Executive Master of Business Administration degree from Instituto de Empresa and a Mining Engineer degree from the University of the Basque Country.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is listed on the NYSE under the trading symbol "EAF."

Holders

As of December 31, 2024, there were seven registered holders of record of our common stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares of record are held by banks, brokers, and other financial institutions.

Dividend Policies and Restrictions

Throughout 2022 and in the first and second quarters of 2023, we paid a quarterly cash dividend of $0.01 per common share. On August 2, 2023, our Board of Directors elected to suspend the quarterly cash dividend of $0.01 per common share.

There can be no assurance that we will resume paying 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, if reinstated, 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 are imposed by the terms of our current credit facilities, restrictions that may be imposed by the terms of our future credit facilities and other debt obligations and other factors deemed relevant by our Board of Directors.

For further discussion of the factors that may affect our business and our ability to pay dividends, see "Risk Factors—Risks related to our business and industry" in Part 1, Item 1A, Risk Factors.

Equity Compensation Plan Information

The information about our common stock that may be issued under our Omnibus Equity Incentive Plan as of December 31, 2024 is set forth in Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" of this Report under the caption "Equity Compensation Plan Information."

Issuer Purchases of Equity Securities

On July 31, 2019, we announced that our Board of Directors approved the repurchase of up to $100.0 million of our common stock in open market purchases, including under Rule 10b5-1 and/or Rule 10b-18 plans. On November 4, 2021, we announced that our Board of Directors approved the repurchase of an additional $150.0 million of our common stock under this program. Approximately $99.0 million of the total $250.0 million authorized remained available for stock repurchases as of December 31, 2024. The stock repurchase program has no expiration date. During the quarter ended December 31, 2024, there was no share repurchase activity.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read together with our Consolidated Financial Statements and the accompanying notes and other financial information appearing elsewhere in this Annual Report. Discussion and analysis regarding our financial condition and results of operations for 2023 as compared to 2022 is included in Item 7 of our Annual Report for the year-ended December 31, 2023, filed with the SEC on February 14, 2024. Information in this section is intended to assist the reader in obtaining an understanding of our Consolidated Financial Statements, the changes in certain key items in those financial statements from year-to-year, the primary factors that accounted for those changes, any known trends or uncertainties that we are aware of that may have a material effect on our future performance, as well as how certain accounting principles affect our Consolidated Financial Statements. This discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. See "Cautionary Note Regarding Forward-Looking Statements." Our actual results could differ materially from those forward-looking statements as a result of many factors, including those discussed in "Risk Factors" and elsewhere in this Annual Report.

Operational and Commercial Update

Sales volume for 2024 was approximately 103 thousand MT, consisting of LTA volume of 13 thousand MT and non-LTA volume of 90 thousand MT, representing an increase of 13% compared to 92 thousand MT in 2023, consisting of LTA volume of 29 thousand MT and non-LTA volume of 63 thousand MT.

In 2024, our weighted-average realized price from LTAs was approximately $8,100 per MT and our weighted-average realized price for non-LTA sales of graphite electrodes was approximately $4,200 per MT. Our weighted-average realized non-LTA price decreased 22% compared to 2023, with the decline reflecting the persistent competitive pressures in the regions in which we operate. In 2023, our weighted-average realized price from LTAs was approximately $8,800 per MT and our weighted-average realized price for non-LTA sales of graphite electrodes was approximately $5,400 per MT.

Production volume for 2024 was approximately 97 thousand MT, increasing 10% compared to 2023. We continue to proactively reduced our graphite electrode production volume to align with our evolving demand outlook and to manage our inventory levels to meet our requirements.

Capital Structure and Liquidity

As of December 31, 2024, we had liquidity of $464.2 million, consisting of $108.0 million of availability under our 2018 Revolving Credit Facility, $100.0 million of availability under our Initial First Lien Term Loan Facility (with respect to the Delayed Draw Commitments thereunder) and cash and cash equivalents of $256.2 million. As of December 31, 2024, we had total debt of approximately $1.1 billion.

Outlook

In 2024, steel industry production remained constrained by global economic and geopolitical uncertainty. As we enter 2025, industry analyst projections indicate a modest recovery in global steel demand is expected for the year. However, significant geopolitical uncertainty remains, including the potential impact of policymaking on the interest rate environment, global trade and decarbonization policies. As we closely monitor all of these developments and assess their potential impact on the commercial environment for graphite electrodes, our current outlook is that demand for graphite electrodes in the near term will remain relatively flat in the key regions in which we operate.

For GrafTech, despite the industry-wide headwinds, we anticipate a low double-digit percentage point year-over-year increase in our sales volume for 2025 on a full-year basis as we continue to regain market share. This reflects our compelling customer value proposition and our ongoing focus on delivering on the needs of our customers. Of our anticipated 2025 sales volume, to date, we have over 60% committed in our order book following the successful completion of the customer negotiations that occur in the fourth quarter of each year.

As it relates to price, challenging pricing dynamics have persisted in most regions and the pricing environment remains unsustainably low. As a result, we are taking further actions to accelerate our path to normalized levels of profitability and support our ability to invest in our business. These include initiatives to optimize our order book and actively shift the geographic mix of our business to regions where there is an opportunity to capture higher average selling prices. In addition, we have informed our customers of our intention to increase prices by 15% on volume that is not yet committed for 2025.

As it relates to costs, we will continue to execute our initiatives to improve our cost structure. Reflecting these actions and the benefit of the anticipated increase in our sales and production volume levels, we expect a mid-single digit percentage

point decline in our cash cost of goods sold per MT for 2025 compared to 2024 and is expected to continue to trend toward our long-term expectation of approximately $3,700 per MT.

In addition, we will continue to closely manage our working capital levels and capital expenditures. For 2025, we expect the net impact of working capital will be favorable to our full year cash flow performance, although to a lesser extent than in each of the previous two years which reflected our efforts to align inventory levels with our view on demand. We anticipate our full year 2025 capital expenditures will be approximately $40 million.

Longer term, we remain confident that the steel industry's efforts to decarbonize will lead to increased adoption of the electric arc furnace method of steelmaking, driving long-term demand growth for graphite electrodes. We also anticipate the demand for petroleum needle coke, the key raw material we use to produce graphite electrodes, to accelerate driven by its utilization in producing synthetic graphite for use in lithium-ion batteries for the growing electric vehicle market. We believe that the near-term actions we are taking, supported by an industry-leading position and our sustainable competitive advantages, including our substantial vertical integration into petroleum needle coke via our Seadrift facility, will optimally position GrafTech to benefit from that long-term growth.

Key metrics used by management to measure performance

In addition to measures of financial performance presented in our Consolidated Financial Statements in accordance with generally accepted accounting principles in the United States ("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, adjusted EBITDA, adjusted net (loss) income and adjusted (loss) earnings per share, 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, production volume, production capacity and capacity utilization.

Key financial measures

	Year ended December 31,	
(in thousands, except per share amounts)	**2024**	**2023**
Net sales	$ 538,782	$ 620,500
Net loss	(131,165)	(255,250)
Loss per share[(1)]	(0.51)	(0.99)
EBITDA[(2)]	(11,411)	(162,227)
Adjusted net loss[(2)]	(106,144)	(100,752)
Adjusted loss[(1)(2)]	(0.41)	(0.39)
Adjusted EBITDA[(2)]	1,632	20,484

(1) Loss per share represents diluted loss per share. Adjusted loss per share represents adjusted diluted loss per share.
(2) Non-GAAP financial measure; see below for information and reconciliations to the most directly comparable financial measures calculated and presented in accordance with GAAP.

Key operating measures

In addition to measures of financial performance presented in accordance with GAAP, we use certain operating metrics to analyze the performance of our company. The key operating metrics consist of sales volume, production volume, production capacity and capacity utilization. These metrics align with management's assessment of our revenue performance and profit margin, and will help investors understand the factors that drive our profitability.

Sales volume reflects the total volume of graphite electrodes sold for which revenue has been recognized during the period. For a discussion of our revenue recognition policy, see "—Critical accounting policies—Revenue recognition" in this section. Sales volume helps investors understand the factors that drive our net sales.

Production volume reflects graphite electrodes produced during the period. Production capacity reflects expected maximum production volume during the period depending on product mix and expected maintenance outage. Actual production

may vary. 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 and evaluate cost of goods sold.

	Year ended December 31,	
(in thousands, except percentages)	**2024**	**2023**
Sales volume (MT)	103.2	91.6
Production volume (MT)[1]	97.3	88.1
Production capacity(MT)[2][3]	178.0	202.0
Capacity utilization[4]	55 %	44 %

[1] Production volume reflects graphite electrodes we produced during the period.
[2] Production capacity reflects expected maximum production volume during the period depending on product mix and expected maintenance outage. Actual production may vary.
[3] Includes graphite electrode facilities in Calais, France; Monterrey, Mexico; and Pamplona, Spain. While maintaining the capability to produce up to 28,000 MT of graphite electrodes and pins on an annual basis at our St. Marys, Pennsylvania facility, most production activities at St. Marys have been suspended. The wind down of these production activities was completed during the second quarter of 2024. Remaining activities at St. Marys are limited to machining graphite electrodes and pins sourced from our other plants.
[4] Capacity utilization reflects production volume as a percentage of production capacity.

As of December 31, 2023, our stated production capacity was approximately 202 thousand MT through our primary manufacturing facilities in Calais, Pamplona and Monterrey. On February 14, 2024, the Company announced a cost rationalization and footprint optimization plan, in response to persistent softness in the commercial environment. This included an indefinite suspension of production activities at our St. Marys facility, with the exception of graphite electrode and pin machining. We also indefinitely idled certain assets within our remaining graphite electrode manufacturing footprint. As a result of these initiatives, our stated production capacity was reduced from approximately 202 thousand MT in 2023 to approximately 178 thousand MT in 2024.

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, adjusted EBITDA, adjusted net loss, adjusted loss per share, free cash flow, adjusted free cash flow and cash cost of goods sold per MT are non-GAAP financial measures.

We define EBITDA, a non-GAAP financial measure, as net loss plus interest expense, minus interest income, plus income taxes and depreciation and amortization. We define adjusted EBITDA, a non-GAAP financial measure, as EBITDA adjusted by any pension and other post-employment benefit ("OPEB") expenses, rationalization and rationalization-related expenses, non-cash gains or losses from foreign currency remeasurement of non-operating assets and liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar, stock-based compensation expense, proxy contest expenses, Tax Receivable Agreement adjustments and goodwill impairment charges. Adjusted EBITDA 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.

We monitor adjusted EBITDA 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 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 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 does not reflect changes in, or cash requirements for, our working capital needs;
- adjusted EBITDA 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 does not reflect the interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness;
- adjusted EBITDA does not reflect tax payments or the income tax benefit that may represent a reduction in cash available to us;

- adjusted EBITDA does not reflect expenses relating to our pension and OPEB plans;
- adjusted EBITDA does not reflect rationalization or rationalization-related expenses;
- adjusted EBITDA does not reflect the non-cash gains or losses from foreign currency remeasurement of non-operating assets and liabilities in our foreign subsidiaries where the functional currency is the U.S. dollar;
- adjusted EBITDA does not reflect stock-based compensation expense;
- adjusted EBITDA does not reflect proxy contest expenses;
- adjusted EBITDA does not reflect Tax Receivable Agreement adjustments;
- adjusted EBITDA does not reflect goodwill impairment charges; and
- other companies, including companies in our industry, may calculate EBITDA and adjusted EBITDA differently, which reduces its usefulness as a comparative measure.

We define adjusted net loss, a non-GAAP financial measure, as net loss, excluding the items used to calculate adjusted EBITDA and further excluding debt modification costs, less the tax effect of those adjustments. We define adjusted loss per share, a non-GAAP financial measure, as adjusted net loss divided by the weighted average diluted common shares outstanding during the period. We believe adjusted net loss and adjusted loss per share are useful to present to investors because we believe that they assist investors' understanding of the underlying operational profitability of the Company.

We define free cash flow, a non-GAAP financial measure, as net cash provided by operating activities less capital expenditures. We define adjusted free cash flow, a non-GAAP financial measure, as free cash flow adjusted by payments made or received from the settlement of interest rate swap contracts and payments made for debt modification costs. We use free cash flow and adjusted free cash flow as critical measures in the evaluation of liquidity in conjunction with related GAAP amounts. We also use these measures when considering available cash, including for decision-making purposes related to dividends, debt servicing and discretionary investments. Further, these measures help management, the Board of Directors, and investors evaluate the Company's ability to generate liquidity from operating activities.

We define cash cost of goods sold per MT, a non-GAAP financial measure, as cost of goods sold less depreciation and amortization less cost of goods sold associated with the portion of our sales that consists of deliveries of by-products of the manufacturing processes and less rationalization-related expenses, with this total divided by our sales volume measured in MT. We believe this is an important measure as it is used by our management and Board of Directors to evaluate our costs on a per MT basis.

In evaluating these non-GAAP financial measures, you should be aware that in the future, we may incur expenses similar to the adjustments in the reconciliations presented below. Our presentations of these non-GAAP financial measures 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 these non-GAAP financial measures alongside other measures of financial performance and liquidity, including our net loss, loss per share, cash flow from operating activities, cost of goods sold and other GAAP measures.

The following tables reconcile our non-GAAP key financial measures to the most directly comparable GAAP measures:

Reconciliation of Net Loss to Adjusted Net Loss	Year Ended December 31,	
	2024	2023
	(Dollars in thousands, except per share data)	
Net loss	$ (131,165)	$ (25
Diluted loss per common share:		
Net loss per share	$ (0.51)	$
Weighted average common shares outstanding	257,667,125	257,04
Net loss	$ (131,165)	$ (25
Adjustments, pre-tax:		
Pension and OPEB expenses[1]	2,270	
Rationalization expenses[2]	3,156	
Rationalization-related expenses[3]	2,655	
Non-cash (gains) losses on foreign currency remeasurement[4]	(1,949)	
Stock-based compensation expense[5]	6,035	
Proxy contest expenses[6]	752	
Tax Receivable Agreement adjustment[7]	124	
Debt modification costs[8]	18,369	
Goodwill impairment charges[9]	—	17
Total non-GAAP adjustments pre-tax	$ 31,412	$ 18
Income tax impact on non-GAAP adjustments[10]	6,391	2
Adjusted net loss	$ (106,144)	$ (10

(1) Net periodic benefit cost for our pension and OPEB plans, including a mark-to-market adjustment, representing actuarial gains and losses that result from the remeasurement of plan assets and obligations due to changes in assumptions or experience. We recognize the actuarial gains and losses in connection with the annual remeasurement in earnings in the fourth quarter of each year.
(2) Severance and contract termination costs associated with the cost rationalization and footprint optimization plan announced in February 2024.
(3) Other non-cash costs, primarily inventory and fixed asset write-offs, associated with the cost rationalization and footprint optimization plan announced in February 2024.
(4) Non-cash (gains) losses from foreign currency remeasurement of non-operating assets and liabilities of our non-U.S. subsidiaries where the functional currency is the U.S. dollar.
(5) Non-cash expense for stock-based compensation awards.
(6) Expenses associated with our proxy contest.
(7) Non-cash expense adjustment for future payment to our sole pre-IPO stockholder for tax assets that have been utilized.
(8) Debt modification costs related to the December 2024 debt transactions, which are recognized in interest expense on the Consolidated Statements of Operations.
(9) Non-cash goodwill impairment charges.
(10) The tax impact on the non-GAAP adjustments is affected by their tax deductibility and the applicable jurisdictional tax rates.

Reconciliation of Loss Per Share to Adjusted Loss Per Share

	Year Ended December 31,	
	2024	2023
Loss per share	$ (0.51)	$ (0.99)
Adjustments per share:		
Pension and OPEB expenses[1]	0.01	0.02
Rationalization expenses[2]	0.01	—
Rationalization-related expenses[3]	0.01	—
Non-cash (gains) losses on foreign currency remeasurement[4]	—	—
Stock-based compensation expense[5]	0.02	0.02
Proxy contest expenses[6]	—	—
Tax Receivable Agreement adjustment[7]	—	—
Debt modification costs[8]	0.07	—
Goodwill impairment charges[9]	—	0.67
Total non-GAAP adjustments pre-tax per share	0.12	0.71
Income tax impact on non-GAAP adjustments per share[10]	0.02	0.11
Adjusted Loss per share	$ (0.41)	$ (0.39)

(1) Net periodic benefit cost for our pension and OPEB plans, including a mark-to-market adjustment, representing actuarial gains and losses that result from the remeasurement of plan assets and obligations due to changes in assumptions or experience. We recognize the actuarial gains and losses in connection with the annual remeasurement in earnings in the fourth quarter of each year.
(2) Severance and contract termination costs associated with the cost rationalization and footprint optimization plan announced in February 2024.
(3) Other non-cash costs, primarily inventory and fixed asset write-offs, associated with the cost rationalization and footprint optimization plan announced in February 2024.
(4) Non-cash (gains) losses from foreign currency remeasurement of non-operating assets and liabilities of our non-U.S. subsidiaries where the functional currency is the U.S. dollar.
(5) Non-cash expense for stock-based compensation awards.
(6) Expenses associated with our proxy contest.
(7) Non-cash expense adjustment for future payment to our sole pre-IPO stockholder for tax assets that have been utilized.
(8) Debt modification costs related to the December 2024 debt transactions, which are recognized in interest expense on the Consolidated Statements of Operations.
(9) Non-cash goodwill impairment charges.
(10) The tax impact on the non-GAAP adjustments is affected by their tax deductibility and the applicable jurisdictional tax rates.

Reconciliation of Net Loss to Adjusted EBITDA	Year Ended December 31,	
	2024	2023
	(Dollars in thousands)	
Net loss	$ (131,165)	$ (255,250)
Add:		
Depreciation and amortization	62,245	56,889
Interest expense	85,313	58,087
Interest income	(5,701)	(3,439)
Income taxes	(22,103)	(18,514)
EBITDA	(11,411)	(162,227)
Adjustments:		
Pension and OPEB expenses[1]	2,270	6,309
Rationalization expenses[2]	3,156	—
Rationalization-related expenses[3]	2,655	—
Non-cash (gains) losses on foreign currency remeasurement[4]	(1,949)	603
Stock-based compensation expense[5]	6,035	4,433
Proxy contest expenses[6]	752	—
Tax Receivable Agreement adjustment[7]	124	249
Goodwill impairment charges[8]	—	171,117
Adjusted EBITDA	$ 1,632	$ 20,484

(1) Net periodic benefit cost for our pension and OPEB plans, including a mark-to-market adjustment, representing actuarial gains and losses that result from the remeasurement of plan assets and obligations due to changes in assumptions or experience. We recognize the actuarial gains and losses in connection with the annual remeasurement in earnings in the fourth quarter of each year.
(2) Severance and contract termination costs associated with the cost rationalization and footprint optimization plan announced in February 2024.
(3) Other non-cash costs, primarily inventory and fixed asset write-offs, associated with the cost rationalization and footprint optimization plan announced in February 2024.
(4) Non-cash (gains) losses from foreign currency remeasurement of non-operating assets and liabilities of our non-U.S. subsidiaries where the functional currency is the U.S. dollar.
(5) Non-cash expense for stock-based compensation awards.
(6) Expenses associated with our proxy contest.
(7) Non-cash expense adjustment for future payment to our sole pre-IPO stockholder for tax assets that have been utilized.
(8) Non-cash goodwill impairment charges.

ıciliation of Net Cash (Used in) Provided by Operating Activities to Free Cash Flow and Adjusted Free Cash Flow

	Year Ended December 31,	
	2024	2023
	(Dollars in thousands)	
h (used in) provided by operating activities	$ (40,893)	76,561
expenditures	(34,309)	(54,040)
sh flow	(74,402)	22,521
odification costs[1]	18,249	—
rate swap settlements[2]	—	27,453
ed free cash flow	$ (56,153)	49,974

(1) Cash payments of debt modification costs related to the December 2024 debt transactions, which are recognized in interest expense on the Consolidated Statements of Operations and recognized in net cash (used in) provided by operating activities on the Consolidated Statements of Cash Flows.

(2) Receipt of cash related to the monthly settlement of our interest rate swap contracts prior to their termination in the second quarter of 2023, as well as receipt of cash related to the termination of the interest rate swap contracts.

Reconciliation of Cost of Goods Sold to Cash Cost of Goods Sold per MT

	Year Ended December 31,	
	2024	2023
	(Dollars in thousands)	
Cost of goods sold	$ 533,757	$ 571,857
Less:		
Depreciation and amortization[1]	55,602	50,124
Cost of goods sold - by-products and other[2]	32,801	14,500
Rationalization-related expenses[3]	2,655	—
Cash cost of goods sold	442,699	507,233
Sales volume (in thousands of MT)	103.2	91.6
Cash cost of goods sold per MT	$ 4,290	$ 5,537

(1) Reflects the portion of depreciation and amortization that is recognized in cost of goods sold.
(2) Primarily reflects cost of goods sold associated with the portion of our sales that consists of deliveries of by-products of the manufacturing processes.
(3) Other non-cash costs, primarily inventory and fixed asset write-offs, associated with the cost rationalization and footprint optimization plan announced in February 2024.

Results of Operations

Results of operations for 2024 as compared to 2023

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

	Year Ended December 31,			
(in thousands)	**2024**	**2023**	**Increase/ Decrease**	**% Change**
Net sales	$ 538,782	$ 620,500	$ (81,718)	(13)%
Cost of goods sold	533,757	571,857	(38,100)	(7)%
Lower of cost or market inventory valuation adjustment	24,878	12,431	12,447	100 %
Gross (loss) profit	(19,853)	36,212	(56,065)	(155)%
Research and development	5,706	5,520	186	3 %
Selling and administrative expenses	46,510	74,012	(27,502)	(37)%
Rationalization expenses	3,156	—	3,156	NM
Goodwill impairment charges	—	171,117	(171,117)	NM
Operating loss	(75,225)	(214,437)	139,212	(65)%
Other (income) expense, net	(1,569)	4,679	(6,248)	(134)%
Interest expense	85,313	58,087	27,226	47 %
Interest income	(5,701)	(3,439)	(2,262)	(66)%
Loss before income taxes	(153,268)	(273,764)	120,496	(44)%
Income tax benefit	(22,103)	(18,514)	(3,589)	19 %
Net loss	$ (131,165)	$ (255,250)	$ 124,085	(49)%

NM = Not Meaningful.

Net sales decreased $81.7 million, or 13%, compared to 2023. The decline primarily reflected a decrease in the weighted-average realized price for volume derived from non-LTAs and a shift in the mix of our business from volume derived

from LTAs to volume derived from non-LTAs. These factors were partially offset by a 13% increase in total sales volume in 2024, compared to 2023.

Cost of goods sold decreased $38.1 million, or 7%, in 2024 compared to 2023, primarily due to decreased costs as a result of our cost rationalization and footprint optimization plan announced in February 2024. In addition, we experienced a $40.3 million reduction of fixed manufacturing costs recorded in 2024, compared to 2023, that would have otherwise been inventoried. Also, the lower of cost or market ("LCM") inventory valuation adjustments recorded in 2024 and 2023 generated a $19.7 million favorable impact to cost of goods sold in 2024. These decreases were partially offset by the impact of increased volume.

LCM inventory valuation adjustment represents a write-down of inventory recorded in 2024 and 2023. The net realizable value of certain of our inventories fell below their carrying amounts as of December 31, 2024 and 2023, and as a result, we recorded LCM inventory valuation adjustments of $24.9 million and $12.4 million, respectively, in order to state our inventories at market.

Selling and administrative expenses decreased $27.5 million, or 37%, in 2024 compared to 2023, primarily due to the $9.2 million reimbursement of legal fees in connection with the favorable outcome of an arbitration (See Note 12, "Commitments and Contingencies" in the Notes to the Consolidated Financial Statements for further discussion), decreased employee-related expenses driven by our cost rationalization and footprint optimization plan announced in February 2024, as well as decreased variable compensation expenses.

Rationalization expenses represent severance and contract termination costs related to the cost rationalization and footprint optimization plan announced in February 2024. See Note 17, "Rationalization Expenses" in the Notes to the Consolidated Financial Statements for further discussion.

Goodwill impairment charges includes non-recurring charges relating to goodwill. Refer to Note 6, "Other Intangible Assets and Goodwill," to the Consolidated Financial Statements for additional discussion.

Other (income) expense, net was income of $1.6 million in 2024, compared to expense of $4.7 million in 2023. 2024 included $1.9 million of foreign currency remeasurement gains, while $0.7 million of foreign currency remeasurement losses were recognized in 2023. In addition, in 2024, we recognized mark-to-market losses of $0.7 million on our pension and OPEB plans compared to $3.0 million in 2023.

Interest expense increased $27.2 million, or 47%, in 2024 compared to 2023. The increase was due to $18.4 million of debt modification costs recognized in 2024 related to our financing transactions completed in 2024, as well as the effect of full year interest incurred in 2024 on debt associated with our Existing 9.875% Notes issued in June 2023. See Note 7, "Interest Expense," to the Consolidated Financial Statements for additional details.

Income Tax Benefit. The following table summarizes the income tax benefit in 2024 and 2023:

	Year Ended December 31, 2024	Year Ended December 31, 2023
Income tax benefit	$ (22,103)	$ (18,514)
Loss before income taxes	$ (153,268)	$ (273,764)
Effective income tax rate	14.4 %	6.8 %

The difference in effective income tax rate from 2024 to 2023 is primarily due to the jurisdictional mix of worldwide earnings taxed at different rates and the impact of a 2023 goodwill impairment charge that was not-tax deductible.

Currency Translation and Transactions

We translate the assets and liabilities of our non-U.S. subsidiaries into U.S. dollars for consolidation and reporting purposes in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 830, *Foreign Currency Matters*. Foreign currency translation adjustments are generally recorded as part of stockholders' (deficit) equity and identified as part of accumulated other comprehensive loss on the Consolidated Balance Sheets until such time as their operations are sold or substantially or completely liquidated.

We account for our Russian, Swiss, Luxembourg, United Kingdom and Mexican subsidiaries using the U.S. dollar as the functional currency, as sales and purchases are predominantly U.S. dollar-denominated. Our remaining subsidiaries use their local currency as their functional currency.

We also record foreign currency transaction gains and losses from non-permanent intercompany loan balances as part of cost of goods sold.

Significant changes in currency exchange rates impacting us are described under "—Effects of Changes in Currency Exchange Rates" and "—Results of Operations" in this section.

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 goods sold 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 and net loss.

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 goods sold or net (loss) income.

The impact of these changes in the average exchange rates of other currencies against the U.S. dollar on our net sales was a decrease of $1.1 million in 2024, an increase of $1.5 million in 2023 and a decrease of $11.7 million in 2022.

The impact of these changes in the average exchange rates of other currencies against the U.S. dollar on our cost of goods sold was a decrease of $8.5 million in 2024, an increase of $12.4 million in 2023 and a decrease of $20.6 million in 2022.

As part of our cash management, we also have intercompany loans between our subsidiaries. These loans are deemed to be temporary and, as a result, remeasurement gains and losses on these loans are recorded as currency gains or losses in cost of goods sold on the Consolidated Statements of Operations.

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 "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 capital expenditures, debt repayment, dividends, share repurchases and other general purposes. On an ongoing basis, we expect to evaluate and consider strategic transactions, including acquisitions, divestitures, joint ventures, equity investments, debt issuances, refinancing of our existing debt or repurchases of our outstanding debt obligations in open market or privately negotiated transactions, as well as other strategic transactions. These transactions may require cash expenditures, which may be funded through a combination of cash on hand, proceeds from the issuance of debt or from equity offerings. 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 for at least the next twelve months. As of December 31, 2024, we had liquidity of $464.2 million, consisting of $108.0 million of availability under our 2018 Revolving Credit Facility (after giving effect to $7.4 million of letters of credit), $100.0 million of availability under our Initial First Lien Term Loan Facility (with respect to the Delayed Draw Commitments thereunder) and cash and cash equivalents of $256.2 million. As any borrowings under the 2018 Revolving Credit Facility remain subject to compliance with the financial covenant thereunder (see below and Note 5, "Debt and Liquidity"), our operating performance as of December 31, 2024 and 2023 resulted in a reduction of the availability under the facility. We had gross long-term debt of $1.1 billion as of December 31, 2024. As of December 31, 2023, we had liquidity of $289.3 million, consisting of $112.4 million available under our 2018 Revolving Credit Facility, after giving effect to $3.1 million of letters of credit, and cash and cash equivalents of $176.9 million. We had gross long-term debt of $950.0 million and short-term debt of $0.1 million as of December 31, 2023.

As of December 31, 2024 and 2023, $60.0 million and $77.6 million, respectively, of our cash and cash equivalents were located outside of the U.S. We repatriate funds from our foreign subsidiaries through intercompany dividends. All of our

subsidiaries face the customary statutory limitation that distributed dividends may not exceed the amount of accumulated earnings. Upon repatriation to the United States, the foreign source portion of dividends we receive from our foreign subsidiaries is not subject to U.S. federal income tax because the amounts were either previously taxed or are exempted from tax by Section 245A of the Internal Revenue Service Code (the "Code").

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 and interest payments and other factors. During the fourth quarter of 2024, the Company consummated a series of financing transactions to extend the maturities on its outstanding debt and help to manage its liquidity. These transactions are described under "--Financing transactions" in this section.

Uses of Liquidity

In July 2019, our Board of Directors authorized a program to repurchase up to $100.0 million of our outstanding common stock. In November 2021, our Board of Directors authorized the repurchase of an additional $150.0 million of stock repurchases under this program. 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. In 2024, we did not repurchase any shares of our common stock. As of December 31, 2024, we had $99.0 million remaining under our stock repurchase authorization. Our ability to repurchase shares is restricted by certain covenants in our debt instruments.

In the first and second quarters of 2023, we paid a quarterly dividend of $0.01 per share. On August 2, 2023, the Company's Board of Directors elected to suspend the quarterly cash dividend of $0.01 per share. There can be no assurance that we will resume paying 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, if reinstated, 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.

Potential uses of our liquidity (other than operations) include capital expenditures, debt repayments, dividends, share repurchases and other general purposes. Any such potential uses of our liquidity may be funded by existing available liquidity, the incurrence of new secured or unsecured loans, capital market issuances, divestitures, joint ventures or equity investments. 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, including any recession, 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 and availability of such financing.

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.

In the event that operating cash flows fail to provide sufficient liquidity to meet our business needs, including capital expenditures, any such shortfall would be expected to be made up by borrowings under our delayed draw term loan and 2018 Revolving Credit Facility, to the extent available, or other liquidity options described above. The Company also maintains access to credit and capital markets and may incur additional debt or issue equity securities from time to time, which may provide an additional source of liquidity. However, there can be no guarantee that we would be able to access the credit or capital markets on commercially satisfactory terms or at all.

Cash flows

The following table summarizes our cash flow activities:

	Year Ended December 31,	
	2024	2023
	(Dollars in thousands)	
Cash flow (used in) provided by:		
Operating activities	$ (40,093)	$ 76,561
Investing activities	(34,209)	(53,820)
Financing activities	155,718	18,713
Net change in cash and cash equivalents	$ 81,416	$ 41,454

Net cash (used in) provided by operating activities represented a $40.1 million use of cash in 2024 versus a $76.6 million source of cash in the prior year. The decrease in operating cash flow was primarily due to reduced cash provided by working capital $67.3 million in 2024 compared to 2023. Cash flow provided by inventories decreased $39.0 million, compared to 2023, primarily driven by actively managing our inventory levels to meet demand. Cash flow provided by accounts receivable decreased $41.2 million, compared to 2023, primarily due to reduced sales in the fourth quarter of 2024 compared to the fourth quarter of 2023. Cash flow used for income taxes decreased $25.6 million in 2024 compared to 2023 due to reduced federal income tax payments made in 2024. Cash flow used for accounts payable and accruals increased $15.6 million in 2024 compared to 2023 primarily due to the timing of payments.

Net cash used in investing activities was $34.2 million for the year ended December 31, 2024 compared to $53.8 million for the year ended December 31, 2023 primarily driven by reduced capital expenditures.

Net cash provided by financing activities was $155.7 million in 2024 compared to $18.7 million in 2023. The increase was primarily due to the issuance of $175.0 million of our First Lien Term Loans and the absence of $5.1 million of dividend payments in 2024, partially offset by $27.5 million of cash received from interest rate swaps in 2023, as well as a $10.8 million increase in deferred financing fees, in 2024 compared to 2023, related to debt issuance.

Financing transactions

On December 23, 2024 (the "Settlement Date"), the Company consummated offers by GrafTech Finance Inc. ("GrafTech Finance") and GrafTech Global Enterprises Inc. ("GrafTech Global" and, together with GrafTech Finance, the "Issuers"), each a subsidiary of the Company, to exchange (each an "Exchange Offer" and, together, the "Exchange Offers") any and all of (i) GrafTech Finance's 4.625% senior secured notes due 2028 (the "Existing 4.625% Notes") and (ii) GrafTech Global's 9.875% senior secured notes due 2028 (the "Existing 9.875% Notes" and, together with the Existing 4.625% Notes, the "Existing Notes"), for the New 4.625% Notes and the New 9.875% Notes, respectively.

The Company and the Issuers also consummated the solicitation of consents (with respect to each series of Existing Notes, a "Consent Solicitation" and, collectively, the "Consent Solicitations"), on the terms and subject to the conditions set forth in a confidential exchange offer memorandum and consent solicitation statement (the "Offering Memorandum") from certain eligible holders of each series of the Existing Notes (the "Existing Noteholders") (with respect to each series of Existing Notes, a "Consent" and, collectively, the "Consents") pursuant to which amendments were entered into to the indenture governing the Existing 4.625% Notes (as amended, the "Existing 4.625% Notes Indenture"), and the indenture governing the Existing 9.875% Notes (as amended, the "Existing 9.875% Notes Indenture" and, together with the Existing 4.625% Notes Indenture, the "Existing Notes Indentures"), that (i) eliminated substantially all of the restrictive covenants as well as certain events of default and related provisions and definitions in the Existing Notes Indentures and (ii) released all of the collateral securing the Existing Notes.

Issuance of New Notes due 2029

On December 23, 2024, GrafTech Finance issued New 4.625% Notes in an aggregate principal amount of $498.2 million and GrafTech Global issued New 9.875% Notes in an aggregate principal amount of $446.2 million in exchange for $498.2 million of GrafTech Finance's Existing 4.625% Notes and $446.2 million of GrafTech Global's Existing 9.875% Notes, respectively, validly tendered and accepted in connection with the Exchange Offers. The New Notes are the Issuers' second lien obligations.

The New 4.625% Notes were issued pursuant to an indenture, dated as of the Settlement Date (the "New 4.625% Notes Indenture"), by and among GrafTech Finance, the Company, each subsidiary guarantor from time to time party thereto

(collectively, the "Subsidiary Guarantors," and, together with the Company, the "Guarantors"), and U.S. Bank Trust Company, National Association, as trustee (the "New Trustee") and collateral agent (the "New Notes Collateral Agent"). The New 4.625% Notes will pay interest of 4.625% semiannually per annum.

The New 9.875% Notes were issued pursuant to an indenture, dated as of the Settlement Date (the "New 9.875% Notes Indenture" and, together with the New 4.625% Notes Indenture, the "New Notes Indentures"), by and among GrafTech Global, the Guarantors, GrafTech Finance, the New Trustee and the New Notes Collateral Agent. The New 9.875% Notes will pay interest of 9.875% semiannually per annum.

GrafTech Finance may redeem some or all of the New 4.625% Notes at the redemption prices and on the terms specified in the New 4.625% Notes Indenture. If, at any time prior to December 23, 2026, all or a portion of the outstanding principal amount of the New 4.625% Notes are prepaid, repaid, redeemed or accelerated (or deemed accelerated), including as a result of GrafTech Finance filing for bankruptcy or becoming subject to any other insolvency proceeding, GrafTech Finance will be required to pay the applicable New 4.625% Notes Redemption Price (as defined in the New 4.625% Notes Indenture). If the Company or GrafTech Finance experiences specific kinds of changes in control or the Company or any of the restricted subsidiaries sells certain of its assets, then GrafTech Finance must offer to repurchase the New 4.625% Notes on the terms set forth in the New 4.625% Notes Indenture.

On and after December 23, 2026, GrafTech Global may redeem some or all of the New 9.875% Notes at the redemption prices and on the terms specified in the New 9.875% Notes Indenture. At any time prior to December 23, 2026, GrafTech Global may also at its option and on one or more occasions redeem up to 40% of the aggregate principal amount of the notes issued with the proceeds from certain equity offerings, at a redemption price of 109.875% of the aggregate principal amount of the notes, together with accrued and unpaid interest, if any, to, but not including, the date of redemption. In addition, at any time prior to December 23, 2026, GrafTech Global may at its option on one or more occasions redeem all or a part of the notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus a "make-whole" premium, together with accrued and unpaid interest, if any, to, but not including, the date of redemption. If, at any time prior to December 23, 2028, all or a portion of the outstanding principal amount of the New 9.875% Notes are prepaid, repaid, redeemed or accelerated (or deemed accelerated), including as a result of GrafTech Global filing for bankruptcy or becoming subject to any other insolvency proceeding, GrafTech Global will be required to pay the applicable New 9.875% Notes Redemption Price or the Applicable Premium (each as defined in the New 9.875% Notes Indenture), as applicable. If the Company or GrafTech Global experiences specific kinds of changes in control or the Company or any of the restricted subsidiaries sells certain of its assets, then GrafTech Global must offer to repurchase the New 9.875% Notes on the terms set forth in the New 9.875% Notes Indenture.

The New Notes Indentures contain certain covenants that, among other things, limit the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the New Notes Indentures, if our pro forma consolidated total net leverage ratio is no greater than 2.50 to 1.00, we can make restricted payments so long as no default or event of default has occurred and is continuing. If our pro forma consolidated total net leverage ratio is greater than 2.50 to 1.00, we can make restricted payments pursuant to certain baskets. We were in compliance with all of our debt covenants in the New Notes Indentures as of December 31, 2024.

The New 4.625% Notes are guaranteed, jointly and severally, on a senior secured second-priority basis by the domestic Guarantors (the "U.S. Guarantors") that guarantee the Existing 4.625% Notes and certain other foreign subsidiary Guarantors of the Company (the "Foreign Guarantors"). The New 9.875% Notes are guaranteed, jointly and severally, on a senior secured second-priority basis by the U.S. Guarantors that guarantee the Existing 9.875% Notes and the Foreign Guarantors. In accordance with the terms of the New Notes Indentures, the New Trustee is obligated to first enforce the guarantees of the U.S. Guarantors prior to any guarantees of the Foreign Guarantors, subject to certain terms described therein. The New Notes are secured by a perfected second-priority security interest in all of the assets and property of the Issuers and the Guarantors that currently secure the Existing Notes, and certain other assets and property of the Foreign Guarantors as set forth in the New Notes Indentures (the "Collateral").

The New Notes and each guarantee constitute: senior obligations that rank pari passu in right of payment with all of our and the Guarantors' existing and future senior indebtedness, including the First Lien Term Loans (as defined below) and the 2018 Revolving Credit Facility; provided, that the First Lien Term Loans and the 2018 Revolving Credit Facility are senior in right of payment to the New Notes with respect to proceeds of the Foreign Guarantor facility located in Calais, France (the "Calais Facility") solely to the extent that such facility does not constitute Collateral; secured on a second-priority basis, subject to certain exceptions and permitted liens, on the Collateral that secures the First Lien Term Loans and the 2018 Revolving Credit Facility on a first-priority basis; effectively junior to all of our and the Guarantors' obligations under the First Lien Term

Loans and the 2018 Revolving Credit Facility (and other indebtedness secured on a first-priority basis on the Collateral pari passu with the liens securing the First Lien Term Loans and the 2018 Revolving Credit Facility) to the extent of the value of the Collateral securing the First Lien Term Loans and the 2018 Revolving Credit Facility (and such other indebtedness secured on a first-priority basis on the Collateral); effectively senior to all of our and the Guarantors' future debt that is secured by liens on the Collateral securing the New Notes that are junior to those securing the New Notes and to any of our and the Guarantors' unsecured indebtedness, in each case, to the extent of the value of the Collateral securing the New Notes and the guarantees; and structurally subordinated to all of our existing and future indebtedness and other liabilities, including trade payables, of each of our subsidiaries that do not issue or guarantee the New Notes.

Existing 4.625% Notes due 2028

In December 2020, GrafTech Finance issued $500.0 million aggregate principal amount of Existing 4.625% Notes in a private offering. All of the net proceeds from the Existing 4.625% Notes were used to partially repay borrowings under our 2018 Term Loan Facility.

GrafTech Finance may redeem some or all of the Existing 4.625% Notes at the redemption prices and on the terms specified in the Existing 4.625% Notes Indenture. Prior to the Settlement Date, if the Company or GrafTech Finance experienced specific kinds of changes in control or the Company or any of its restricted subsidiaries sold certain of its assets, then GrafTech Finance was required to offer to repurchase the Existing 4.625% Notes on the terms set forth in the Existing 4.625% Notes Indenture.

Prior to the Settlement Date, the Existing 4.625% Notes Indenture contained certain covenants that, among other things, limited the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the Existing 4.625% Notes Indenture, prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was no greater than 2.00 to 1.00, we could make restricted payments so long as no default or event of default had occurred and was continuing. Prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was greater than 2.00 to 1.00, we could make restricted payments pursuant to certain baskets. In connection with the consummation of the Consent Solicitations, substantially all of the restrictive covenants and related provisions and definitions in the Existing 4.625% Notes Indenture were removed, effective as the Settlement Date.

The Existing 4.625% Notes Indenture contains certain events of default customary for agreements of its type (with customary grace periods, as applicable) and provides that, upon the occurrence of an event of default arising from certain events of bankruptcy or insolvency with respect to the Company or GrafTech Finance, all outstanding Existing 4.625% Notes will become due and payable immediately without further action or notice. If any other type of event of default occurs and is continuing, then the trustee or the holders of at least 30% in principal amount of the then outstanding Existing 4.625% Notes may declare all of the Existing 4.625% Senior Notes to be due and payable immediately. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Following the Exchange Offer, approximately $1.8 million aggregate principal amount of Existing 4.625% Notes remain outstanding.

Existing 9.875% Notes due 2028

In June 2023, GrafTech Global issued $450 million aggregate principal amount of Existing 9.875% Notes, including $11.4 million of original issue discount. The Existing 9.875% Notes were issued at an issue price of 97.456% of the principal amount thereof in a private offering. The net proceeds from the Existing 9.875% Notes were used to repay borrowings under our 2018 Term Loan Facility.

GrafTech Global may redeem some or all of the Existing 9.875% Notes at the redemption prices and on the terms specified in the Existing 9.875% Notes Indenture. Prior to the Settlement Date, if the Company or GrafTech Global experienced specific kinds of changes in control or the Company or any of its restricted subsidiaries sold certain of its assets, then GrafTech Global was required to offer to repurchase the Existing 9.875% Notes on the terms set forth in the Existing 9.875% Notes Indenture.

Prior to the Settlement Date, the Existing 9.875% Notes Indenture contained certain covenants that, among other things, limited the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the Existing 9.875% Notes Indenture, prior to the Settlement Date, if our pro forma

consolidated first lien net leverage ratio was no greater than 2.00 to 1.00, we could make restricted payments so long as no default or event of default had occurred and was continuing. Prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was greater than 2.00 to 1.00, we could make restricted payments pursuant to certain baskets. In connection with the consummation of the Consent Solicitations, substantially all of the restrictive covenants and related provisions and definitions in the Existing 9.875% Notes Indenture were removed, effective as the Settlement Date.

The Existing 9.875% Notes Indenture contains certain events of default customary for agreements of its type (with customary grace periods, as applicable) and provides that, upon the occurrence of an event of default arising from certain events of bankruptcy or insolvency with respect to the Company or GrafTech Global, all outstanding Existing 9.875% Notes will become due and payable immediately without further action or notice. If any other type of event of default occurs and is continuing, then the trustee or the holders of at least 30% in principal amount of the then outstanding Existing 9.875% Notes may declare all of the Existing 9.875% Notes to be due and payable immediately. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Following the Exchange Offer, approximately $3.8 million aggregate principal amount of Existing 9.875% Notes remains outstanding.

Initial First Lien Term Loan Facility; Delayed Draw First Lien Term Loan Facility

Concurrent with the settlement of the Exchange Offers, on the Settlement Date, Barclays Bank plc (the "Fronting Lender"), agreed to provide GrafTech Global $175 million of new senior secured first lien term loans (the "Initial First Lien Term Loans") and provided commitments (the "Delayed Draw Commitments") with respect to $100 million of new senior secured first lien delayed draw term loans (together with the Initial First Lien Term Loans, the "First Lien Term Loans"). The First Lien Term Loans are governed by a new credit agreement, dated as of the Settlement Date, by and among GrafTech, as holdings, GrafTech Global, as borrower, GLAS USA LLC, as administrative agent, GLAS Americas LLC, as collateral agent, and the lenders from time to time party thereto (the "First Lien Term Loan Credit Agreement"). The Initial First Lien Term Loans were drawn in a single drawing on the Settlement Date. The Delayed Draw Commitments are available to the Company until July 23, 2026, subject to the satisfaction of customary conditions precedent thereto.

The First Lien Term Loans will mature on December 23, 2029, and are guaranteed by the Guarantors. The First Lien Term Loans are pari passu in right of payment with the 2018 Revolving Credit Facility and the New Notes, but the First Lien Term Loans and the 2018 Revolving Credit Facility are senior in right of payment to the New Notes with respect to the proceeds of the Calais Facility. The First Lien Term Loans and the 2018 Revolving Credit Facility are secured on a pari passu basis by perfected first-priority security interests in the Collateral.

The First Lien Term Loans bear interest at the option of GrafTech Global, at a rate equal to (i) Term SOFR (as defined in the First Lien Term Loan Credit Agreement) (subject to a 2.00% floor) plus 6.00% per annum or (ii) the ABR (as defined in the First Lien Term Loan Credit Agreement) plus 5.00% per annum.

The Company will pay a ticking fee with respect to undrawn Delayed Draw Commitments in an amount equal to 3.75% per annum of the amount of such undrawn and outstanding commitments. The First Lien Term Loans are prepayable in whole or in part at the option of the Company (i) prior to the 24-month anniversary of the Settlement Date, subject to payment of a customary "make-whole" premium (which includes a 2.00% prepayment premium), (ii) on or after the 24-month anniversary of the Settlement Date through, but excluding, the 36-month anniversary of the Settlement Date, subject to a 2.00% prepayment premium, and (iii) on or after the 36-month anniversary of the Settlement Date, without a prepayment premium. If the Company sells certain of its assets, then GrafTech Global may be required to offer to prepay the First Lien Term Loans and/or other indebtedness of GrafTech Global and/or its subsidiaries.

The First Lien Term Credit Agreement contains certain covenants that, among other things, limit the Company's ability to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase certain debt, incur or suffer to exist certain liens, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect certain fundamental changes. The First Lien Term Loan Credit Agreement also contains certain events of default (with grace periods, as applicable) that permit the agent to accelerate the First Lien Term Loans, and provide that, upon the occurrence of certain events of default arising from bankruptcy or insolvency, all First Lien Term Loans will become due and payable immediately without further action or notice.

2018 Term Loan and 2018 Revolving Credit Facility

In February 2018, the Company entered into a credit agreement (as amended, the "2018 Credit Agreement"), which provided for (i) a $2,250 million senior secured term facility (the "2018 Term Loan Facility") after giving effect to the June 2018 amendment (the "First Amendment") that increased the aggregate principal amount of the 2018 Term Loan Facility from

$1,500 million to $2,250 million and (ii) a $330 million senior secured revolving credit facility after giving effect to the May 2022 amendment that increased the revolving commitments under the 2018 Credit Agreement by $80 million from $250 million (the "2018 Revolving Credit Facility"). GrafTech Finance Inc. ("GrafTech Finance") was the sole borrower under the 2018 Term Loan Facility while GrafTech Finance, GrafTech Switzerland SA ("Swissco") and GrafTech Luxembourg II S.à.r.l. ("Luxembourg Holdco" and, together with GrafTech Finance and Swissco, the "Co-Borrowers") were co-borrowers under the 2018 Revolving Credit Facility. In December 2024, the 2018 Credit Agreement was further amended to provide for a $225 million senior secured first lien revolving credit facility, reducing the revolving commitments under the 2018 Credit Agreement by $105 million. On June 26, 2023, GrafTech repaid the term loans under the 2018 Term Loan Facility with proceeds from the Existing 9.875% Notes issuance. As of December 31, 2024, there are no outstanding term loans under the 2018 Term Loan Facility.

Until at least $275 million of First Lien Term Loans have been borrowed by the Company, the Company is not permitted to have more than $15 million in aggregate principal amount of revolving loans outstanding at any time under the 2018 Revolving Credit Facility. The Company's ability to borrow under the 2018 Revolving Credit Facility is subject to certain customary conditions precedent, including that the Company must not have more than $100 million of unrestricted cash and cash equivalents after giving effect to the applicable borrowing.

The 2018 Revolving Credit Facility matures on November 30, 2028, subject to a springing maturity date 91 days prior to the maturity date of certain other reference indebtedness. As of December 31, 2024 and 2023, the availability under our 2018 Revolving Credit Facility was $108.0 million and $112.4 million, respectively. As any borrowings under the 2018 Revolving Credit Facility remain subject to compliance with the financial covenant thereunder, our operating performance as of December 31, 2024 and 2023 resulted in our inability to access the full amount of commitments under the facility. As of December 31, 2024 and 2023, there were no borrowings outstanding on the 2018 Revolving Credit Facility and there was $7.4 million and $3.1 million of letters of credit drawn against the 2018 Revolving Credit Facility as of each date, respectively.

Borrowings under the 2018 Revolving Credit Facility bear interest (i) with respect to new revolving loans denominated in U.S. dollars, at the option of GrafTech Finance, Adjusted Term SOFR plus 3.50% per annum or ABR (as defined in the 2018 Revolving Credit Agreement) plus 2.50% per annum and (ii) with respect to new revolving loans denominated in euros, the Adjusted EURIBOR Rate (as defined in the 2018 Revolving Credit Agreement) plus 3.50% per annum. Undrawn commitments under the New Revolving Credit Facility bear a commitment fee of 0.25% per annum. Lenders holding all of the Company's existing revolving commitments who agreed to provide commitments under the 2018 Revolving Credit Facility were paid a customary extension fee, in connection with the December 2024 amendment.

The 2018 Revolving Credit Facility has customary negative covenants and events of default and is required to be prepaid in the case of certain mandatory prepayments of the First Lien Term Loans. The 2018 Revolving Credit Facility also includes a financial covenant requiring that the Company have a Senior Secured First Lien Net Leverage Ratio of no more than 4.00 to 1.00, tested quarterly, to the extent outstanding revolving loans and letters of credit (subject to certain exclusions) exceed 51.3% of the amount of commitments then-existing under the 2018 Revolving Credit Facility. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Material Cash Requirements. The following table summarizes our contractual and other material cash obligations as of December 31, 2024:

	Payments Due by Year Ending December 31,				
	Total	**2025**	**2026-2027**	**2028-2029**	**2030+**
	(Dollars in Thousands)				
Contractual and Other Obligations					
Long-term debt (a)	$ 1,125,000	$ —	$ —	$ 1,125,000	$ —
Interest on long-term debt (b)	434,864	90,199	173,668	170,997	—
Total contractual obligations	1,559,864	90,199	173,668	1,295,997	—
Pension plan contributions (c)	2,353	2,353	—	—	—
Committed purchase obligations (d)	9,750	9,750	—	—	—
Related party Tax Receivable Agreement (e)	5,824	2,022	—	3,802	—
Total contractual and other obligations (f)	$ 1,577,791	$ 104,324	$ 173,668	$ 1,299,799	$ —

(a) Represents our total debt from our New and Existing 9.875% Notes, our New and Existing 4.625% Notes and our Initial First Lien Term Loans (see "--Financing transactions" in this section for full details of these obligations).

(b) Represents estimated interest payments on the Existing 9.875% Notes and the Existing 4.625% Notes through December 15, 2028, interest payments on the New 9.875% Notes and the New 4.625% Notes through December 23, 2029, as well as estimated interest payments on our Initial First Lien and Delayed Draw Term Loans through 2029.

(c) Represents estimated contributions under our defined benefit pension plans. Contributions in future periods will be dependent upon regulatory requirements, the plans' funded ratios, plan investment performance, discount rates, actuarial assumptions, plan amendments, our contribution objectives and other factors. We anticipate funding those contributions with cash on hand or cash generated from operations. It is not practical to estimate the required contributions beyond 2025 at the present time.

(d) Represents committed purchases of raw materials.

(e) Represents Brookfield's 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 NOLs, previously taxed income under Section 959 of the Code, foreign tax credits, and certain NOLs in Swissco. 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 the one-month period SOFR plus 1.10% per annum. The term of the Tax Receivable Agreement commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

(f) In addition, letters of credit of $7.4 million were issued under the 2018 Revolving Credit Facility as of December 31, 2024.

Critical accounting policies

Critical accounting policies are those that require difficult, subjective or complex judgments by management, often as a result of the need to make estimates about the effect of matters that are inherently uncertain and may change in subsequent periods. We use and rely on estimates in determining the economic useful lives of our assets, obligations under our employee benefit plans, provisions for doubtful accounts, provisions for restructuring charges and contingencies, tax valuation allowances, evaluation of other intangible assets, pension and OPEB and various other recorded or disclosed amounts, including inventory valuations. Estimates require us to use our judgment. While we believe that our estimates for these matters are reasonable, if the actual amount is significantly different than the estimated amount, our assets, liabilities or results of operations may be overstated or understated. The following accounting policies are deemed to be critical.

Impairment of long-lived assets. We may record impairment losses on long-lived assets used in operations when events and circumstances indicate that the assets might be impaired and the future undiscounted cash flows estimated to be generated by those assets are less than the carrying amount of those assets. Assets to be disposed are reported at the lower of the carrying amount or fair value less estimated costs to sell. Estimates of the future cash flows are subject to significant uncertainties and assumptions. If the actual value is significantly less than the estimated fair value, our assets may be overstated. Future events and circumstances, some of which are described below, may result in an impairment charge:

- new technological developments that provide significantly enhanced benefits over our current technology;
- significant negative economic or industry trends;
- changes in our business strategy that alter the expected usage of the related assets; and
- future economic results that are below our expectations used in the current assessments.

As of December 31, 2024, we tested our long-lived assets for impairment and determined that their carrying value was recoverable.

Accounting for income taxes. We are required to estimate our income taxes in each of the jurisdictions in which we are subject to taxation. This process requires us to make the following assessments:

- estimate our actual current tax liability in each jurisdiction;
- estimate our temporary differences resulting from differing treatment of items for tax and accounting purposes (which result in deferred tax assets ("DTAs") and deferred tax liabilities ("DTLs") that we include within the Consolidated Balance Sheets); and
- assess the likelihood that our DTAs will be recovered from future taxable income and, if we believe that recovery is not more likely than not, a valuation allowance is established.

If our estimates are incorrect, our DTAs or DTLs may be overstated or understated.

As of December 31, 2024, we had a valuation allowance of $19.3 million against certain DTAs. Our losses in certain tax jurisdictions in recent periods represented sufficient negative evidence to require a full valuation allowance. We also have a partial valuation allowance related to certain U.S. state net operating losses where realizability is unlikely due to discontinued operations or the ability of our U.S. subsidiaries to generate capital gains to utilize capital loss carryforwards in these states. Until we determine that we will generate sufficient jurisdictional taxable income to realize our net operating losses and DTAs, we continue to maintain a valuation allowance.

As of December 31, 2024, we had DTAs of $52.4 milllion in the U.S. These DTAs consist of the previously mentioned state items with a valuation allowance and approximately $34.2 million in additional net DTAs recognized in 2024. These additional DTAs include approximately $30.0 million related to interest limitations and U.S. federal net operating loss carryforwards that do not expire, and which may be used to offset taxable income in future periods to reduce our income taxes payable in these future periods. However, our U.S. losses in recent periods and the potential for U.S. losses in 2025 may lead to a cumulative U.S. loss and may represent sufficient negative evidence to require a full valuation allowance on U.S. DTAs, which would materially increase our expenses in the period the allowance is recognized and materially adversely affect our financial condition and results of operations. If cumulative losses are realized, we will evaluate additional evidence such as our projections for growth and market recovery to determine if a valuation allowance is required, as well as other sources of future taxable income.

Related-party Tax Receivable Agreement. On April 23, 2018, the Company entered into the Tax Receivable Agreement, which 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 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 the one-month period SOFR plus 1.10%. The term of the Tax Receivable Agreement commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

The calculation of the Tax Receivable Agreement liability requires significant judgment with regards to the assumptions underlying the forecast of future taxable income, in total and by jurisdiction, as well as their timing.

Revenue recognition. Revenue is recognized when a customer obtains control of promised goods, in an amount that reflects the consideration which we expect to receive in exchange for those goods.

To determine revenue recognition for arrangements that we determine are within the scope of ASC 606, the following five steps are performed: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) we satisfy a performance obligation. We only apply the five-step model to contracts when it is probable that we will collect the consideration we are entitled to in exchange for the goods or services we transfer to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, we assess the goods or services promised within each contract and determine those that are performance obligations, and assess whether each promised good or service is distinct. We then recognize as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Our revenue streams primarily consist of LTAs and short-term purchase orders (deliveries within the year) directly with steel manufacturers. The promises of delivery of graphite electrodes represent the distinct performance obligations to which the contract consideration is allocated, based upon the electrode stand-alone selling prices for the class of customers at the time the agreements are executed. The performance obligations are considered to be satisfied at a point in time when control of the electrodes has been transferred to the customer. The Company has elected to treat the transportation of the electrodes from our premises to the customer’s facilities as a fulfillment activity, and outbound freight cost is accrued when the graphite electrode performance obligation is satisfied. Any variable consideration is recognized up to its unconstrained amount (i.e., up to the amount for which it is probable that a significant reversal of the variable revenue will not happen).

Revenue recognition requires the estimation of the electrode stand-alone selling price, using a variety of inputs, from market observable information to internal pricing guidelines. The estimate of stand-alone selling price on the various classes of contracts is the basis for the allocation of revenue amongst periods for new and modified contracts. Historically the amount of contract assets and liabilities resulting from these estimates has been immaterial. See Note 2, "Revenue from Contracts with Customers," to the Consolidated Financial Statements for additional information.

Item 7A. 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 primarily relate to the 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.

With respect to the First Lien Term Loans and if we draw under our 2018 Revolving Credit Facility, we are exposed to changes in interest rates. Borrowings under the 2018 Revolving Credit Facility bear interest (i) with respect to the new revolving loans denominated in U.S. dollars, at the option of GrafTech Finance, Adjusted Term SOFR plus 3.50% per annum or ABR plus 2.50% per annum and (ii) with respect to new revolving loans denominated in euros, the Adjusted EURIBOR Rate plus 3.50% per annum. The First Lien Term Loans bear interest at the option of GrafTech Global, at a rate equal to (i) Term SOFR (as defined in the First Lien Term Loan Credit Agreement) (subject to a 2.00% floor) plus 6.00% per annum or (ii) the ABR (as defined in the First Lien Term Loan Credit Agreement) plus 5.00% per annum.

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 have previously entered into agreements with financial institutions that were intended to limit our exposure to additional interest expense due to increases in variable interest rates. These instruments effectively capped our interest rate exposure. As of December 31, 2024 or 2023, we did not have any outstanding interest rate swap contracts.

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 fair value.

Our outstanding foreign currency derivatives represented net unrealized pre-tax gains of $0.1 million at both December 31, 2024 and 2023.

Energy commodity management. We previously entered into commodity derivative contracts to effectively fix some or all of our exposure to refined oil products. As of December 31, 2024 and 2023, there were no commodity derivative contracts outstanding.

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.

As of December 31, 2024, a 10% appreciation or depreciation in the value of the U.S. dollar against foreign currencies from the prevailing market rates would result in a corresponding decrease of $0.6 million or a corresponding increase of $0.6 million, respectively, in the fair value of the foreign currency hedge portfolio.

For further information related to the financial instruments described above, see Note 1, "Business and Summary of Significant Accounting Policies" and Note 8, "Fair Value Measurements and Derivative Instruments" in the Notes to the Consolidated Financial Statements for additional information.

Item 8. Financial Statements and Supplementary Data

(Unless otherwise noted, all dollars are presented in thousands)

	Page
Report of Independent Registered Public Accounting Firm (PCAOB ID No. 34)	48
Consolidated Balance Sheets	50
Consolidated Statements of Operations and Comprehensive (Loss) Income	51
Consolidated Statements of Cash Flows	52
Consolidated Statements of Stockholders' (Deficit) Equity	54
Notes to the Consolidated Financial Statements	55

See the Table of Contents located at the beginning of this Report for more detailed page references to information contained in this Item.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of GrafTech International Ltd.:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of GrafTech International Ltd. and subsidiaries (the "Company") as of December 31, 2024 and 2023, the related consolidated statements of operations and comprehensive (loss) income, stockholders' (deficit) equity, and cash flows for each of the three years in the period ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Accounting for Debt Financing Transactions - Refer to Note 5 and Note 7 to the financial statements

Critical Audit Matter Description

As described within Notes 5 and 7 to the financial statements, on December 23, 2024, the Company consummated the offers to exchange any and all of its 4.625% senior secured notes due 2028 and its 9.875% senior secured notes due 2028, for new 4.625% second lien notes due 2029 and new 9.875% second lien notes due 2029, respectively. The Company also received the requisite consents from holders of the existing notes to adopt the proposed amendments to the Existing Notes indenture that 1) eliminated substantially all of the restrictive covenants as well as certain events of default and related provisions and 2) released all of the collateral securing the Existing Notes.

In addition, concurrent with the exchange offer the Company issued $175M of new senior secured first lien term loans and obtained commitments for an additional $100M of senior secured first lien delayed draw term loans.

We identified the evaluation of the Company's accounting for debt modification and the underlying accounting treatment of the fees and expenses as a critical audit matter due to a high degree of auditor effort in performing procedures related to the Company's calculations inherently required in determining proper accounting treatment and presentation of debt.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the transaction included the following, among others:

- We obtained an understanding and tested the effectiveness of controls related to accounting over financial reporting, including management's controls over the debt cycle and accounting for transactions.
- We obtained and read debt agreements and amendments and evaluated the terms and conditions of the agreements and assessed the reasonableness of management's application of the appropriate accounting authoritative guidance.
- We evaluated the documentation supporting the modification accounting conclusion and tested the calculation of present value of the cash flows under the terms of the amendment and determined if it was considered substantially different from the present value of the remaining cash flow of the original debt instrument.
- We evaluated the accounting treatment and tested the underlying amounts associated with the fees and expenses directly attributable to the modification and the classification of those expenses.

/s/ DELOITTE & TOUCHE LLP

Cleveland, Ohio
February 14, 2025
We have served as the Company's auditor since 2015.

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(Dollars in thousands, except share data)

	December 31,	
	2024	**2023**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 256,248	$ 176,878
Accounts and notes receivable, net of allowance for doubtful accounts of $7,114 as of December 31, 2024 and $7,708 as of December 31, 2023	93,576	101,387
Inventories	231,241	330,146
Prepaid expenses and other current assets	55,732	66,382
Total current assets	636,797	674,793
Property, plant and equipment	910,247	920,444
Less: accumulated depreciation	427,548	398,330
Net property, plant and equipment	482,699	522,114
Deferred income taxes	53,139	31,542
Other assets	51,639	60,440
Total assets	$ 1,224,274	$ 1,288,889
LIABILITIES AND STOCKHOLDERS' (DEFICIT) EQUITY		
Current liabilities:		
Accounts payable	$ 72,833	$ 83,268
Long-term debt, current maturities	—	134
Accrued income and other taxes	9,642	10,022
Other accrued liabilities	55,432	91,702
Tax Receivable Agreement	2,022	5,417
Total current liabilities	139,929	190,543
Long-term debt	1,086,915	925,511
Other long-term obligations	48,559	55,645
Deferred income taxes	23,971	33,206
Tax Receivable Agreement long-term	3,802	5,737
Commitments and contingencies – Note 12		
Stockholders' (deficit) 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, 257,263,710 and 256,831,870 shares issued and outstanding as of December 31, 2024 and December 31, 2023, respectively	2,572	2,568
Additional paid-in capital	755,338	749,527
Accumulated other comprehensive loss	(43,359)	(11,458)
Accumulated deficit	(793,453)	(662,390)
Total stockholders' (deficit) equity	(78,902)	78,247
Total liabilities and stockholders' (deficit) equity	$ 1,224,274	$ 1,288,889

See accompanying Notes to the Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE (LOSS) INCOME

(Dollars in thousands, except per share data)

	Year Ended December 31,		
	2024	**2023**	**2022**
STATEMENTS OF OPERATIONS			
Net sales	$ 538,782	$ 620,500	$ 1,281,250
Cost of goods sold	533,757	571,857	726,373
Lower of cost or market inventory valuation adjustment	24,878	12,431	—
Gross (loss) profit	(19,853)	36,212	554,877
Research and development	5,706	5,520	3,641
Selling and administrative expenses	46,510	74,012	76,977
Rationalization expenses	3,156	—	—
Goodwill impairment charges	—	171,117	—
Operating (loss) income	(75,225)	(214,437)	474,259
Other (income) expense, net	(1,569)	4,679	(10,147)
Interest expense	85,313	58,087	36,568
Interest income	(5,701)	(3,439)	(4,480)
(Loss) income before income taxes	(153,268)	(273,764)	452,318
Income tax (benefit) expense	(22,103)	(18,514)	69,356
Net (loss) income	$ (131,165)	$ (255,250)	$ 382,962
Basic (loss) income per common share:			
Net (loss) income per share	$ (0.51)	$ (0.99)	$ 1.48
Weighted average common shares outstanding	257,667,125	257,042,843	258,781,843
Diluted (loss) income per common share:			
Net (loss) income per share	(0.51)	(0.99)	1.48
Weighted average common shares outstanding	257,667,125	257,042,843	258,791,228
STATEMENTS OF COMPREHENSIVE (LOSS) INCOME			
Net (loss) income	$ (131,165)	$ (255,250)	$ 382,962
Other comprehensive (loss) income:			
Foreign currency translation adjustments, net of tax of $29, $(8) and $0, respectively	(24,385)	10,166	(7,024)
Commodities, interest rate and foreign currency derivatives, net of tax of $2,111, $4,424 and $(2,591), respectively	(7,516)	(13,554)	6,398
Other comprehensive loss, net of tax:	(31,901)	(3,388)	(626)
Comprehensive (loss) income	$ (163,066)	$ (258,638)	$ 382,336

See accompanying Notes to the Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)

	Year Ended December 31,		
	2024	**2023**	**2022**
Cash flow from operating activities:			
Net (loss) income	$ (131,165)	$ (255,250)	$ 382,962
Adjustments to reconcile net (loss) income to cash (used in) provided by operations:			
Depreciation and amortization	62,245	56,889	55,496
Deferred income tax (benefit) provision	(27,634)	(28,123)	17,022
Non-cash stock-based compensation expense	6,035	4,433	2,311
Non-cash interest expense	(2,028)	8,786	(2,428)
Goodwill impairment charges	—	171,117	—
Lower of cost or market inventory valuation adjustment	24,878	12,431	—
Other adjustments	6,283	5,077	(8,023)
Net change in working capital*	40,254	107,562	(99,575)
Change in Tax Receivable Agreement	(5,330)	(4,398)	(3,828)
Change in long-term assets and liabilities	(13,631)	(1,963)	(19,309)
Net cash (used in) provided by operating activities	(40,093)	76,561	324,628
Cash flow from investing activities:			
Capital expenditures	(34,309)	(54,040)	(72,165)
Proceeds from the sale of fixed assets	100	220	195
Net cash used in investing activities	(34,209)	(53,820)	(71,970)
Cash flow from financing activities:			
Proceeds from Initial First Lien Term Loan due 2029	175,000	—	—
Proceeds from issuance of long-term debt, net of original issuance discount	—	438,552	—
Principal payments on long-term debt	(137)	(433,841)	(110,124)
Debt issuance and modification costs	(18,945)	(8,152)	(2,232)
Interest rate swap settlements	—	27,453	6,423
Repurchase of common stock	—	—	(60,000)
Payments for taxes related to net share settlement of equity awards	(118)	(129)	(230)
Proceeds from exercise of stock options	—	—	225
Dividends paid	—	(5,134)	(10,329)
Principal payments under finance lease obligations	(82)	(36)	—
Net cash provided by (used in) financing activities	155,718	18,713	(176,267)
Net change in cash and cash equivalents	81,416	41,454	76,391
Effect of exchange rate changes on cash and cash equivalents	(2,046)	783	736
Cash and cash equivalents at beginning of period	176,878	134,641	57,514
Cash and cash equivalents at end of period	$ 256,248	$ 176,878	$ 134,641

See accompanying Notes to the Consolidated Financial Statements

CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)

(Dollars in thousands)

	Year Ended December 31,		
	2024	**2023**	**2022**
Supplemental disclosures of cash flow information:			
Net cash paid during the periods for:			
Interest[1]	$ 88,496	$ 34,322	$ 39,503
Income taxes	4,910	43,326	67,122
Non-cash investing activities:			
Change in capital expenditures in accounts payable	(4,006)	(9,431)	7,748
Non-cash financing activities:			
Exchange Existing 9.875% Notes	(446,167)	—	—
Exchange Existing 4.625% Notes	(498,245)	—	—
New 9.875% Notes	446,167	—	—
New 4.625% Notes	498,245	—	—
* Net change in working capital due to the following components:			
Accounts and notes receivable, net	$ 4,519	$ 45,680	$ 60,507
Inventories	68,832	107,796	(153,579)
Prepaid expenses and other current assets	9,106	3,352	593
Income taxes payable	(1,549)	(27,198)	(15,029)
Accounts payable and accruals	(39,501)	(23,876)	7,748
Interest payable	(1,153)	1,808	185
Net change in working capital	$ 40,254	$ 107,562	$ (99,575)

(1) Includes cash received/paid from the monthly settlements and the 2023 termination of our interest rate swaps in the years ended December 31, 2023 and 2022.

See accompanying Notes to the Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY

(Dollars in thousands, except share data)

	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' (Deficit) Equity
Balance as of December 31, 2021	263,255,708	$ 2,633	$ 761,412	$ (7,444)	$ (733,199)	$ 23,402
Net income	—	—	—	—	382,962	382,962
Other comprehensive income (loss):						
Commodity, interest rate and foreign currency derivatives income, net of tax of $(5,060)	—	—	—	15,829	—	15,829
Commodity, interest rate and foreign currency derivatives reclassification adjustments, net of tax of $2,469	—	—	—	(9,431)	—	(9,431)
Foreign currency translation adjustments, net of tax of $0	—	—	—	(7,024)	—	(7,024)
Total other comprehensive loss	—	—	—	(626)	—	(626)
Repurchase of common stock	(6,662,421)	(67)	(18,721)	—	(41,212)	(60,000)
Stock-based compensation	1,348	—	2,311	—	—	2,311
Options exercised	25,000	—	225	—	—	225
Payments for taxes related to net share settlement of equity awards	(22,293)	—	(63)	—	(167)	(230)
Dividends paid ($0.04 per share)	—	—	—	—	(10,329)	(10,329)
Balance as of December 31, 2022	256,597,342	$ 2,566	$ 745,164	$ (8,070)	$ (401,945)	$ 337,715
Net loss	—	—	—	—	(255,250)	(255,250)
Other comprehensive income (loss):						
Commodity, interest rate and foreign currency derivatives income, net of tax of $(474)	—	—	—	1,713	—	1,713
Commodity, interest rate and foreign currency derivatives reclassification adjustments, net of tax of $4,898	—	—	—	(15,267)	—	(15,267)
Foreign currency translation adjustments, net of tax of $(8)	—	—	—	10,166	—	10,166
Total other comprehensive loss	—	—	—	(3,388)	—	(3,388)
Stock-based compensation	258,153	2	4,431	—	—	4,433
Payments for taxes related to net share settlement of equity awards	(23,625)	—	(68)	—	(61)	(129)
Dividends paid ($0.02 per share)	—	—	—	—	(5,134)	(5,134)
Balance as of December 31, 2023	256,831,870	$ 2,568	$ 749,527	$ (11,458)	$ (662,390)	$ 78,247
Net loss	—	—	—	—	(131,165)	(131,165)
Other comprehensive income (loss):						
Foreign currency derivatives income, net of tax of $(13)	—	—	—	85	—	85
Commodity, interest rate and foreign currency derivatives reclassification adjustments, net of tax of $2,124	—	—	—	(7,601)	—	(7,601)
Foreign currency translation adjustments, net of tax of $29	—	—	—	(24,385)	—	(24,385)
Total other comprehensive loss	—	—	—	(31,901)	—	(31,901)
Stock-based compensation	509,924	4	6,031	—	—	6,035
Payments for taxes related to net share settlement of equity awards	(78,084)	—	(220)	—	102	(118)
Balance as of December 31, 2024	257,263,710	$ 2,572	$ 755,338	$ (43,359)	$ (793,453)	$ (78,902)

See accompanying Notes to the Consolidated Financial Statements

(1) Business and Summary of Significant Accounting Policies

Discussion of Business and Structure

GrafTech is a leading manufacturer of high-quality graphite electrode products essential to the production of EAF steel and other ferrous and non-ferrous metals. References herein to "GTI," "we," "our," or "us" refer collectively to the Company and its subsidiaries. Our common stock is listed on the NYSE under the symbol "EAF."

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

Summary of Significant Accounting Policies

The Consolidated Financial Statements include the financial statements of the Company and its wholly owned subsidiaries. All intercompany transactions have been eliminated in consolidation.

Cash and Cash Equivalents

Cash equivalents consist of short-term, highly liquid investments with an original maturity of three months or less. These investments include certificates of deposit, money market funds and commercial paper.

Revenue Recognition

Revenue is recognized when a customer obtains control of promised goods. The amount of revenue recognized reflects the consideration to which the Company expects to be entitled to receive in exchange for these goods.

To achieve this core principle, the following five steps are performed: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) a performance obligation is satisfied.

The Company sells the majority of its products directly to steel manufacturers located in various jurisdictions. The Company's contracts consist of longer-term take-or-pay sales contracts of graphite electrodes with initial terms of up to five years and short-term purchase orders (deliveries within one year). Collectability is assessed based on the customer's ability and intention to pay, reviewing a variety of factors including the customer's historical payment experience and published credit and financial information. Additionally, for multi-year contracts, we may require the customer to post a bank guarantee, guarantee of a parent, a letter of credit or a significant prepayment.

The promises of delivery of graphite electrodes represent the distinct performance obligations of the Company's contracts. A small portion of the Company's sales consist of deliveries of by-products of the manufacturing processes to different customers, such as graphite powders, naphta and gasoil.

Given their nature, the Company's performance obligations are satisfied at a point in time when control of the products has been transferred to the customer. In most cases, control transfer is deemed to happen at the delivery point of the products defined under the incoterms, usually at time of loading the truck or the vessel. The Company has elected to treat the transportation activity as a fulfillment activity instead of as a distinct performance obligation, and outbound freight cost is accrued when the product delivery promises are satisfied.

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring goods to the customer. Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by the Company from a customer are excluded from the transaction price.

Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. The estimated variable consideration is

reflected through revenue reversal accruals that are based on the Company's experience, as well as anticipated performance. Historically, these reversals have been insignificant. Additionally, when termination fees are invoiced under certain provisions of the LTAs, they are accounted for as an element of variable consideration that is constrained, i.e., not recognized, until collected.

Contracts that contain multiple distinct performance obligations require an allocation of the transaction price to each performance obligation based on a relative stand-alone selling price basis. The Company regularly reviews market conditions and internally approved pricing guidelines to determine stand-alone selling prices for the different types of its customer contracts. The stand-alone prices as known at contract inception are utilized as the basis to allocate the transaction price to the distinct performance obligations. The allocation of the transaction price to the performance obligations remains unchanged if stand-alone selling prices change after contract inception.

Changes to LTAs are reviewed to assess whether there has been a change in volume, price or both and whether any additional volumes are at their stand-alone selling price to determine whether the contract modification should be accounted for as (1) part of the existing contract, (2) the termination of the existing contract and the creation of a new contract or (3) a separate contract. Under the most commonly negotiated terms, the accounting is such that it treats these modified contracts as the termination of the existing contract and the creation of a new contract. See Note 2, “Revenue from Contracts with Customers” for more information.

Inventories

Inventories are stated at the lower of cost or net realizable value. Cost is principally determined using the first-in, first-out ("FIFO") or average cost, which approximates FIFO, methods. Elements of cost in inventory include raw materials, energy costs, direct labor, manufacturing overhead and depreciation of manufacturing fixed assets. In 2024 and 2023, the market value of our inventories fell below their carrying amounts, and as a result, we recorded a LCM inventory valuation adjustments of $24.9 million and $12.4 million for the years ended December 31, 2024 and 2023, respectively, in order to state our inventories at market.

The Company allocates fixed production overhead to the cost of conversion based on normal capacity utilization of the production facilities. The Company recognizes abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) as current period charges. As a result of reduced production levels, we recorded fixed manufacturing costs of $22.1 million and $62.4 million that would have otherwise been inventoried for years ended December 31, 2024 and 2023, respectively.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. Routine or ongoing maintenance and repairs of property and equipment are expensed as incurred. Expenditures for replacements and betterments are capitalized and the replaced assets are retired. Gains and losses from the sale of property, plant and equipment are included in cost of goods sold or other (income) expense, net on the Consolidated Statements of Operations. The Company depreciates its assets using the straight-line method over the estimated useful lives of the assets. The ranges of estimated useful lives are as follows:

	Years
Buildings	25-40
Land improvements	20
Machinery and equipment	5-20
Furniture and fixtures	5-10

The carrying value of fixed assets is assessed when events and circumstances indicating impairment are present. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are considered to be not recoverable, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell.

Depreciation expense was $54.3 million, $47.7 million and $45.4 million in 2024, 2023 and 2022, respectively. Accounts payable associated with capital expenditures totaled $10.0 million and $14.0 million as of December 31, 2024 and 2023, respectively.

Leases

The Company determines if an arrangement is a lease at inception. When an arrangement contains a lease, the Company then determines if it meets any of the criteria to be classified as a finance lease. Leases with a term of 12 months or less are not recorded on the balance sheet.

Right of Use ("RoU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's 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, the Company discounts the lease payments using its estimated incremental borrowing rate for secured fixed rate debt over the same term, derived from information available at the lease commencement date. The Company's lease terms include the option to extend the lease when it is reasonably certain that option will be exercised.

Lease and non-lease components are treated 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 Consolidated Statements of Operations. See Note 10, “Leases” for more information.

Accounts Receivable

Trade accounts receivable primarily arise from sales of goods to customers and distributors in the normal course of business.

Allowance for Doubtful Accounts

The Company recognizes credit losses at the time the financial assets originate or are acquired using a lifetime of expected credit losses measurement. The Company's expected losses are adjusted each period for changes in expected lifetime credit losses.

Debt Issuance Costs

Deferred financing costs are amortized over the terms of the related debt using the effective interest method. If the terms of renewed or modified debt instruments are deemed to be substantially different, all unamortized financing costs associated with the modified debt are charged to earnings in the current period. If the terms are not substantially different, the costs associated with the renewal are capitalized and amortized over the remaining term of the debt instrument. For modifications affecting a line of credit, fees paid to a creditor and any third party costs will be capitalized and amortized over the remaining term of the new arrangement. Any unamortized deferred financing costs associated with the old arrangement are either deferred and amortized over the life of the new arrangement or written off, depending upon the nature of the modification and cost. The balance of any unamortized financing costs on extinguished debt is expensed upon extinguishment. In 2024, the Company incurred $18.9 million of debt issuance costs that were capitalized and are being amortized into interest expense over the term of the related debt, as well as $18.4 million of modification costs that were recorded in Interest expense on the Consolidated Statements of Operations. See Note 5, “Debt and Liquidity” and Note 7, “Interest Expense” for more information .

Derivative Financial Instruments

We do not use derivative financial instruments for trading purposes. They are used to manage well-defined commercial risks associated with commodity purchases, interest rates and currency exchange rate risks. On the date that a derivative contract for a hedging instrument is entered into, the Company designates the derivative as either (1) a hedge of the exposure to changes in the fair value of a recognized asset or liability or of an unrecognized firm commitment (a fair value hedge), (2) a hedge of the exposure of a forecasted transaction or of the variability in the cash flows of a recognized asset or liability (a cash flow hedge), (3) a hedge of a net investment in a foreign operation (a net investment hedge) or (4) a contract not designated as a hedging instrument.

For a fair value hedge, both the effective and ineffective portions of the change in the fair value of the derivative are recorded in earnings and reflected in the Consolidated Statement of Operations on the same line as the gain or loss on the hedged item attributable to the hedged risk. For a cash flow hedge, the effective portion of the change in the fair value of the derivative is recorded in accumulated other comprehensive loss ("AOCL") in the Consolidated Balance Sheet. When the underlying hedged transaction is realized, the gain or loss included in AOCL is recorded in earnings and reflected in the

Consolidated Statement of Operations on the same line as the gain or loss on the hedged item attributable to the hedged risk. For a net investment hedge, the effective portion of the change in the fair value of the derivative is recorded in cumulative translation adjustment, which is a component of AOCL in the Consolidated Balance Sheet and is de-recognized upon liquidation or sale of the entity. For contracts not designated as hedging instruments, changes in fair value are adjusted through the statement of operations.

We formally document our hedge relationships, including the identification of the hedging instruments and the related hedged items, as well as our risk management objectives and strategies for undertaking the hedge transaction. Derivatives are recorded at fair value in prepaid expenses and other current assets, other long-term assets, other current liabilities and other long-term obligations in the consolidated balance sheets. We also formally assess, both at inception and at least quarterly thereafter, whether a derivative used in a hedging transaction is highly effective in offsetting changes in either the fair value or the cash flows of the hedged item. When it is determined that a derivative ceases to be highly effective or that the hedged transaction is no longer probable of occurring, we discontinue hedge accounting.

Income Taxes

We file a consolidated U.S. federal income tax return for GTI and its eligible domestic subsidiaries. Our non-U.S. subsidiaries file income tax returns in their respective local jurisdictions. We account for income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and tax benefit carry forwards. Deferred tax assets and liabilities at the end of each period are determined using enacted tax rates. A valuation allowance is established or maintained, when, based on currently available information and other factors, it is more likely than not that all or a portion of a deferred tax asset will not be realized.

Under the guidance on accounting for uncertainty in income taxes, we recognize the benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The guidance on accounting for uncertainty in income taxes also provides guidance on derecognition, classification, interest and penalties on income taxes, and accounting in interim periods.

The Company treats taxes due on future U.S. inclusions in taxable income related to Global Intangible Low Tax Income ("GILTI") as a current period expense when incurred. See Note 13, "Income Taxes" for more information.

Related Party Tax Receivable Agreement

On April 23, 2018, the Company entered into a Tax Receivable Agreement 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 Internal Revenue Code of 1986, as amended from time to time (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 the one-month period SOFR plus 1.10%. The term of the Tax Receivable Agreement commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

The Tax Receivable Agreement liability is recorded based on the best estimate of the utilization of Pre-IPO Tax Assets and is revised annually in the fourth quarter or earlier if and when significant changes in the forecast are identified.

Retirement Plans and Post-Employment Benefits

We use actuarial methods and assumptions to account for our defined benefit pension plans and our post-employment benefits. We recognize in earnings the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each year with a mark-to-market adjustment ("MTM Adjustment") and whenever a plan is remeasured (e.g., due to a significant curtailment, settlement, etc.). Pension and post-employment benefits expense includes the MTM Adjustment, actuarially computed cost of benefits earned during the current service period, the interest cost on accrued obligations, the expected return on plan assets and adjustments due to plan settlements and curtailments. Contributions to the qualified U.S. retirement plan are made in accordance with the requirements of the Employee Retirement Income Security Act of 1974.

Additional information with respect to benefits plans is set forth in Note 11, "Retirement Plans and Post-Employment Benefits."

Stock-based Compensation

The Company recognizes stock-based compensation expense based on the grant date fair value of the award over the period during which an employee or director is required to provide service in exchange for the award. Stock-based awards include stock options, restricted stock units ("RSUs"), performance-based restricted stock units ("PSUs") and deferred share units ("DSUs"). The fair value of RSUs and DSUs is primarily based on the closing market price of a share of the Company's common stock on the date of grant, modified as appropriate to take into account the features of such grants. The fair value of PSUs is determined using a Monte Carlo valuation on the date of grant. Stock options are granted with an exercise price equal to the closing price of the Company's common shares on the date of grant. The fair value of stock options is determined using a Black-Scholes option-pricing model, which incorporates assumptions regarding the expected volatility, the expected option life, the risk-free interest rate, and the expected dividend yield. The Company accounts for forfeitures as they occur. See Note 3, "Stock-Based Compensation" for additional information.

Environmental, Health and Safety Matters

Our operations are governed by laws addressing protection of the environment and worker safety and health. These laws provide for civil and criminal penalties and fines, as well as injunctive and remedial relief, for noncompliance and require remediation at sites where hazardous substances have been released into the environment.

We have been in the past, and may become in the future, the subject of formal or informal enforcement actions or proceedings regarding noncompliance with these laws or the remediation of Company-related substances released into the environment. Historically, such matters have been resolved by negotiation with regulatory authorities resulting in commitments to compliance, abatement or remediation programs and in some cases payment of penalties. Historically, neither the commitments undertaken nor the penalties imposed on us have been material.

Environmental considerations are part of all significant capital expenditure decisions. Environmental remediation, compliance and management expenses were approximately $9.4 million, $12.1 million and $22.4 million in 2024, 2023 and 2022, respectively. A charge to income is recorded when it is probable that a liability has been incurred and the cost can be reasonably estimated. The accrued liability relating to environmental expenses was $3.9 million and $4.4 million as of December 31, 2024 and 2023, respectively.

Foreign Currency Translation and Remeasurement

We translate the financial statements of foreign subsidiaries, whose local currency is their functional currency, to U.S. dollars using period-end exchange rates for assets and liabilities and average exchange rates for each period for revenues, expenses, gains and losses. Differences arising from exchange rate changes are included in AOCL on the Consolidated Balance Sheets until such time as the operations of such non-U.S. subsidiaries are sold or substantially or completely liquidated.

For our Russian, Swiss, Luxembourg, United Kingdom and Mexican subsidiaries, whose functional currency is the U.S. dollar, we remeasure non-monetary balance sheet accounts and the related income statement accounts at historical exchange rates. Resulting gains and losses arising from the fluctuations in currency for monetary accounts are recognized in cost of goods sold in the Consolidated Statements of Operations. Gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized in earnings as incurred.

We have non-dollar denominated intercompany loans between some of our foreign subsidiaries. These loans are subject to remeasurement gains and losses due to changes in currency exchange rates. One of these loans has been deemed to be essentially permanent in duration prior to settlement and, as a result, remeasurement gains and losses on this loan were recorded as a component of AOCL on the Consolidated Balance Sheets. The remaining loans are deemed to be not permanent in nature and, as a result, remeasurement gains and losses on these loans are recorded as currency (gains) losses in other (income) expense, net, on the Consolidated Statements of Operations.

Other Intangible Assets and Goodwill

Other amortizable intangible assets, which consist primarily of trademarks and trade names, technology and know-how and customer-related intangibles, are amortized over their estimated useful lives using the straight-line or accelerated depreciation method. The estimated useful lives for each major category of amortizable intangible assets are:

	Years
Trade names	5-20
Technology and know-how	5-14
Customer-related intangibles	5-15

The carrying value of intangible assets is assessed when events and circumstances indicating impairment are present. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Additional information about goodwill and other intangibles is set forth in Note 6, "Other Intangible Assets and Goodwill."

Prior to 2024, the Company performed an annual impairment test for its goodwill, which was fully impaired during 2023, leaving no balance.

Major Maintenance and Repair Costs

We perform scheduled major maintenance of the storage and processing units at our Seadrift plant (referred to as "overhaul"). Time periods between overhauls vary by unit. We also perform significant maintenance and repair shutdown of the plant (referred to as "turnaround") every other year.

Costs of overhauls and turnarounds include plant personnel, contract services, materials and rental equipment. We defer these costs when incurred and use the straight-line method to amortize them over the period of time estimated to lapse until the next scheduled overhaul of the applicable storage or processing unit. Under this policy, $4.1 million was deferred in 2024 and $0.7 million was deferred in 2023. Amortization of deferred maintenance costs totaled $6.2 million, $7.5 million and $4.7 million in 2024, 2023 and 2022, respectively, and are classified as a component of cost of goods sold on the Consolidated Statements of Operations.

(Loss) Earnings per share

The calculation of basic (loss) earnings per share is based on the weighted average number of common shares outstanding. Diluted (loss) earnings per share reflects the assumed conversion of all dilutive common stock equivalents as appropriate using the treasury stock method. See Note 15, "(Loss) Earnings per Share."

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenue and expenses. Significant estimates and assumptions are used for, but are not limited to, inventory valuation, pension and other post-employment benefits, allowance for doubtful accounts, contingent liabilities, accruals and valuation allowances, asset impairment, and environmental-related accruals. Actual results could differ from our estimates.

Subsequent Events

We evaluate events that occur after the balance sheet date but before financial statements are issued to determine if a material event requires our amending the financial statements or disclosing the event.

Recently Adopted Accounting Standards

In November 2023, the FASB issued Accounting Standards Update ("ASU") 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*, which is intended to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The guidance is effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. The guidance is to be applied retrospectively to all prior periods presented in the financial statements. Upon transition, the segment expense categories and amounts disclosed in the prior periods should be based on the significant segment expense categories identified and disclosed in the period of adoption. The adoption of this ASU did not have a material impact on our consolidated financial statements and related disclosures.

Recently Issued Accounting Pronouncements Not Yet Adopted

In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures* , which is intended to enhance the transparency, decision usefulness and effectiveness of income tax disclosures. The amendments in this ASU require a public entity to disclose a tabular tax rate reconciliation, using both percentages and currency, with specific categories. A public entity is also required to provide a qualitative description of the states and local jurisdictions that make up the majority of the effect of the state and local income tax category and the net amount of income taxes paid, disaggregated by federal, state and foreign taxes and also disaggregated by individual jurisdictions. The amendments also remove certain disclosures that are no longer considered cost beneficial. The amendments are effective prospectively for annual periods beginning after December 15, 2024, and early adoption and retrospective application are permitted. Although the ASU only modifies the Corporation's required income tax disclosures, the Corporation is currently evaluating the impact of adopting this guidance on the consolidated financial statements, but does not expect it to be material.

In November 2024, the FASB issued ASU 2024-03, *Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses*. Under this ASU, a public entity would be required to disclose information about purchases of inventory, employee compensation, depreciation, intangible asset amortization, and depletion for each income statement line item that contains those expenses. This ASU is effective for annual reporting periods beginning after December 15, 2026 and interim reporting periods beginning after December 15, 2027. This ASU allows for early adoption and requires either prospective adoption to financial statements issued for reporting periods after the effective date of this ASU or retrospectively to any or all prior periods presented in the financial statements. The Company is currently assessing the impact of this ASU on its financial statements and disclosures, but does not expect it to be material.

(2) Revenue from Contracts with Customers

Disaggregation of Revenue

The following table provides information about disaggregated revenue by type of product and contract:

	Year Ended December 31,		
	2024	**2023**	**2022**
	(Dollars in thousands)		
Graphite Electrodes - LTAs	$ 116,786	$ 253,262	$ 870,287
Graphite Electrodes - Non-LTAs	376,858	338,746	351,140
By-products and other	45,138	28,492	59,823
Total Revenues	$ 538,782	$ 620,500	$ 1,281,250

Contract Balances

Substantially all the Company's receivables relate to contracts with customers. Accounts receivable are recorded when the right to consideration becomes unconditional. Payment terms on invoices primarily range from 20 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 prepayment and the expected delivery of the related products. Additionally, deferred revenue or contract assets originate 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 and contract assets are realized through the contract invoicing.

The Company did not have any contract asset balances as of December 31, 2024 or 2023.

Current deferred revenue is included in "Other accrued liabilities" on the Consolidated Balance Sheets. The following table provides our contract liability balances as of December 31, 2024 and 2023.

	December 31, 2024	**December 31, 2023**
	(Dollars in thousands)	
Current deferred revenue	$ 11,223	$ 31,583

The amount of revenue recognized in 2024 that was included in the December 31, 2023 current deferred revenue balance was $26.0 million. The decrease in the December 31, 2024 current deferred revenue balance versus the prior year was primarily due to revenue recognized in the current year, partially offset by customer prepayments. The amount of revenue recognized in 2023 that was included in the December 31, 2022 deferred revenue current balance was $13.0 million.

(3) Stock-Based Compensation

The Company's Omnibus Equity Incentive Plan permits the granting of options and other stock-based awards (including restricted stock units ("RSUs"), deferred restricted stock units ("DRSUs") performance-based restricted stock units ("PSUs") and deferred share units ("DSUs")). As of December 31, 2024, the aggregate number of shares authorized under the plan since its initial adoption was 15.0 million. Shares issued upon vesting or exercise are new share issuances. Upon the vesting or payment of stock awards, an employee may elect receipt of the full share amount and either pay the resulting taxes or have the Company withhold shares to cover the tax obligation up to minimum statutory rates. At December 31, 2024, 4.8 million common stock shares were available for future issuance.

Stock-based compensation expense was $6.0 million, $4.4 million and $2.3 million in 2024, 2023 and 2022, respectively. A majority of the expense, $5.3 million in 2024, $4.0 million in 2023 and $2.1 million in 2022, was classified as selling and administrative expenses in the Consolidated Statement of Operations, with the remaining expenses classified as cost of goods sold.

The Company derives a tax deduction measured by the excess of the market value over the grant price at the date stock-based compensation awards are exercised or vest. The Company recognized tax expense of $0.3 million and $0.2 million in 2024 and 2023, respectively, and a tax benefit of less than $0.1 million in 2022, relating to the issuance of common stock for the exercise/vesting of equity awards.

Stock Options. Non-qualified stock options may be granted to our employees and directors. Stock options granted in 2023 vest over a three-year period, with one-third of the award vesting on the anniversary date of the grant in each of the next three years. Stock options granted prior to 2023 vest over a five-year period, with one-fifth of the award vesting on the anniversary date of the grant in each of the five years following the grant date. No stock options were granted in 2024. All stock options expire 10 years from the date of grant. Stock option exercises are satisfied through the issuance of common shares. Compensation expense for stock options is based on the fair value of the stock option on the date of the grant. We calculate the fair value of stock options using the Black-Scholes option-pricing model. The weighted average assumptions used in our Black-Scholes option pricing model for options granted in 2023 and 2022 were as follows:

	2023	2022
Dividend yield	0.71% - 0.83%	0.40% - 0.56%
Expected volatility	58.16 %	58.14 %
Risk-free interest rate	3.60% - 4.10%	1.93% - 2.89%
Expected term in years	6.0 years	6.5 years

Dividend Yield. Our dividend yield estimate is based on our expected dividends and the stock price on the grant date.

Expected Volatility. We estimate the volatility of our common stock at the date of grant based on the historical volatility of the Company's stock. The volatility factor we use is based on our historical closing prices since our stock has been publicly traded.

Risk-Free Interest Rate. We base the risk-free interest rate on the implied yield currently available on U.S. Treasury zero-coupon issues with an equivalent remaining term equal to the expected life of the award.

Expected Term In Years. The expected life of awards granted represents the time period that the awards are expected to be outstanding. We determined the expected term of the grants using the "simplified" method as described by the SEC, since we do not have a history of stock option awards to provide a reliable basis for estimating such term.

The following table summarizes activity related to stock options during 2024:

	Number of Options	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value (thousands)	Weighted Average Remaining Term (Years)
Outstanding at December 31, 2023	2,027,611	$ 11.27		
Granted	—	—		
Exercised	—	—		
Forfeited or expired	(34,939)	6.94		
Outstanding at December 31, 2024	1,992,672	$ 11.34	$ —	5.5 years
Vested and Expected to vest as of December 31, 2024	1,992,672	$ 11.34	$ —	5.5 years
Exercisable at December 31, 2024	1,611,366	$ 12.25	$ —	5.0 years

Outstanding options have exercise prices ranging from $4.83 per share to $20.00 per share.

A summary of the status and changes of unvested stock options and the related average price per share follows:

	Number of Options	Weighted-Average Grant Date Fair Value
Outstanding unvested as of December 31, 2023	582,994	$ 4.04
Granted	—	—
Vested	(174,225)	3.87
Forfeited	(27,463)	4.01
Outstanding unvested as of December 31, 2024	381,306	$ 4.12

We recognized stock-based compensation expense of $0.6 million, $0.8 million and $0.6 million in 2024, 2023 and 2022, respectively, relating to stock options. As of December 31, 2024, there was $1.0 million of total unrecognized compensation cost related to unvested stock options, which is expected to be amortized over a weighted average period of 1.8 years. The total fair value of options vested was $0.7 million in both 2024 and 2023 and $0.3 million in 2022. There were 25,000 options exercised in 2022. No options were exercised in 2024 or 2023. Cash received from option exercises during 2022 was $0.2 million.

RSUs - Employees. RSUs constitute an agreement to deliver shares of common stock to the participant at the end of a vesting period. Compensation expense for RSUs is based on the closing price of our common stock on the date of grant, less forfeitures or cancellations of awards throughout the vesting period. RSUs granted in 2023 and after vest over a three-year period, with one-third of the award vesting on the anniversary date of the grant in each of the next three years. RSUs granted prior to 2023 vest over a five-year period, with one-fifth of the award vesting on the anniversary date of the grant in each of the five years following the grant date. A summary of the status and changes of unvested but outstanding shares subject to RSU awards for employees and the related average price per share follows:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding unvested as of December 31, 2023	885,365	$ 7.18
Granted	3,299,462	1.80
Cancelled	(322,093)	3.36
Vested	(263,661)	6.92
Outstanding unvested as of December 31, 2024	3,599,073	$ 2.61

During 2024, 2023 and 2022, we recognized stock-based compensation expense of $3.2 million, $1.7 million and $0.7 million, respectively, relating to RSU awards for employees. The total fair value of RSU awards vested during 2024, 2023 and 2022 was $1.8 million, $0.9 million and less than $0.1 million, respectively. As of December 31, 2024, $6.4 million of expense with respect to non-vested RSUs has yet to be recognized and will be amortized into expense over a weighted-average period of approximately 2.0 years.

PSUs. Beginning in 2023, executive officers and selected other employees receive PSU awards. Payouts, in the form of unrestricted common stock, vary between 0% and 200% based on the degree to which the Company's total shareholder return relative to a peer group's performance exceeds predetermined threshold, target and maximum performance goals over three-year performance periods with measurement periods after 12-, 24-, and 36-months. No payout will occur unless threshold performance is achieved. The final payout for PSUs granted in 2024 is subject to a 3.5x value cap. The following table summarizes the activity related to PSUs during 2024:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding as of December 31, 2023	348,015	$ 7.23
Granted	1,477,084	1.06
Vested	—	—
Forfeited	(67,268)	3.88
Outstanding as of December 31, 2024	1,757,831	$ 2.17

The fair value of grants of PSUs is determined using a Monte Carlo valuation. Total compensation expense for PSUs in 2024 and 2023 was $1.2 million and $0.7 million, respectively. As of December 31, 2024, there was $1.9 million of unrecognized compensation cost related to PSUs.

RSUs and DRSUs - Non-Employee Directors. Beginning in 2023, non-employee directors receive annual grants of service-based RSUs that are expected to vest six months after the date of grant, subject generally to a non-employee director's continued service on the Company's Board of Directors. Compensation expense for RSUs and DRSUs is based on the closing price of our common stock on the date of grant, less forfeitures or cancellations of awards throughout the vesting period. Non-employee directors have the option to elect to defer receipt of their vested RSUs and instead be granted service-based DRSUs that are equivalent in value to the RSUs. DRSUs will be paid out either as soon as practicable following the date of termination of the director's service as a director (but in any event no later than the last day of the calendar year in which such termination occurs) in a single lump sum or in substantially equal 20% installments on the first five annual anniversaries of the date of termination of service as a director. The following table summarizes RSU and DRSU activity during 2024 for our non-employee directors:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding as of December 31, 2023	130,923	$ 4.25
Granted	395,480	1.72
Vested and delivered	(136,965)	2.15
Outstanding vested and deferred as of December 31, 2024	389,438	$ 2.42

The Company recognized $0.7 million and $0.6 million of expense related to these awards in 2024 and 2023, respectively.

DSUs. DSUs are primarily granted to our non-employee directors in lieu of cash retainers and vest immediately upon grant. All whole DSUs will be settled in shares of our common stock after the Director's termination of service on the Board and any fractional shares will be settled in cash. The following table summarizes DSU activity during 2024:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding as of December 31, 2023	377,540	$ 6.52
Granted	262,906	1.30
Distributed	(109,334)	6.44
Outstanding vested and deferred as of December 31, 2024	531,112	$ 3.95

During 2024, 2023 and 2022, we recognized stock-based compensation expense of $0.3 million, $0.6 million and $1.0 million, respectively, relating to DSU awards. The total fair value of DSU awards vested was $0.3 million in 2024, $0.5 million in 2023 and $1.0 million in 2022.

(4) Segment Reporting

Our Industrial Materials segment, our only operating and reportable segment, manufactures high-quality graphite electrodes essential to the production of EAF steel and other ferrous and non-ferrous metals. Petroleum needle coke, a crystalline form of carbon derived from decant oil, is a key raw material used in the production of graphite electrodes. We utilize the majority of the needle coke that we produce internally to manufacture our graphite electrodes and as a result approximately 92% of our revenues from external customers are derived from the sale of graphite electrodes. No single customer accounted for 10% or more of the Company's net sales in 2024, 2023 or 2022.

The accounting policies of our Industrial Materials segment are the same as those described in Note 1, "Business and Summary of Significant Accounting Policies." Our chief operating decision maker is our chief executive officer. The chief operating decision maker assesses performance for our Industrial Materials segment and decides how to allocate resources based on net (loss) income, which is also reported on the Consolidated Statements of Operations and Comprehensive (Loss) Income as consolidated net (loss) income. The measure of segment assets is reported on the Consolidated Balance Sheets as total consolidated assets.

The chief operating decision maker uses net (loss) income to evaluate growth trends, establish budgets, assess operational efficiencies and evaluate our overall financial performance.

The following table presents selected financial information with respect to the Company's single operating segment for the years ended December 31, 2024, 2023 and 2022:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Net sales	$ 538,782	$ 620,500	$ 1,281,250
Cash cost of goods sold[1]	442,699	507,233	636,082
Other segment expenses	91,058	64,624	90,291
Lower of cost or market inventory valuation adjustment	24,878	12,431	—
Research and development	5,706	5,520	3,641
Selling and administrative expenses	46,510	74,012	76,977
Rationalization expenses	3,156	—	—
Goodwill impairment charges	—	171,117	—
Other (income) expense, net	(1,569)	4,679	(10,147)
Interest expense	85,313	58,087	36,568
Interest income	(5,701)	(3,439)	(4,480)
Income tax (benefit) expense	(22,103)	(18,514)	69,356
Net (loss) income	$ (131,165)	$ (255,250)	$ 382,962

(1) Cash cost of goods sold is defined as cost of goods sold less depreciation and amortization and less cost of goods sold associated with the portion of our sales that consist of deliveries of by-products of the manufacturing processes, and is the significant expense the chief operating decision maker uses to evaluate segment expenses.

The following tables summarize information as to the Company's operations in different geographic areas:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Net sales:			
United States	$ 171,192	$ 206,263	$ 340,793
Americas (excluding the United States)	95,513	100,364	256,253
Asia Pacific	57,581	66,214	116,849
Europe, Middle East, Africa	214,496	247,659	567,355
Total	$ 538,782	$ 620,500	$ 1,281,250

	December 31,	
	2024	2023
	(Dollars in thousands)	
Long-lived assets (a):		
United States	$ 182,087	$ 196,847
Mexico	109,020	117,414
Brazil	3,451	4,424
France	84,059	93,660
Spain	103,734	109,127
Other countries	348	642
Total	$ 482,699	$ 522,114

(a) Long-lived assets represent fixed assets, net of accumulated depreciation.

(5) Debt and Liquidity

The following table presents our long-term debt:

	December 31, 2024	December 31, 2023
	(Dollars in thousands)	
Initial First Lien Term Loans due 2029	175,000	—
Existing 4.625% Senior Notes due 2028	1,755	500,000
New 4.625% Second Lien Notes due 2029	498,245	—
Existing 9.875% Senior Notes due 2028	3,833	450,000
New 9.875% Second Lien Notes due 2029	446,167	—
Other debt	—	139
Unamortized debt discount and issuance costs	(38,085)	(24,494)
Total debt	1,086,915	925,645
Less: Long-term debt, current portion	—	(134)
Long-term debt	$ 1,086,915	$ 925,511

On December 23, 2024 (the "Settlement Date"), the Company consummated offers by GrafTech Finance Inc. ("GrafTech Finance") and GrafTech Global Enterprises Inc. ("GrafTech Global" and, together with GrafTech Finance, the "Issuers"), each a subsidiary of the Company, to exchange (each an "Exchange Offer" and, together, the "Exchange Offers") any and all of (i) GrafTech Finance's 4.625% senior secured notes due 2028 (the "Existing 4.625% Notes") and (ii) GrafTech Global's 9.875% senior secured notes due 2028 (the "Existing 9.875% Notes" and, together with the Existing 4.625% Notes, the "Existing Notes"), for new 4.625% second lien notes due 2029 (the "New 4.625% Notes") and new 9.875% second lien notes due 2029, respectively (the "New 9.875% Notes").

The Company and the Issuers also consummated the solicitation of consents (with respect to each series of Existing Notes, a "Consent Solicitation" and, collectively, the "Consent Solicitations"), on the terms and subject to the conditions set forth in a confidential exchange offer memorandum and consent solicitation statement (the "Offering Memorandum") from certain eligible holders of each series of the Existing Notes (the "Existing Noteholders") (with respect to each series of Existing Notes, a "Consent" and, collectively, the "Consents") pursuant to which amendments were entered into to the indenture governing the Existing 4.625% Notes (as amended, the "Existing 4.625% Notes Indenture"), and the indenture governing the Existing 9.875% Notes (the "Existing 9.875% Notes Indenture" and, together with the Existing 4.625% Notes Indenture, the "Existing Notes Indentures"), that (i) eliminated substantially all of the restrictive covenants as well as certain events of default and related provisions and definitions in the Existing Notes Indentures and (ii) released all of the collateral securing the Existing Notes.

Issuance of New Notes due 2029

On December 23, 2024, GrafTech Finance issued New 4.625% Notes in an aggregate principal amount of $498.2 million and GrafTech Global issued New 9.875% Notes in an aggregate principal amount of $446.2 million in exchange for $498.2 million of GrafTech Finance's Existing 4.625% Notes and $446.2 million of GrafTech Global's Existing 9.875% Notes, respectively, validly tendered and accepted in connection with the Exchange Offers. The New Notes are the Issuers' second lien obligations.

The New 4.625% Notes were issued pursuant to an indenture, dated as of the Settlement Date (the "New 4.625% Notes Indenture"), by and among GrafTech Finance, the Company, each subsidiary guarantor from time to time party thereto (collectively, the "Subsidiary Guarantors," and, together with the Company, the "Guarantors"), and U.S. Bank Trust Company, National Association, as trustee (the "New Trustee") and collateral agent (the "New Notes Collateral Agent"). The New 4.625% Notes will pay interest of 4.625% semiannually per annum.

The New 9.875% Notes were issued pursuant to an indenture, dated as of the Settlement Date (the "New 9.875% Notes Indenture" and, together with the New 4.625% Notes Indenture, the "New Notes Indentures"), by and among GrafTech Global, GrafTech Finance, the Guarantors, the New Trustee and the New Notes Collateral Agent. The New 9.875% Notes will pay interest of 9.875% semiannually per annum.

GrafTech Finance may redeem some or all of the New 4.625% Notes at the redemption prices and on the terms specified in the New 4.625% Notes Indenture. If, at any time prior to December 23, 2026, all or a portion of the outstanding principal amount of the New 4.625% Notes are prepaid, repaid, redeemed or accelerated (or deemed accelerated), including as a result of GrafTech Finance filing for bankruptcy or becoming subject to any other insolvency proceeding, GrafTech Finance will be required to pay the applicable New 4.625% Notes Redemption Price (as defined in the New 4.625% Notes Indenture).If the Company or GrafTech Finance experiences specific kinds of changes in control or the Company or any of the restricted subsidiaries sells certain of its assets, then GrafTech Finance must offer to repurchase the New 4.625% Notes on the terms set forth in the New 4.625% Notes Indenture.

On and after December 23, 2026, GrafTech Global may redeem some or all of the New 9.875% Notes at the redemption prices and on the terms specified in the New 9.875% Notes Indenture. At any time prior to December 23, 2026, GrafTech Global may also at its option and on one or more occasions redeem up to 40% of the aggregate principal amount of the notes issued with the proceeds from certain equity offerings, at a redemption price of 109.875% of the aggregate principal amount of the notes, together with accrued and unpaid interest, if any, to, but not including, the date of redemption. In addition, at any time prior to December 23, 2026, GrafTech Global may at its option on one or more occasions redeem all or a part of the notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus a "make-whole" premium, together with accrued and unpaid interest, if any, to, but not including, the date of redemption. If, at any time prior to December 23, 2028, all or a portion of the outstanding principal amount of the New 9.875% Notes are prepaid, repaid, redeemed or accelerated (or deemed accelerated), including as a result of GrafTech Global filing for bankruptcy or becoming subject to any other insolvency proceeding, GrafTech Global will be required to pay the applicable New 9.875% Notes Redemption Price or the Applicable Premium (each as defined in the New 9.875% Notes Indenture), as applicable.If the Company or GrafTech Global experiences specific kinds of changes in control or the Company or any of the restricted subsidiaries sells certain of its assets, then GrafTech Global must offer to repurchase the New 9.875% Notes on the terms set forth in the New 9.875% Notes Indenture.

The New Notes Indentures contain certain covenants that, among other things, limit the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the New

Notes Indentures, if our pro forma consolidated total net leverage ratio is no greater than 2.50 to 1.00, we can make restricted payments so long as no default or event of default has occurred and is continuing. If our pro forma consolidated total net leverage ratio is greater than 2.50 to 1.00, we can make restricted payments pursuant to certain baskets. We were in compliance with all of our debt covenants in the New Notes Indentures as of December 31, 2024.

The New 4.625% Notes are guaranteed, jointly and severally, on a senior secured second-priority basis by the domestic Guarantors (the "U.S. Guarantors") that guarantee the Existing 4.625% Notes and certain other foreign subsidiary Guarantors of the Company (the "Foreign Guarantors"). The New 9.875% Notes are guaranteed, jointly and severally, on a senior secured second-priority basis by the U.S. Guarantors that guarantee the Existing 9.875% Notes and the Foreign Guarantors. In accordance with the terms of the New Notes Indentures, the New Trustee is obligated to first enforce the guarantees of the U.S. Guarantors prior to any guarantees of the Foreign Guarantors, subject to certain terms described therein. The New Notes are secured by a perfected second-priority security interest in all of the assets and property of the Issuers and the Guarantors that currently secure the Existing Notes, and certain other assets and property of the Foreign Guarantors as set forth in the New Notes Indentures (the "Collateral").

The New Notes and each guarantee constitute: senior obligations that rank pari passu in right of payment with all of our and the Guarantors' existing and future senior indebtedness, including the First Lien Term Loans (as defined below) and the 2018 Revolving Credit Facility (as defined herein); provided, that the First Lien Term Loans and the 2018 Revolving Credit Facility are senior in right of payment to the New Notes with respect to proceeds of the Foreign Guarantor facility located in Calais, France (the "Calais Facility") solely to the extent that such facility does not constitute Collateral; secured on a second-priority basis, subject to certain exceptions and permitted liens, on the Collateral that secures the First Lien Term Loans and the 2018 Revolving Credit Facility on a first-priority basis; effectively junior to all of our and the Guarantors' obligations under the First Lien Term Loans and the 2018 Revolving Credit Facility (and other indebtedness secured on a first-priority basis on the Collateral pari passu with the liens securing the First Lien Term Loans and the 2018 Revolving Credit Facility) to the extent of the value of the Collateral securing the First Lien Term Loans and the 2018 Revolving Credit Facility (and such other indebtedness secured on a first-priority basis on the Collateral); effectively senior to all of our and the Guarantors' future debt that is secured by liens on the Collateral securing the New Notes that are junior to those securing the New Notes and to any of our and the Guarantors' unsecured indebtedness, in each case, to the extent of the value of the Collateral securing the New Notes and the guarantees; and structurally subordinated to all of our existing and future indebtedness and other liabilities, including trade payables, of each of our subsidiaries that do not issue or guarantee the New Notes.

Existing 4.625% Notes due 2028

In December 2020, GrafTech Finance issued $500.0 million aggregate principal amount of Existing 4.625% Notes in a private offering. All of the net proceeds from the Existing 4.625% Notes were used to partially repay borrowings under our 2018 Term Loan Facility.

GrafTech Finance may redeem some or all of the Existing 4.625% Notes at the redemption prices and on the terms specified in the Existing 4.625% Notes Indenture. Prior to the Settlement Date, if the Company or GrafTech Finance experienced specific kinds of changes in control or the Company or any of its restricted subsidiaries sold certain of its assets, then GrafTech Finance was required to offer to repurchase the Existing 4.625% Notes on the terms set forth in the Existing 4.625% Notes Indenture.

Prior to the Settlement Date, the Existing 4.625% Notes Indenture contained certain covenants that, among other things, limited the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the Existing 4.625% Notes Indenture, prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was no greater than 2.00 to 1.00, we could make restricted payments so long as no default or event of default had occurred and was continuing. Prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was greater than 2.00 to 1.00, we could make restricted payments pursuant to certain baskets. In connection with the consummation of the Consent Solicitations, substantially all of the restrictive covenants and related provisions and definitions in the Existing 4.625% Notes Indenture were removed, effective as the Settlement Date.

The Existing 4.625% Notes Indenture contains certain events of default customary for agreements of its type (with customary grace periods, as applicable) and provides that, upon the occurrence of an event of default arising from certain events of bankruptcy or insolvency with respect to the Company or GrafTech Finance, all outstanding Existing 4.625% Notes will become due and payable immediately without further action or notice. If any other type of event of default occurs and is

continuing, then the trustee or the holders of at least 30% in principal amount of the then outstanding Existing 4.625% Notes may declare all of the Existing 4.625% Notes to be due and payable immediately. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Following the Exchange Offer, approximately $1.8 million aggregate principal amount of Existing 4.625% Notes remain outstanding.

Existing 9.875% Notes due 2028

In June 2023, GrafTech Global issued $450 million aggregate principal amount of Existing 9.875% Notes, including $11.4 million of original issue discount. The Existing 9.875% Notes were issued at an issue price of 97.456% of the principal amount thereof in a private offering. The net proceeds from the Existing 9.875% Notes were used to repay borrowings under our 2018 Term Loan Facility.

GrafTech Global may redeem some or all of the Existing 9.875% Notes at the redemption prices and on the terms specified in the Existing 9.875% Notes Indenture. Prior to the Settlement Date, if the Company or GrafTech Global experienced specific kinds of changes in control or the Company or any of its restricted subsidiaries sold certain of its assets, then GrafTech Global was required to offer to repurchase the Existing 9.875% Notes on the terms set forth in the Existing 9.875% Notes Indenture.

Prior to the Settlement Date, the Existing 9.875% Notes Indenture contained certain covenants that, among other things, limited the Company's ability, and the ability of certain of its subsidiaries, to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase subordinated debt, incur or suffer to exist liens securing indebtedness, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect a consolidation or merger, or sell, transfer, lease or otherwise dispose of all or substantially all assets. Pursuant to the Existing 9.875% Notes Indenture, prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was no greater than 2.00 to 1.00, we could make restricted payments so long as no default or event of default had occurred and was continuing. Prior to the Settlement Date, if our pro forma consolidated first lien net leverage ratio was greater than 2.00 to 1.00, we could make restricted payments pursuant to certain baskets. In connection with the consummation of the Consent Solicitations, substantially all of the restrictive covenants and related provisions and definitions in the Existing 9.875% Notes Indenture were removed, effective as the Settlement Date.

The Existing 9.875% Notes Indenture contains certain events of default customary for agreements of its type (with customary grace periods, as applicable) and provides that, upon the occurrence of an event of default arising from certain events of bankruptcy or insolvency with respect to the Company or GrafTech Global, all outstanding Existing 9.875% Notes will become due and payable immediately without further action or notice. If any other type of event of default occurs and is continuing, then the trustee or the holders of at least 30% in principal amount of the then outstanding Existing 9.875% Notes may declare all of the Existing 9.875% Notes to be due and payable immediately. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Following the Exchange Offer, approximately $3.8 million aggregate principal amount of Existing 9.875% Notes remains outstanding.

Initial First Lien Term Facility; Delayed Draw First Lien Term Facility

Concurrent with the settlement of the Exchange Offers, on the Settlement Date, Barclays Bank plc (the "Fronting Lender"), agreed to provide GrafTech Global $175 million of new senior secured first lien term loans (the "Initial First Lien Term Loans") and provided commitments (the "Delayed Draw Commitments") with respect to $100 million of new senior secured first lien delayed draw term loans (together with the Initial First Lien Term Loans, the "First Lien Term Loans"). The First Lien Term Loans are governed by a new credit agreement, dated as of the Settlement Date, by and among GrafTech, as holdings, GrafTech Global, as borrower, GLAS USA LLC, as administrative agent, GLAS Americas LLC, as collateral agent, and the lenders from time to time party thereto (the "First Lien Term Loan Credit Agreement"). The Initial First Lien Term Loans were drawn in a single drawing on the Settlement Date. The Delayed Draw Commitments are available to the Company until July 23, 2026, subject to the satisfaction of customary conditions precedent thereto.

The First Lien Term Loans will mature on December 23, 2029, and are guaranteed by the Guarantors. The First Lien Term Loans are pari passu in right of payment with the 2018 Revolving Credit Facility and the New Notes, but the First Lien Term Loans and the 2018 Revolving Credit Facility are senior in right of payment to the New Notes with respect to the proceeds of the Calais Facility. The First Lien Term Loans and the 2018 Revolving Credit Facility are secured on a pari passu basis by perfected first-priority security interests in the Collateral.

The First Lien Term Loans bear interest at the option of GrafTech Global, at a rate equal to (i) Term SOFR (as defined in the First Lien Term Loan Credit Agreement) (subject to a 2.00% floor) plus 6.00% per annum or (ii) the ABR (as defined in the First Lien Term Loan Credit Agreement) plus 5.00% per annum.

The Company will pay a ticking fee with respect to undrawn Delayed Draw Commitments in an amount equal to 3.75% per annum of the amount of such undrawn and outstanding commitments. The First Lien Term Loans are prepayable in whole or in part at the option of the Company (i) prior to the 24-month anniversary of the Settlement Date, subject to payment of a customary "make-whole" premium (which includes a 2.00% prepayment premium), (ii) on or after the 24-month anniversary of the Settlement Date through, but excluding, the 36-month anniversary of the Settlement Date, subject to a 2.00% prepayment premium, and (iii) on or after the 36-month anniversary of the Settlement Date, without a prepayment premium. If the Company sells certain of its assets, then GrafTech Global may be required to offer to prepay the First Lien Term Loans and/or other indebtedness of GrafTech Global and/or its subsidiaries.

The First Lien Term Loan Credit Agreement contains certain covenants that, among other things, limit the Company's ability to incur or guarantee additional indebtedness or issue preferred stock, pay distributions on, redeem or repurchase capital stock or redeem or repurchase certain debt, incur or suffer to exist certain liens, make certain investments, engage in certain transactions with affiliates, consummate certain asset sales and effect certain fundamental changes. The First Lien Term Loan Credit Agreement also contains certain events of default (with grace periods, as applicable) that permit the agent to accelerate the First Lien Term Loans, and provide that, upon the occurrence of certain events of default arising from bankruptcy or insolvency, all First Lien Term Loans will become due and payable immediately without further action or notice.

2018 Term Loan and 2018 Revolving Credit Facility

In February 2018, the Company entered into a credit agreement (as amended, the "2018 Credit Agreement"), which provided for (i) a $2,250 million senior secured term facility (the "2018 Term Loan Facility") after giving effect to the June 2018 amendment (the "First Amendment") that increased the aggregate principal amount of the 2018 Term Loan Facility from $1,500 million to $2,250 million and (ii) a $330 million senior secured revolving credit facility after giving effect to the May 2022 amendment that increased the revolving commitments under the 2018 Credit Agreement by $80 million from $250 million (the "2018 Revolving Credit Facility"). GrafTech Finance Inc. ("GrafTech Finance") was the sole borrower under the 2018 Term Loan Facility while GrafTech Finance, GrafTech Switzerland SA ("Swissco") and GrafTech Luxembourg II S.à.r.l. ("Luxembourg Holdco" and, together with GrafTech Finance and Swissco, the "Co-Borrowers") were co-borrowers under the 2018 Revolving Credit Facility. In December 2024, the 2018 Credit Agreement was further amended to provide for a $225 million senior secured first lien revolving credit facility, reducing the revolving commitments under the 2018 Credit Agreement by $105 million. On June 26, 2023, GrafTech repaid the term loans under the 2018 Term Loan Facility with proceeds from the Existing 9.875% Notes issuance. As of December 31, 2024, there are no outstanding term loans under the 2018 Term Loan Facility.

Until at least $275 million of First Lien Term Loans have been borrowed by the Company, the Company is not permitted to have more than $15 million in aggregate principal amount of revovling loans outstanding at any time under the 2018 Revolving Credit Facility. The Company's ability to borrow under the 2018 Revolving Credit Facility is subject to certain customary conditions precedent, including that the Company must not have more than $100 million of unrestricted cash and cash equivalents after giving effect to the applicable borrowing.

The 2018 Revolving Credit Facility matures on November 30, 2028, subject to a springing maturity date 91 days prior to the maturity date of certain other reference indebtedness. As of December 31, 2024 and 2023, the availability under our 2018 Revolving Credit Facility was $108.0 million and $112.4 million, respectively. As any borrowings under the 2018 Revolving Credit Facility remain subject to compliance with the financial covenant thereunder, our operating performance as of December 31, 2024 and 2023 resulted in our inability to access the full amount of commitments under the facility. As of December 31, 2024 and 2023, there were no borrowings outstanding on the 2018 Revolving Credit Facility and there was $7.4 million and $3.1 million of letters of credit drawn against the 2018 Revolving Credit Facility as of each date, respectively.

Borrowings under the 2018 Revolving Credit Facility bear interest (i) with respect to new revolving loans denominated in U.S. dollars, at the option of GrafTech Finance, Adjusted Term SOFR plus 3.50% per annum or ABR (as defined in the 2018 Revolving Credit Agreement) plus 2.50% per annum and (ii) with respect to new revolving loans denominated in euros, the Adjusted EURIBOR Rate (as defined in the 2018 Revolving Credit Agreement) plus 3.50% per annum. Undrawn commitments under the New Revolving Credit Facility bear a commitment fee of 0.25% per annum. Lenders holding all of the Company's existing revolving commitments who agreed to provide commitments under the 2018 Revolving Credit Facility were paid a customary extension fee, in connection with the December 2024 amendment.

The 2018 Revolving Credit Facility has customary negative covenants and events of default and is required to be prepaid in the case of certain mandatory prepayments of the First Lien Term Loans. The 2018 Revolving Credit Facility also includes a financial covenant requiring that the Company have a Senior Secured First Lien Net Leverage Ratio of no more than 4.00 to 1.00, tested quarterly, to the extent outstanding revolving loans and letters of credit (subject to certain exclusions) exceed 51.3% of the amount of commitments then-existing under the 2018 Revolving Credit Facility. We were in compliance with all of our debt covenants as of December 31, 2024 and 2023.

Maturities on long-term debt instruments as of December 31, 2024 are as follows:

	(Dollars in thousands)
2025	$ —
2026	—
2027	—
2028	5,588
2029	1,119,412
2030 and thereafter	—
Total	$ 1,125,000

.

(6) Other Intangible Assets and Goodwill

Other Intangible Assets

The following table summarizes acquired intangible assets with determinable useful lives by major category which are included in "Other assets" on our Consolidated Balance Sheets:

	December 31, 2024			December 31, 2023		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(Dollars in thousands)					
Trade names	$ 22,500	$ (18,226)	$ 4,274	$ 22,500	$ (17,379)	$ 5,121
Technology and know-how	55,300	(48,613)	6,687	55,300	(45,746)	9,554
Customer-related intangibles	64,500	(41,063)	23,437	64,500	(36,802)	27,698
Total finite-lived intangible assets	$ 142,300	$ (107,902)	$ 34,398	$ 142,300	$ (99,927)	$ 42,373

Amortization expense of intangible assets was $8.0 million, $9.2 million and $10.1 million in 2024, 2023 and 2022, respectively. Estimated annual amortization expense for the next five years will approximate $7.3 million in 2025, $6.7 million in 2026, $6.1 million in 2027, $5.5 million in 2028 and $4.9 million in 2029.

Goodwill

In 2023, the Company performed a quantitative assessment of the fair value of the reporting unit, using a combination of the income approach and the market approach (Level 3 in the fair value hierarchy) from a market participant's perspective for its annual goodwill impairment testing. The valuation of the Graphite Electrode reporting unit was performed with cash flows that were adjusted to present this reporting unit as purchasing petroleum needle coke entirely from third parties at anticipated market prices.

The income approach was based on discounted projected debt-free cash flows for the Graphite Electrode reporting unit. The forecast of cash flows included several assumptions regarding future sales growth, revenues, earnings before interest, taxes, depreciation and amortization ("EBITDA"), capital expenditures and working capital changes. In addition to the estimates of future cash flows, the income approach involves the determination of the discount rate based upon market participant's assumptions.

The market approach fair value was based on valuation multiples that were applied to the Graphite Electrode reporting unit's actual and projected EBITDA. The multiples were derived under the guideline public company method from analyzing market multiples of EBITDA for a group of comparable public companies. The techniques used in the Company's assessment incorporate a number of assumptions that the Company believes to be reasonable and to reflect known market conditions at the measurement date.

Key assumptions relate to customer demand and sales growth, graphite electrode and needle coke pricing trends, operating costs and capital expenditures. Assumptions in estimating future cash flows are subject to a degree of judgment.

The testing determined that the fair value of the Graphite Electrode reporting unit was less than its carrying amount by more than the amount of goodwill. As a result, we recorded a full impairment charge of $171.1 million, which was recorded in Goodwill impairment charges in the Consolidated Statements of Income. The goodwill impairment was caused primarily by reduced sales of graphite electrodes due to softening demand and the deterioration of the electrode spot pricing.

For the 2022 annual goodwill impairment testing, the Company performed a qualitative assessment first to determine whether it was more likely than not that the fair value of the Graphite Electrode reporting unit was less than its carrying amount. We assessed relevant events and circumstances, including industry, market and macroeconomic conditions, as well as Company and reporting unit-specific factors. Based on this review, we determined that it was not more likely than not that the fair value of the Graphite Electrode reporting unit was less than its carrying amount and concluded that the quantitative goodwill impairment test was not required. No impairment of goodwill resulted from our annual impairment test in 2022.

(7) Interest Expense

The components of interest expense are as follows:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Interest incurred on debt	$ 68,971	$ 56,219	$ 43,609
Accretion of original issue discount	2,163	2,524	1,200
Amortization of debt issuance costs	3,193	4,631	3,475
Debt modification costs	18,370	—	—
Amortization of interest rate swap deferred gains	(7,384)	(5,480)	—
Unrealized loss (gain) on termination of de-designated interest rate swap	—	7,111	(7,111)
Realized gain on termination of de-designated interest rate swap	—	(6,918)	(4,605)
Total interest expense	$ 85,313	$ 58,087	$ 36,568

The financing transactions entered in 2024 (described in further detail in Note 5, "Debt and Liquidity") were accounted for as a modification of the existing debt under ASC 470-50, Debt—Modifications and Extinguishments.

As a result, the Company incurred $37.3 million of fees and expenses directly attributable to the modification. Of these costs, $18.4 million related to third-party costs was expensed as incurred and is included in Interest expense on the Consolidated Statements of Operations and $18.9 million related to lender fees was capitalized as debt issuance costs and is being amortized over the remaining term of the related debt.

In June 2023, the net proceeds from the issuance of the Existing 9.875% Notes were used to repay the $433.7 million of principal outstanding on the 2018 Term Loan Facility. The repayment of the 2018 Term Loan Facility was accounted for as a debt extinguishment and triggered $1.2 million of accelerated accretion of the original issue discount and $1.9 million of accelerated amortization of debt issuance costs. The Existing 9.875% Notes were accounted for as new debt and the related discount and debt issuance costs were deferred.

In connection with the repayment of the 2018 Term Loan Facility in June 2023, we terminated the outstanding interest rate swap contracts that were in place to fix the cash flows associated with the risk in variability in the one-month USD London Interbank Offered Rate ("USD LIBOR") for the 2018 Term Loan Facility. As a result of the swaps termination, we recorded in interest expense realized gains of $6.9 million relative to our de-designated swap and we deferred realized gains of $13.5 million in accumulated other comprehensive loss ("AOCL") in connection with our designated swap. The gains deferred into AOCL for the designated swap were amortized into interest expense through August 2024, consistent with the term of the discontinued cash-flow hedging relationship.

The Existing 9.875% Notes and the New 9.875% Notes carry fixed interest rates of 9.875%. The Existing 4.625% Notes and the New 4.625% Notes carry fixed interest rates of 4.625%. The Initial First Lien Term Loan had an effective interest rate of 10.33% as of December 31, 2024. The 2018 Term Loan Facility, which was paid off in its entirety in June 2023, had an effective interest rate of 7.38% as of December 31, 2022.

In 2022, the Company made voluntary prepayments of $110.0 million under its 2018 Term Loan Facility. In connection with this, the Company recorded $0.5 million of accelerated accretion of the original issue discount and $0.8 million of accelerated amortization of the debt issuance cost.

See Note 5, "Debt and Liquidity" for details of our debt and Note 8, "Fair Value Measurements and Derivative Instruments" for additional details on our interest rate swaps and embedded derivative.

(8) Fair Value Measurements and Derivative Instruments

Fair Value Measurements

Depending on the inputs, we classify each fair value measurement as follows:

- Level 1 – Quoted market prices in active markets for identical assets or liabilities.
- Level 2 – Inputs other than Level 1 inputs that are either directly or indirectly observable.
- Level 3 – Unobservable inputs developed using estimates and assumptions developed by the Company, which reflect those that a market participant would use.

The following tables present the classification of our assets and liabilities measured at fair value on a recurring basis:

December 31, 2024	Total	Level 1	Level 2	Level 3
Assets:		*(Dollars in thousands)*		
Foreign currency derivatives	$ 296	$ —	$ 296	$ —
Total assets at fair value	$ 296	$ —	$ 296	$ —
Liabilities:				
Foreign currency derivatives	$ 248	$ —	$ 248	$ —
Total liabilities at fair value	$ 248	$ —	$ 248	$ —

December 31, 2023	Total	Level 1	Level 2	Level 3
Assets:		*(Dollars in thousands)*		
Foreign currency derivatives	$ 630	$ —	$ 630	$ —
Total assets at fair value	$ 630	$ —	$ 630	$ —
Liabilities:				
Foreign currency derivatives	$ 519	$ —	$ 519	$ —
Total liabilities at fair value	$ 519	$ —	$ 519	$ —

The carrying amounts and fair values of financial instruments, other than cash and cash equivalents, short-term notes and accounts receivable, accounts payable and other current payables, are shown in the table above. The carrying value of cash and cash equivalents, receivables and accounts payable approximate fair value due to the short-term nature of these instruments.

The fair value of our debt as of December 31, 2024 and 2023 was $905.8 million and $676.6 million, respectively. The fair values were determined using Level 2 quoted market prices for the same or similar debt instruments.

Additional fair value information related to our pension funds' assets can be found in Note 11, "Retirement Plans and Post-Employment Benefits."

Derivative Instruments

In the normal course of business, we are exposed to certain risks related to fluctuations in currency exchange rates. We use derivative financial instruments, primarily foreign currency derivatives, and have in the past used commodity derivative contracts and interest rate swaps as part of our overall strategy to manage risks from these market fluctuations.

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.

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, receivables, payables, sales and purchases.

Foreign currency forward and swap contracts are used to mitigate the foreign exchange risk of balance sheet items. These derivatives are fair value hedges. Gains and losses from these derivatives are recorded in cost of goods sold and they are largely offset by the financial impact of translating foreign currency-denominated payables and receivables.

At various times throughout the last three years, we entered into foreign currency derivatives with maturities of one month to 12 months in order to protect against the risk that cash flows associated with certain sales and purchases denominated in a currency other than the U.S. dollar will be adversely affected by future changes in foreign exchange rates. These derivatives are designated as cash flow hedges. The resulting unrealized gains or losses from these derivatives are recorded in AOCL and subsequently, when realized, are reclassified to net sales or cost of goods sold in the Consolidated Statements of Operations when the hedged exposures affect earnings.

Commodity derivative contracts

From time to time, we enter 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. The unrealized gains or losses related to commodity derivative contracts designated as cash flow hedges are recorded in AOCL and subsequently, when realized, are reclassified to the Consolidated Statement of Operations when the hedged item impacts earnings, which is when the finished product is sold.

Interest rate swap contracts

We have utilized interest rate swaps in the past to limit exposure to market fluctuations on variable-rate debt. For each derivative agreement that is designated as a cash flow hedge, the unrealized gain or loss is recorded in AOCL and, when realized, is recorded in interest expense. Upon discontinuance of a designated cash flow hedging relationship, when interest payments are still probable of occurring, the fair value at the date of discontinuance is deferred into AOCL and amortized into interest expense based upon the term of the cash flow hedging relationship.

We entered into interest rate swap contracts that were "pay fixed, receive variable." Our risk management objective was to fix our cash flows associated with the risk of variability in the one-month USD LIBOR for a portion of our outstanding debt. It was expected that the swaps would fix the cash flows associated with the forecasted interest payments on our debt to an effective fixed interest rate of 4.2%, which could be lowered to 3.95% depending on credit ratings. Since their modification concurrent with the 2018 Term Loan Facility modification in the first quarter of 2021, the swaps contained an other-than-insignificant financing element. As such, they were considered hybrid instruments composed of a debt host and an embedded derivative and the associated cash flows are classified as financing (uses)/sources of cash. The embedded derivative was treated as a cash flow hedge.

In the first quarter of 2022, in connection with the partial repayment of principal on our 2018 Term Loan Facility and our probability assessment of the variable-rate debt remaining outstanding through the term of the swaps, we de-designated one interest rate swap contract with a $250.0 million notional amount, that matured in the third quarter of 2024. The fair value of the embedded derivative at the de-designation date was a gain of $6.6 million and was recorded in AOCL and was amortized into interest expense over the remaining life of the swap.

In the third quarter of 2022, we redeemed $67.0 million of our $250.0 million notional amount de-designated interest rate swap. The change in fair value of the de-designated embedded derivative for the year ended December 31, 2023 resulted in a loss of $7.1 million, compared to a gain of $7.1 million for the year ended December 31, 2022, recorded in interest expense in the Consolidated Statements of Operations.

In the second quarter of 2023, in connection with the repayment of the $433.7 million outstanding balance on our 2018 Term Loan Facility, we terminated our $183.0 million notional de-designated interest rate swap and our $250.0 million notional designated interest rate swap and received net cash of $20.4 million. The net cash received included a $23.1 million gain on the embedded derivatives, partially offset by a $2.8 million loss on the settlement of our debt host liability as of the termination date.

Out of the $23.1 million gain on the embedded derivatives, $6.9 million for the de-designated swap was recorded in interest expense and $16.2 million for the designated swap was recorded in AOCL and was amortized into interest expense using the effective interest method through August 2024.

All derivatives are recorded on the balance sheet at fair value. If the derivative is designated and effective as a cash flow hedge, changes in the fair value of the derivative are recognized in AOCL until the hedged item is recognized in earnings. The ineffective portion of a derivative's fair value, if any, is recognized in earnings immediately. If a derivative is not a hedge, changes in its fair value are adjusted through earnings. The fair values of the outstanding derivatives are recorded on the balance sheet as assets (if the derivatives are in a gain position) or liabilities (if the derivatives are in a loss position). The fair values will also be classified as short-term or long-term depending upon their maturity dates.

The notional amounts of our outstanding derivative instruments as of December 31, 2024 and 2023 were as follows:

	December 31, 2024	December 31, 2023
	Notional Amount	Notional Amount
	(Dollars in thousands)	
Derivative instruments designated as hedges:		
Foreign currency derivatives	$ —	$ 10,684
Derivative instruments not designated as hedges:		
Foreign currency derivatives	$ 11,918	$ 41,863

The following table summarizes the fair value of our outstanding derivatives designated as hedges (on a gross basis) and balance sheet classification as of December 31, 2024 and 2023:

	December 31, 2024	December 31, 2023
	Fair Value	Fair Value
	(Dollars in thousands)	
Prepaid and other current assets		
Foreign currency derivatives	$ —	$ 386
Total	$ —	$ 386
Total asset	$ —	$ 386

As of December 31, 2024, net realized pre-tax gains of $0.2 million related to our foreign currency derivatives were reported in AOCL and will be released to earnings within the next 12 months. In addition, we recorded $0.8 million of ineffectiveness income in cost of goods sold in the Consolidated Statements of Operations in 2022 related to the settlement of commodity derivative contracts. No ineffectiveness expense was recorded in 2024 or 2023.

The realized losses (gains) on cash flow hedges are recognized in the Statements of Operations when the hedged item impacts earnings and are as follows for the years ended December 31, 2024, 2023 and 2022:

		Amount of Loss/(Gain) Recognized		
	Location of Realized Loss/(Gain) Recognized in the Consolidated Statement of Operations	2024	2023	2022
Derivatives designated as cash flow hedges:		*(Dollars in thousands)*		
Foreign currency derivatives	Cost of goods sold	$ 121	$ 5,541	$ 1,975
Commodity derivative contracts	Cost of goods sold	(2,462)	(15,089)	(11,452)
Interest rate swaps	Interest expense	(7,384)	(10,617)	(2,423)

Pre-tax gains and losses on non-designated derivatives recognized in earnings are as follows:

		Amount of Loss/(Gain) Recognized		
	Location of Realized Loss/(Gain) Recognized in the Consolidated Statement of Operations	2024	2023	2022
Derivatives not designated as hedges:		*(Dollars in thousands)*		
Foreign currency derivatives	Cost of goods sold, other expense (income), net	$ 492	$ (314)	$ (938)
Interest rate swaps	Interest expense	—	(2,957)	(11,716)

The following table summarizes the fair value of our outstanding derivatives not designated as hedges (on a gross basis) and balance sheet classification as of December 31, 2024 and 2023:

	December 31, 2024	December 31, 2023
	Fair Value	Fair Value
	(Dollars in thousands)	
Prepaid and other current assets		
Foreign currency derivatives	$ 296	$ 244
Other accrued liabilities		
Foreign currency derivatives	(248)	(519)
Net asset (liability)	$ 48	$ (275)

(9) Supplementary Balance Sheet Detail

The following tables present supplementary balance sheet details:

	December 31, 2024	December 31, 2023
	(Dollars in thousands)	
Inventories:		
Raw materials and supplies	$ 78,386	$ 109,084
Work in process	122,590	186,473
Finished goods	30,265	34,589
	$ 231,241	$ 330,146
Prepaid expenses and other current assets:		
Prepaid expenses	$ 11,258	$ 11,176
Value-added tax and other indirect taxes receivable	21,922	28,629
Spare parts inventory	14,189	15,242
Other current assets	8,363	11,335
	$ 55,732	$ 66,382
Property, plant and equipment:		
Land and improvements	$ 49,212	$ 49,962
Buildings	85,871	87,820
Machinery and equipment and other	731,783	717,002
Construction in progress	43,381	65,660
	$ 910,247	$ 920,444
Other accrued liabilities:		
Payrolls (including incentive programs)	$ 9,979	$ 22,369
Employee benefits	6,074	7,018
Deferred revenue	11,223	31,583
Other	28,156	30,732
	$ 55,432	$ 91,702
Other long-term obligations:		
Post-employment benefits	$ 10,969	$ 12,613
Pension and related benefits	21,919	26,068
Other	15,671	16,964
	$ 48,559	$ 55,645

The following table presents an analysis of the allowance for doubtful accounts for the years ended December 31:

	2024	2023	2022
	(Dollars in thousands)		
Balance at beginning of year	$ 7,708	$ 8,019	$ 6,835
(Credit) charge to income	(660)	(439)	1,585
Deductions	66	128	(401)
Balance at end of year	$ 7,114	$ 7,708	$ 8,019

Supplier Finance Program ("SFP") Obligations

GrafTech Mexico S.A. De C.V. ("GrafTech Mexico") participates in an electronic vendor voucher payment program supported by the Mexican Government through one of its national banks, whereby suppliers can factor their invoices through a financial intermediary. This program gives GrafTech Mexico's suppliers the option to settle trade receivables by obtaining payment for a discounted amount from the financial intermediary prior to the invoice due date for a discounted amount. GrafTech Mexico's responsibility is limited to making payment on the terms originally negotiated with its supplier, regardless of whether the supplier elects to receive early payment. The range of payment terms GrafTech Mexico negotiates with its suppliers is consistent, irrespective of whether a supplier participates in the program.

SFP obligations are included in accounts payable on the Consolidated Balance Sheets and upon settlement, are reflected as cash flow from operating activities in the Consolidated Statements of Cash Flows. See below for a rollforward of our SFP obligations.

	(Dollars in thousands)
Confirmed obligations outstanding as of December 31, 2022	$ —
Invoices confirmed during the year	24,368
Confirmed invoices paid during the year	(19,732)
Confirmed obligations outstanding as of December 31, 2023	$ 4,636
Invoices confirmed during the year	17,821
Confirmed invoices paid during the year	(16,871)
Confirmed obligations outstanding as of December 31, 2024	$ 5,586

(10) Leases

The Company leases certain transportation and mobile manufacturing equipment such as railcars and forklifts, as well as real estate.

The components of lease expense are as follows:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Operating lease cost	$ 3,966	$ 4,896	$ 5,441
Finance lease cost:			
Amortization of lease assets	91	39	—
Interest on lease liabilities	27	13	—
Short-term lease cost	130	123	163
Variable lease cost	335	743	756
Total lease cost	$ 4,549	$ 5,814	$ 6,360

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

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash outflows - payments on operating leases	$ (2,815)	$ (3,919)	$ (4,015)
Operating cash outflows - interest payments on finance leases	(27)	(13)	—
Financing cash outflows - payments on finance lease obligations	(82)	(36)	—
Right-of-use assets obtained in exchange for operating lease obligations	4,775	2,621	2,303
Right-of-use assets obtained in exchange for finance lease obligations	130	291	—

Supplemental balance sheet information related to leases is as follows:

		December 31,	
		2024	2023
		(Dollars in thousands)	
	Location		
Operating Leases			
Operating lease right-of-use assets	Other assets	$ 6,261	$ 5,003
Current operating lease liabilities	Other accrued liabilities	2,050	2,568
Non-current operating lease liabilities	Other long-term obligations	4,077	2,542
Total operating lease liabilities		$ 6,127	$ 5,110
Finance Leases			
Property, plant and equipment	Property, plant and equipment	$ 484	$ 330
Accumulated depreciation	Accumulated depreciation	130	39
Finance lease assets, net		$ 354	$ 291
Other liabilities and accrued items	Other liabilities and accrued items	$ 119	$ 83
Finance lease liabilities	Other long-term obligations	248	210
Total principal payable on finance leases		$ 367	$ 293
Weighted-Average Remaining Lease Term			
Operating leases		5.1 years	2.4 years
Finance leases		3.6 years	4.1 years
Weighted-Average Discount Rate			
Operating leases		6.46 %	6.63 %
Finance leases		7.55 %	7.93 %

As of December 31, 2024, future minimum lease payments under noncancellable operating leases were as follows:

	Finance Leases	Operating Leases
	(Dollars in thousands)	
2025	124	2,061
2026	124	1,790
2027	87	779
2028	68	490
2029	15	466
2030 and thereafter	—	1,854
Total lease payments	$ 418	$ 7,440
Less: Imputed interest	(51)	(1,313)
Present value of lease payments	$ 367	$ 6,127

As of December 31, 2024, the Company has not entered into any material lease commitments that have yet to commence.

(11) Retirement Plans and Post-Employment Benefits

Retirement Plans

On February 26, 1991, we formed our own retirement plan covering substantially all our U.S. employees. Under our plan, covered employees earned benefit payments based primarily on their service credits and wages subsequent to February 26, 1991.

Prior to that date, substantially all our U.S. employees were participants in the U.S. retirement plan of Union Carbide Corporation ("Union Carbide"). While service credit was frozen, covered employees continued to earn benefits under the Union Carbide plan based on their final average wages through February 26, 1991, adjusted for salary increases (not to exceed six percent per annum) through January 26, 1995, the date Union Carbide ceased to own a minimum 50% of the equity of GTI. The Union Carbide plan is responsible for paying retirement and death benefits earned as of February 26, 1991.

Effective January 1, 2002, we established a defined contribution plan for U.S. employees. Certain employees had the option to remain in our defined benefit plan for an additional period of up to five years. Employees not covered by this option had their benefits under our defined benefit plan frozen as of December 31, 2001, and began participating in the defined contribution plan.

Effective March 31, 2003, we curtailed our qualified benefit plan and the benefits were frozen as of that date for the U.S. employees who had the option to remain in our defined benefit plan. We also closed our non-qualified U.S. defined benefit plan for the participating salaried workforce. The employees began participating in the defined contribution plan as of April 1, 2003.

Pension coverage for employees of foreign subsidiaries is provided, to the extent deemed appropriate, through separate plans. Obligations under such plans are systematically provided for by depositing funds with trustees, under insurance policies or by book reserves.

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

	Year Ended December 31,					
	2024		2023		2022	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)					
Service cost	$ 960	$ 942	$ 1,483	$ 1,053	$ 1,390	$ 1,220
Interest cost	4,409	617	4,722	870	3,242	227
Expected return on assets	(4,729)	(1,358)	(4,353)	(1,145)	(3,960)	(640)
Mark-to-market (gain) loss	(1,370)	2,423	(2,513)	4,395	(181)	(7,801)
Net periodic benefit (credit) cost	$ (730)	$ 2,624	$ (661)	$ 5,173	$ 491	$ (6,994)

The mark-to-market loss in 2024 was primarily due to a decrease in the discount rate for our foreign plans, as well as unfavorable asset returns in both the foreign and U.S. plans, partially offset by increase in U.S. discount rates. The mark-to-market loss in 2023 was primarily due to unfavorable changes in the discount rate on our foreign and U.S. plans, partially offset by favorable asset returns in the U.S. The mark-to-market gain in 2022 was primarily the result of a favorable change in the discount rate, partially offset by a worse than expected return on plan assets. The reconciliation of the beginning and ending balances of our pension plans' benefit obligations, fair value of assets, and funded status at December 31, 2024 and 2023 are shown below.

	December 31, 2024		December 31, 2023	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Changes in Benefit Obligation:				
Net benefit obligation at beginning of period	$ 97,322	$ 37,481	$ 99,993	$ 31,065
Service cost	960	942	1,483	1,053
Interest cost	4,409	617	4,722	870
Participant contributions	—	435	—	501
Plan settlements	—	(3,267)	—	(1,609)
Foreign currency exchange changes	—	(2,748)	—	2,983
Actuarial (gain) loss	(3,550)	1,676	1,516	3,694
Benefits paid	(9,686)	(1,091)	(10,392)	(1,076)
Net benefit obligation at end of period	$ 89,455	$ 34,045	$ 97,322	$ 37,481
Changes in Plan Assets:				
Fair value of plan assets at beginning of period	$ 78,396	$ 29,981	$ 80,006	$ 27,708
Actual return on plan assets	2,549	611	8,382	645
Foreign currency exchange rate changes	—	(2,172)	—	2,609
Plan settlements	—	(3,267)	—	(1,609)
Employer contributions	4,385	760	400	1,203
Participant contributions	—	435	—	501
Benefits paid	(9,377)	(1,006)	(10,392)	(1,076)
Fair value of plan assets at end of period	$ 75,953	$ 25,342	$ 78,396	$ 29,981
Funded status (underfunded):	$ (13,502)	$ (8,703)	$ (18,926)	$ (7,500)
Amounts recognized in the statement of financial position:				
Other accrued liabilities	$ (286)	$ —	$ (324)	$ (34)
Other long-term obligations	(13,216)	(8,703)	(18,602)	(7,466)
Net amount recognized	$ (13,502)	$ (8,703)	$ (18,926)	$ (7,500)

The accumulated benefit obligation for all defined benefit pension plans was $121.8 million and $133.1 million as of December 31, 2024 and 2023, respectively.

Plan Assets

The accounting guidance on fair value measurements specifies a hierarchy based on the observability of inputs used in valuation techniques (Level 1, 2 and 3). See Note 8, “Fair Value Measurements and Derivative Instruments" for a discussion of the fair value hierarchy.

The following describes the methods and significant assumptions used to estimate the fair value of the investments:

Cash and cash equivalents – Valued at cost. Cash equivalents are valued at net asset value as provided by the administrator of the fund.

Foreign government bonds – Valued by the trustees using various pricing services of financial institutions.

Fixed insurance contracts – Valued at the present value of the guaranteed payment streams.

Collective trusts – Valued at the net asset value provided by the administrator of the fund (the practical expedient). The net asset value is primarily based on quoted market prices of the underlying securities for which quoted market prices of the underlying securities of the funds. Some of the underlying investments include securities for which quoted market prices are not available and are valued using data obtained by the trustee from the best available source or market value. This method may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although we believe its valuation method is appropriate and consistent with other market participants, the use of

different methodologies or assumptions to determine fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The fair value of other plan assets by category is summarized below (dollars in thousands):

	December 31, 2024			
	Level 1	Level 2	Level 3	Total
U.S. Plan Assets				
Cash and cash equivalents	$ 696	$ —	$ —	$ 696
International Plan Assets				
Foreign government bonds	—	700	—	700
Fixed insurance contracts	—	—	24,642	24,642
Total international plan assets	$ —	$ 700	$ 24,642	$ 25,342
U.S. Plan - Investments measured at net asset value				$ 75,257
Total	$ 696	$ 700	$ 24,642	$ 101,295

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
U.S. Plan Assets				
Cash and cash equivalents	$ 710	$ —	$ —	$ 710
International Plan Assets				
Foreign government bonds	$ —	$ 961	$ —	$ 961
Fixed insurance contracts	—	—	29,020	29,020
Total international plan assets	$ —	$ 961	$ 29,020	$ 29,981
U.S. Plan - Investments measured at net asset value				$ 77,686
Total	$ 710	$ 961	$ 29,020	$ 108,377

The following table presents the changes for those financial instruments classified within Level 3 of the valuation hierarchy for international plan pension assets for the years ended December 31, 2024 and 2023 (dollars in thousands):

	Fixed Insurance Contracts
Balance at December 31, 2022	$ 26,685
Gain / contributions / currency impact	2,489
Distributions	(154)
Balance at December 31, 2023	29,020
Gain / contributions / currency impact	(4,241)
Distributions	(137)
Balance at December 31, 2024	$ 24,642

We annually re-evaluate assumptions and estimates used in projecting pension assets, liabilities and expenses. These assumptions and estimates may affect the carrying value of pension assets, liabilities and expenses in our Consolidated Financial Statements. Assumptions used to determine net pension costs and projected benefit obligations are:

Pension Benefit Obligations Key Assumptions	**December 31,**	
	2024	**2023**
Weighted average assumptions to determine benefit obligations:		
Discount rate	4.29 %	3.93 %
Rate of compensation increase	1.69 %	1.70 %

Pension Cost Key Assumptions		
Weighted average assumptions to determine net cost:		
Discount rate	3.93 %	4.43 %
Expected return on plan assets	5.88 %	5.30 %
Rate of compensation increase	1.70 %	1.71 %

We adjust our discount rate annually in relation to the rate at which the benefits could be effectively settled. Discount rates are set for each plan in reference to the yields available on AA-rated corporate bonds of appropriate currency and duration. The appropriate discount rate is derived by developing an AA-rated corporate bond yield curve in each currency. The discount rate for a given plan is the rate implied by the yield curve for the duration of that plan's liabilities. In certain countries, where little public information is available on which to base discount rate assumptions, the discount rate is based on government bond yields or other indices and approximate adjustments to allow for the differences in weighted durations for the specific plans and/or allowance for assumed credit spreads between government and AA-rated corporate bonds.

The expected return on assets assumption represents our best estimate of the long-term return on plan assets and generally was estimated by computing a weighted average return of the underlying long-term expected returns on the different asset classes, based on the target asset allocations. The expected return on assets assumption is a long-term assumption that is expected to remain the same from one year to the next unless there is a significant change in the target asset allocation, the fees and expenses paid by the plan or market conditions.

The rate of compensation increase is based on the long-term inflation rate projection of the jurisdictions where we have active plans and on any incremental change due to merit or productivity.

Plan Assets. The following table presents our retirement plan weighted average asset allocations at December 31, 2024, by asset category**:**

	Percentage of Plan Assets December 31, 2024	
	U.S.	**Foreign**
Equity securities and return seeking assets	20 %	— %
Fixed income, debt securities, or cash	80 %	100 %
Total	100 %	100 %

Investment Policy and Strategy. The investment policy and strategy of the U.S. plan is to invest approximately 20% in equities and return seeking assets and approximately 80% in fixed income securities. Rebalancing is undertaken monthly. To the extent we maintain plans in other countries, target asset allocation is 100% fixed income investments. For each plan, the investment policy is set within both asset return and local statutory requirements.

Information for our pension plans with an accumulated benefit obligation in excess of plan assets at December 31, 2024 and 2023 follows:

	2024		2023	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Accumulated benefit obligation	$ 89,455	$ 32,311	$ 97,322	$ 35,772
Fair value of plan assets	75,953	25,342	78,396	29,981

Information for our pension plans with a projected benefit obligation in excess of plan assets at December 31, 2024 and 2023 follows:

	2024		2023	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Projected benefit obligation	$ 89,455	$ 34,045	$ 97,322	$ 37,481
Fair value of plan assets	75,953	25,342	78,396	29,981

Following is our projected future pension plan cash flow by year:

	U.S.	Foreign
	(Dollars in thousands)	
Expected contributions in 2025:		
Expected employer contributions	$ 1,811	$ 542
Expected employee contributions	—	—
Estimated future benefit payments reflecting expected future service for the years ending December 31:		
2025	$ 8,986	$ 1,231
2026	8,906	1,827
2027	8,684	1,472
2028	8,476	2,048
2029	8,198	2,468
Next five years	36,215	9,376

Post-Employment Benefit Plans

We have legacy post-employment medical coverage and life insurance benefits for eligible retired employees in the U.S. and in certain foreign jurisdictions. Effective December 31, 2005, all U.S. post-employment medical coverage plans were frozen.

The post-employment benefit plans are un-funded and our periodic contributions correspond to the amount of benefits paid in the period. Our funding contributions were $1.4 million and $1.3 million in 2024 and 2023, respectively.

The estimated liability for post-employment benefit plans was $12.5 million and $14.3 million as of December 31, 2024 and 2023, respectively. The Company recognized expense of $0.5 million and $2.0 million in 2024 and 2023, respectively, and income of $0.9 million in 2022 in the Consolidated Statement of Operations for post-employment benefits. Included in post-employment benefit expense are mark-to-market gains of $0.4 million in 2024, mark-to-market losses of $1.1 million in 2023 and mark-to-market gains of $1.6 million in 2022.

Savings Plan

Our employee savings plan provides eligible employees the opportunity for long-term savings and investment. The plan allows employees to contribute up to 5% of pay as a basic contribution and an additional 45% of pay as supplemental contribution. The Company's contributions to our savings plan were $1.6 million in 2024 and $3.0 million in both 2023 and 2022.

(12) Commitments and Contingencies

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. Additionally, we are involved in the following legal proceedings.

Arbitrations

We are involved in certain arbitrations as respondents/counterclaimants, pending before the International Chamber of Commerce with a few customers who, among other things, have failed to perform under their LTAs and in certain instances are seeking to modify or frustrate their contractual commitments to us. In particular, Aperam South America LTDA, Aperam Sourcing S.C.A., ArcelorMittal Sourcing S.C.A., and ArcelorMittal Brasil S.A. (collectively, the "Claimants") initiated a single arbitration proceeding against two of the Company's subsidiaries in the International Chamber of Commerce in June 2020. The Claimants argue, among other things, that they should no longer be required to comply with the terms of the LTAs that they signed due to an alleged drop in market prices for graphite electrodes in January 2020. Alternatively, the Claimants argue that they should not be required to comply with the LTAs that they signed due to alleged market circumstances at the time of execution. In June 2021, the Claimants filed their statement of claim, seeking approximately $61.0 million plus interest in monetary relief and/or reimbursement in respect of several fixed price LTAs that were executed between such subsidiaries and the Claimants in 2017 and 2018. On December 16, 2022, the Claimants revised their calculation of alleged damages to approximately $178.9 million including interest, with damages covering the period from the first quarter of 2020 through the end of the third quarter of 2022 and interest covering the period from June 2020 through December 16, 2022. In March 2023, an International Chamber of Commerce hearing was held before the party-appointed sole arbitrator with the Claimants, the Company, and witnesses in attendance. On March 31, 2023, the Claimants further revised their calculation of alleged damages to approximately $171.7 million, including interest, for the period covering the first quarter of 2020 through 2022. In June of 2023, the Claimants again revised their calculation of alleged damages to approximately $188.2 million, including interest, for the period covering the first quarter of 2020 through the first quarter of 2023. On April 16, 2024, we were formally notified that on March 14, 2024 the sole arbitrator appointed by the International Chamber of Commerce issued the final award in the arbitration in which he entirely dismissed all of the Claimants' claims against the two Company subsidiaries, and ordered Claimants to pay an aggregate of approximately $9.2 million to the Company in legal fees and other related expenses, and ordered the Company to pay approximately $60,000 to the Claimants in legal fees and expenses. The Claimants paid the Company approximately $9.2 million during the second quarter of 2024, which is recorded in selling and administrative expenses on the Condensed Consolidated Statements of Operations.

Pending litigation in Brazil has been 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 union. 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 has determined not to seek 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 appealed this state court ruling, and the appellate court issued a decision in our favor on May 19, 2020. The employees have further appealed and, on December 16, 2020, the court upheld the decision in favor of GrafTech Brazil. On February 22, 2021, the employees filed a further appeal and, on April 28, 2021, the court rejected the employees' appeal in favor of GrafTech Brazil. The employees filed a further appeal and on September 12, 2022, we filed our response in opposition. We intend to vigorously defend our position. As of December 31, 2024, 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.

Stockholder Class Action

On January 25, 2024, a stockholder of the Company filed a class action complaint on behalf of a putative class consisting of purchasers of GrafTech common stock between February 8, 2019 and August 3, 2023 in the United States District Court for the Northern District of Ohio. The complaint, as amended, names the Company, certain past and present executive officers, and three entities associated with Brookfield Corporation and its affiliates (together, "Brookfield") as defendants. The complaint alleges that certain public filings and statements made by the Company contained material misrepresentations or omissions relating to the circumstances before and after the prior temporary suspension of the Company's graphite electrode manufacturing facility located in Monterrey, Mexico, in September 2022. The complaint seeks unspecified compensatory damages, costs and expenses, and unspecified equitable or injunctive relief. On May 15, 2024, the Court appointed the University of Puerto Rico Retirement System as the lead plaintiff. On October 7, 2024, the plaintiff filed an amended complaint. At this stage of the proceedings, it is too early to determine if the matter would reasonably be expected to have a material adverse effect on our financial condition.

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 reserve for 2023 and 2024 are as follows:

		(Dollars in thousands)
Balance as of December 31, 2022	$	820
Product warranty charges/adjustments		25
Payments and settlements		(768)
Balance as of December 31, 2023	$	77
Product warranty charges/adjustments		322
Payments and settlements		(150)
Balance as of December 31, 2024	$	249

Tax Receivable Agreement

On April 23, 2018, the Company entered into the Tax Receivable Agreement 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 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. On April 10, 2023, the Tax Receivable Agreement was amended and restated to change the applicable interest rate from LIBOR plus 1.00% per year to the one-month period SOFR plus 1.10%. The term of the Tax Receivable Agreement commenced on April 23, 2018 and will continue until there is no potential for any future tax benefit payments.

As of December 31, 2024, total Tax Receivable Agreement liability was $5.8 million, of which $2.0 million was classified as a current liability in Tax Receivable Agreement on the Consolidated Balance Sheets and $3.8 million was classified as a long-term liability in Tax Receivable Agreement long-term on the Consolidated Balance Sheets.

As of December 31, 2023, the total Tax Receivable Agreement liability was $11.1 million, of which $5.4 million was classified as a current liability and $5.7 million was classified as a long-term liability.

Mexico Value-Added Tax ("VAT")

In July 2019, the Mexican Tax Authority ("MTA") opened an audit of the VAT filings of GrafTech Comercial de Mexico S. de R.L. de C.V. ("GrafTech Commercial Mexico") for the period of January 1 to April 30, 2019. In September 2021, the MTA issued a tax assessment, claiming improper use of a certain VAT exemption rule for purchases from a foreign affiliate. As of December 31, 2024, the tax assessment for the four month period under audit amounted to approximately $26.1 million, including penalties, inflation and interest. Interest will continue to accrue up to five years from the date the corresponding VAT returns were filed and inflation will continue to accrue with the passage of time. GrafTech Commercial

Mexico filed an administrative appeal against the tax assessment with the MTA's appeals office. In November 2022, the MTA's appeals office concluded its review and confirmed the tax assessment. GrafTech Commercial Mexico believes that the purchases from a foreign affiliate are exempt from VAT back-up withholding and in December 2022, GrafTech Commercial Mexico filed a Claim for Nullity with the Chamber Specialized in exclusive resolution of substance of the Federal Court of Administrative Justice. On February 17, 2023, the MTA filed the response to the nullity petition. On May 31, 2023, the court held a hearing to determine the scope of the issues to be decided in the proceedings. At the court's request, GrafTech Commercial Mexico submitted formal pleadings on August 1, 2023. On January 8, 2024, the court ruled in GrafTech Commercial Mexico's favor and annulled the tax assessment. On January 31, 2024, the MTA filed an appeal for review. On March 15, 2024, GrafTech Commercial Mexico filed the Tax Adhesive Appeal for Review before the Collegiate Court in Administrative Matters who has authority to hear the MTA's appeal. The MTA's appeal and the Adhesive appeal are still pending to be resolved.

In March 2022, the MTA opened another audit of the VAT filings of GrafTech Commercial Mexico for the period January 1 to December 31, 2018. In the proposed assessment received in January 2023, the MTA is alleging the same improper use of certain VAT exemption rules on purchases from a foreign affiliate and has provided notice of its intent to assess approximately $51.0 million, including penalties, inflation and interest. Interest would continue to accrue up to five years from the date the corresponding VAT returns were filed and inflation would continue to accrue with the passage of time. In Mexico, each tax assessment requires a separate claim. In the first quarter of 2023, GrafTech Commercial Mexico requested a conclusive agreement with the Mexican ombudsman ("PRODECON") to reach a settlement with the MTA. The MTA responded to GrafTech Commercial Mexico's request on May 30, 2023. On August 2, 2023, GrafTech Commercial Mexico filed a motion exhibiting additional information and reaffirming its position. On September 22, 2023, the MTA responded to GrafTech Commercial Mexico's motion. On October 2, 2023, GrafTech Commercial Mexico filed a motion requesting a formal meeting with the MTA and PRODECON, which occurred on November 14, 2023. During the meeting, the parties agreed that GrafTech Commercial Mexico will provide additional documentation and information to be evaluated by the MTA, and, on November 29, 2023, GrafTech Commercial Mexico filed the information requested. On January 24, 2024, the MTA filed its response. On that same day, GrafTech Commercial Mexico submitted before PRODECON the favorable ruling it obtained on January 8, 2024 in connection with the 2019 proceeding for the MTA's consideration. On February 1, 2024, the MTA confirmed its position, holding that GrafTech Commercial Mexico was required to withhold the VAT. On March 20, 2024, a meeting was held at PRODECON where the parties confirmed their final positions. No agreement between the parties was reached, the conclusive agreement procedure came to an end, and the tax audit process resumed. On July 10, 2024, the MTA concluded the tax audit and determined that there is no tax deficiency to be assessed for the period January 1, 2018 to December 31, 2018.

As evidenced by the favorable court decision issued on January 8, 2024 with respect to the 2019 proceeding and the MTA's conclusion of the tax audit for the 2018 proceeding, GrafTech Commercial Mexico's application of the VAT exemption rules is appropriate and, accordingly, GrafTech Commercial Mexico does not believe that it is probable that it will incur a loss related to this matter for the 2019 proceeding under the MTA's audit. The Company intends to vigorously defend its position in the 2019 proceeding.

Brazil Income Tax Audit

On October 23, 2024, GrafTech Brasil Participações Ltda. received an income tax assessment notice from the Brazilian Internal Revenue Service ("IRS") totaling approximately $28.8 million including approximately $17.1 million of interest and penalties, resulting from an audit carried out between 2023 and 2024, related to the period from 2019 to 2020. In this assessment, two issues were raised by the tax auditor. The first item disallowed the investment tax incentive (75% reduction of income tax), under the allegation that the Company did not have a negative tax debt certificate. The second disallowed the use of the VAT benefit (called Desenvolve) to increase the investment tax incentive. The Company believes that the IRS assessment is incorrect and does not believe that it is probable that it will incur a loss related to these matters. The Company intends to vigorously defend its position regarding both items.

(13) Income Taxes

(Loss) income before income taxes was derived from the following sources:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
U.S.	$ (79,339)	$ (111,821)	$ 55,107
Foreign	(73,929)	(161,943)	397,211
(Loss) income before income taxes	$ (153,268)	$ (273,764)	$ 452,318

Income tax (benefit) expense consisted of the following:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
U.S. income taxes:			
Current	$ 153	$ (129)	$ 3,590
Deferred	(17,930)	(12,643)	13,302
	(17,777)	(12,772)	16,892
Foreign income taxes:			
Current	5,378	9,738	48,744
Deferred	(9,704)	(15,480)	3,720
	(4,326)	(5,742)	52,464
Income tax (benefit) expense	$ (22,103)	$ (18,514)	$ 69,356

A reconciliation of income taxes at the U.S. statutory rate to income tax (benefit) expense follows:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands)		
Tax at statutory U.S. federal rate	$ (32,190)	$ (57,490)	$ 94,987
Impact of U.S. Tax Cuts and Jobs Act of 2017 - GILTI	195	1,041	38,153
Impact of Tax Receivable Agreement	(26)	91	(39)
Valuation allowance	10,396	(282)	(1,259)
State taxes, net of federal tax benefit	(10,054)	818	2,182
U.S. tax impact of foreign earnings (net of foreign tax credits)	587	311	348
Establishment/resolution of uncertain tax positions	—	(36)	(40)
Adjustment for foreign income taxed at different rates	11,476	16,666	(25,656)
Foreign tax credits	—	(2,534)	(34,264)
Change-in-Control-related compensation	—	—	(1,432)
Impact of non-deductible goodwill impairment	—	24,570	—
Other	(2,487)	(1,669)	(3,624)
Income tax (benefit) expense	$ (22,103)	$ (18,514)	$ 69,356

The tax effects of temporary differences that give rise to significant components of the deferred tax assets and deferred tax liabilities at December 31, 2024 and 2023 are set forth in the following table:

	December 31,	
	2024	2023
	(Dollars in thousands)	
Deferred tax assets:		
Post-employment and other employee benefits	$ 15,240	$ 18,088
Foreign tax credit and other carryforwards	81,682	40,172
Capitalized research and experimental costs	212	212
Environmental reserves	—	1,058
Inventory adjustments	4,936	7,710
Long-term contract option amortization	845	881
Other	4,406	1,198
Total gross deferred tax assets	107,321	69,319
Less: valuation allowance	(19,308)	(8,956)
Total deferred tax assets	88,013	60,363
Deferred tax liabilities:		
Fixed assets	$ 50,247	$ 51,474
Goodwill and acquired intangibles	6,676	6,418
Mark-to-market hedges	—	1,403
Other	1,922	2,732
Total deferred tax liabilities	58,845	62,027
Net deferred tax asset (liability)	$ 29,168	$ (1,664)

At each reporting period, the Company assesses the need for valuation allowances against deferred tax assets and whether it is more likely than not that deferred tax benefits will be realized in each jurisdiction. Consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. Examples of positive evidence include a strong earnings history, an event or events that would increase the Company's taxable income or reduce expenses, or tax planning strategies that would create the ability to realize deferred tax assets. Examples of negative evidence include cumulative losses in recent years or a history of tax attributes expiring unused. In circumstances where the negative evidence outweighs the positive evidence, the Company has established or maintained valuation allowances on the jurisdiction’s net deferred tax assets. However, the recognition of the valuation allowance does not limit the Company's ability to utilize these tax assets on a tax return in the future should taxable income be realized in sufficient amount to realize the assets.

As of December 31, 2024, we had a valuation allowance of $19.3 million against certain deferred tax assets. Our losses in certain tax jurisdictions in recent periods represented sufficient negative evidence to require a full valuation allowance. However, our U.S. losses in recent periods and the potential for U.S. losses in 2025 may lead to a cumulative U.S. loss and may represent sufficient negative evidence to require a full valuation allowance on U.S. DTAs, which would materially increase our expenses in the period the allowance is recognized and materially adversely affect our financial condition and results of operations. If cumulative losses are incurred, we will evaluate additional evidence such as our projections for growth and market recovery to determine if a valuation allowance is required. We also have a partial valuation allowance related to certain U.S. state net operating and capital losses where realizability is unlikely due to discontinued operations or the ability of our U.S. subsidiaries to generate capital gains. Until we determine that we will generate sufficient jurisdictional taxable income to realize our net operating losses and deferred tax assets, we continue to maintain a valuation allowance.

Valuation allowance activity for the years ended December 31, 2024, 2023 and 2022 is as follows:

		(Dollars in thousands)
Balance as of December 31, 2021	$	10,550
Credited to income		(1,259)
Translation adjustment		(22)
Balance as of December 31, 2022	$	9,269
Credited to income		(268)
Translation adjustment		(45)
Balance as of December 31, 2023	$	8,956
Charged to income		10,396
Translation adjustment		(44)
Balance as of December 31, 2024	$	19,308

The increase in the valuation allowance in 2024 was primarily attributable to generating additional state net operating and capital losses during the year that we may not be able to utilize. The reduction in the valuation allowance in 2023 resulted primarily from changes in expected future utilization, state law changes and expiration of U.S. state NOL carryforwards during the year.

As of December 31, 2024, the Company had a total foreign tax credit carryforward of $4.5 million. These tax credit carryforwards begin to expire in 2027. In addition, the Company had state net operating and capital loss carryforwards of $335.2 million (net of federal benefit), which can be carried forward from five to 20 years. These state carryforwards resulted in a deferred tax asset of $21.6 million as of December 31, 2024. The Company also has U.S. state tax credits of $0.2 million as of December 31, 2024. The Company's U.S. interest limitations and foreign loss carryforwards on a gross basis were $126.9 million and $127.6 million, respectively, as of December 31, 2024. These carryforwards do not expire.

As of December 31, 2024 and 2023, the Company had no unrecognized tax benefits. No material amounts of accrued interest or penalties have been recorded as of December 31, 2024 or 2023. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

		(Dollars in thousands)
Balance as of December 31, 2022	$	36
Lapse of statute of limitations		(36)
Foreign currency impact		—
Balance as of December 31, 2023	$	—
Lapse of statute of limitations		—
Foreign currency impact		—
Balance as of December 31, 2024	$	—

We do not expect there will be new unrecognized tax benefits within 12 months.

The Company files income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. All U.S. federal tax years prior to 2021 are generally closed by statute or have been audited and settled with the applicable domestic tax authorities. Other jurisdictions are generally closed for years prior to 2019.

As of December 31, 2024, the Company has accumulated undistributed earnings generated by its foreign subsidiaries of approximately $1.0 billion. Because $1.0 billion of such earnings have previously been subject to taxation by way of the transition tax on foreign earnings required by the Tax Cuts and Jobs Act of 2017, as well as the current and previous years' GILTI inclusion, any additional taxes due with respect to such earnings or the excess of the amount for financial reporting over the tax basis of GrafTech's foreign investments would generally be limited to foreign withholding and state taxes. The Company intends, however, to indefinitely reinvest these earnings and expect future U.S. cash generation to be sufficient to meet future U.S. cash needs.

(14) Stockholders' (Deficit) Equity

The following information should be read in conjunction with the Consolidated Statement of Stockholders' (Deficit) Equity.

Common Stock Repurchases

On July 31, 2019, the Company announced that its Board of Directors approved the repurchase of up to $100.0 million of its common stock in open market purchases, including under Rule 10b5-1 and/or Rule 10b-18 plans. On November 4, 2021, the Company announced that its Board of Directors approved the repurchase of an additional $150.0 million of its common stock under this program. The stock repurchase program does not have an expiration date.

The Company did not repurchase any of its common stock in 2024 or 2023. The Company repurchased 6,662,421 shares of its common stock for $60.0 million in 2022 under the stock repurchase program. 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 December 31, 2024, approximately $99.0 million remained available for stock repurchases under this authorization.

Dividends

The Company paid quarterly dividends of $0.01 per share throughout 2022 and in the first and second quarters of 2023. On August 2, 2023, the Company's Board of Directors elected to suspend the quarterly cash dividend of $0.01 per common share.

Accumulated other comprehensive loss

The balance in our AOCL is set forth in the following table:

	December 31, 2024	December 31, 2023
	(Dollars in thousands)	
Foreign currency translation adjustments, net of tax	$ (43,573)	$ (19,188)
Commodities, interest rate and foreign currency derivatives, net of tax	214	7,730
Total AOCL	$ (43,359)	$ (11,458)

(15) (Loss) Earnings per Share

The following table presents a reconciliation of the numerator and denominator of basic and diluted (loss) earnings per share:

	Year Ended December 31,		
	2024	2023	2022
	(Dollars in thousands, except per share amounts)		
Numerator for basic and diluted (loss) earnings per share:			
Net (loss) income	$ (131,165)	$ (255,250)	$ 382,962
Denominator:			
Weighted average common shares outstanding for basic calculation	257,667,125	257,042,843	258,781,843
Add: Effect of equity awards	—	—	9,385
Weighted average common shares outstanding for diluted calculation	257,667,125	257,042,843	258,791,228
Basic (loss) earnings per share	$ (0.51)	$ (0.99)	$ 1.48
Diluted (loss) earnings per share	$ (0.51)	$ (0.99)	$ 1.48

Basic (loss) earnings per share is calculated by dividing net (loss) income by the weighted average number of common shares outstanding, which included 545,151, 290,449 and 243,006 shares of participating securities in 2024, 2023 and 2022, respectively. Diluted (loss) earnings per share is calculated by dividing net (loss) income 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 (loss) earnings per share calculation for the years ended December 31, 2024 and 2023 excludes the dilutive effect of approximately 48,334 and 41,198 shares, respectively, primarily related to restricted stock units, as their inclusion would have been anti-dilutive due to the Company's net loss.

Additionally, the weighted average common shares outstanding for the diluted (loss) earnings per share calculation excludes 5,056,264, 3,033,561 and 2,240,655 equivalent shares in 2024, 2023 and 2022, respectively, as their effect would have been anti-dilutive. See Note 14, "Stockholders' (Deficit) Equity" for details of the Company's common stock repurchases in 2024, 2023 and 2022.

(16) Other (Income) Expense, net

The following table presents the details of other expense (income), net:

	Year Ended December 31,		
	2024	**2023**	**2022**
	(Dollars in thousands)		
Non-service pension and other post-employment expense (income)	$ 344	$ 3,771	$ (9,950)
Bank charges	783	757	938
Non-cash (gains) losses on foreign currency remeasurement	(1,949)	710	28
Other	(747)	(559)	(1,163)
Total other (income) expense, net	$ (1,569)	$ 4,679	$ (10,147)

Non-service pension and other post-employment expense (income) includes the components of pension and post-employment costs other than service cost. Non-service pension and other post-employment expense (income) included mark-to-market losses of $0.7 million and $3.0 million in 2024 and 2023, respectively, compared to mark-to-market gains of $9.6 million in 2022. See Note 11, "Retirement Plans and Post-Employment Benefits" for further discussion.

(17) Rationalization Expenses

In the first quarter of 2024, we announced a set of initiatives designed to reduce our cost structure and optimize our manufacturing footprint. As part of these initiatives, we indefinitely suspended production activities at our St. Marys, Pennsylvania facility, with the exception of graphite electrode and pin machining. In addition, we indefinitely idled certain assets within our remaining graphite electrode manufacturing footprint. As a result, our graphite electrode production capacity has been reduced to approximately 178 thousand metric tons ("MT") in 2024. In parallel, we adopted measures for additional overhead reductions to reduce our selling and administrative expenses. Collectively, these initiatives resulted in a reduction of our global headcount by approximately 130 employees, or 10% of our workforce. Rationalization charges of $3.2 million related to severance and contract terminations will be paid in cash and we expect the substantial majority to be paid by the end of the second quarter of 2025. Rationalization-related charges of $2.7 million represent the non-cash write-off of inventory and fixed assets. Substantially all charges relative to this plan were recorded during the first quarter of 2024 and wind-down activities were completed by the end of the second quarter of 2024.

The following table summarizes costs incurred related to these initiatives:

	Year Ended December 31,	
	2024	2023
	(Dollars in thousands)	
Recorded in Cost of Goods Sold		
Inventory write-offs	$ 2,202	$ —
Fixed asset write-offs	453	—
Total rationalization-related expenses	$ 2,655	$ —
Recorded in Rationalization Expenses		
Severance and related costs	$ 2,814	$ —
Contract terminations	342	—
Total rationalization expenses	$ 3,156	$ —

The following table presents a roll-forward of the liability incurred for employee termination benefits and contract termination costs incurred in connection with the rationalization initiatives described above.

	Balance Sheet Line Item	
	Other Accrued Liabilities	Other Long-Term Obligations
	(Dollars in thousands)	
Balance as of December 31, 2023	$ —	$ —
Charges incurred	2,479	677
Payments and settlements	(2,161)	(15)
Adjustments	367	(370)
Balance as of December 31, 2024	$ 685	$ 292

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Management is responsible for establishing and maintaining adequate disclosure controls and procedures. Disclosure controls and procedures are designed to ensure that information required to be disclosed by us in the reports that we file or

submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2024. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these controls and procedures were effective as of December 31, 2024.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process, designed by, or under the supervision of, the chief executive officer and chief financial officer and effected by the Board of Directors, management and other personnel of a company, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, and includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of the company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and the Board of Directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets of the company that could have a material effect on its financial statements.

Internal control over financial reporting has inherent limitations which may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or because the level of compliance with related policies or procedures may deteriorate.

Management, with the participation of our Chief Executive Officer and Chief Financial Officer, has conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2024 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework (2013)*. Based on that assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2024. The effectiveness of the Company's internal control over financial reporting as of December 31, 2024 has been audited by Deloitte & Touche LLP, our independent registered public accounting firm, as stated in their report, which is presented elsewhere in this Annual Report.

Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

Rule 10b5-1 Trading Arrangements

None of the Company's directors or officers (as defined in Rule 16a-1(f) under the Exchange Act) adopted, modified, or terminated a Rule 10b5-1 trading arrangement or a non-Rule 10b5-1 trading arrangement (as each term is defined in Item 408 of Regulation S-K) during the Company's fiscal quarter ended December 31, 2024.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information regarding our executive officers is set forth in the Supplemental Item to Part I of this Report under the caption "Supplemental Item. Information about our Executive Officers" and is incorporated herein by reference.

We adopted a Code of Conduct and Ethics that applies to our employees, directors and officers, including our Chief Executive Officer and President and our Chief Financial Officer and Senior Vice President. A copy of the Code of Conduct and Ethics is publicly available on our website at https://www.graftech.com/investors/default.aspx#governance. Any waiver (including an implicit waiver) from a provision of our Code of Conduct and Ethics granted to, or any amendment (other than technical, administrative or other non-substantive amendments) of the Code of Conduct and Ethics that applies to, our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions will be promptly disclosed as required by applicable U.S. federal securities laws and the listing standards of the NYSE on our website at https://www.graftech.com/investors/default.aspx#governance or in a report on Form 8-K filed electronically with the SEC at www.sec.gov.

The remaining information required by this Item is incorporated herein by reference from the sections entitled "Proposal 1 Elect Two Directors for a Three-Year Term or Until Their Successors are Elected and Qualified," "Director Skills and Qualifications Criteria" and "Committees of the Board of Directors" in our Proxy Statement for the Annual Meeting of Stockholders expected to be held on or about May 8, 2025.

We will provide disclosure of delinquent Section 16(a) reports, if any, in our Proxy Statement in a section entitled "Delinquent Section 16(a) Reports," and such disclosure, if any, is incorporated herein by reference.

The Company has adopted an insider trading policy governing the purchase, sale, and/or other dispositions of the Company's securities by directors, officers and employees, that the Company believes is reasonably designed to promote compliance with insider trading laws, rules and regulations and the NYSE listing standards. The foregoing summary of the Company's insider trading policy does not purport to be complete and is qualified in its entirety by reference to the full text thereof attached hereto as Exhibit 19.

Item 11. Executive Compensation

The information required by this item is incorporated by reference from the sections entitled "Compensation Discussion and Analysis," "Compensation Tables and Related Information," "CEO Pay Ratio," "Director Compensation Program," "2025 Director Compensation Table," "Risk Oversight," "Compensation Committee Report" and "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information regarding security ownership of certain beneficial owners and management required by this item is incorporated by reference from the section entitled "Security Ownership of Certain Beneficial Owners and Management" in the Proxy Statement.

Equity Compensation Plan Information

The following table provides information about our common stock that may be issued under our Omnibus Equity Incentive Plan as of December 31, 2024:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	8,270,126[1]	$11.34[2]	4,849,993
Equity compensation plans not approved by security holders	—	—	—
Total	8,270,126[1]	$11.34[2]	4,849,993

(1) This amount represents 1,992,672 shares of common stock subject to outstanding stock options, 3,599,073 shares of common stock subject to outstanding restricted stock units, 531,112 shares of stock subject to outstanding deferred share units, 1,757,831 shares of stock subject to outstanding performance shares units (assuming target level of performance), and 389,438 shares of stock subject to outstanding deferred restricted stock units.

(2) The weighted-average exercise price does not take into account shares of common stock subject to outstanding restricted stock units, outstanding deferred share units, outstanding performance stock units, or outstanding deferred restricted stock units.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference from the sections entitled "Certain Relationships and Related Party Transactions," "Director Independence" and "Committees of the Board of Directors" in the Proxy Statement.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference from the section entitled "Independent Auditor Fees and Other Matters" in the Proxy Statement.

PART IV

Item 15. Exhibit and Financial Statement Schedules

(a) The following documents are filed as part of this Report:

(1) Financial Statements

The following financial statements are set forth under Part II, Item 8 of this Annual Report:

- Report of Independent Registered Public Accounting Firm;
- Consolidated Balance Sheets as of December 31, 2024 and December 31, 2023;
- Consolidated Statements of Operations and Comprehensive (Loss) Income for the fiscal years ended December 31, 2024, December 31, 2023 and December 31, 2022;

- Consolidated Statements of Cash Flows for the fiscal years ended December 31, 2024, December 31, 2023 and December 31, 2022;
- Consolidated Statements of Stockholders' (Deficit) Equity for the fiscal years ended December 31, 2024, December 31, 2023 and December 31, 2022; and
- Notes to the Consolidated Financial Statements.

(2) Financial Statement Schedules

All schedules have been omitted because the required information is included in the consolidated financial statements or the notes thereto, or because it is not required.

(3) Exhibits

The exhibits listed in the following table have been filed or furnished, as applicable, with this Annual Report, or have been incorporated herein by reference.

Exhibit Number	Description of Exhibit
3.1	Amended and Restated Certificate of Incorporation of GrafTech International Ltd. (incorporated herein by reference to Exhibit 3.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed May 1, 2019).
3.2	Amended and Restated By-Laws of GrafTech International Ltd. (incorporated herein by reference to Exhibit 3.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed November 14, 2023).
4.1	Description of Securities (incorporated herein by reference to Exhibit 4.4 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 21, 2020).
4.2	Indenture, dated as of December 22, 2020, among GrafTech Finance Inc., as issuer, GrafTech International Ltd., as a guarantor, the subsidiary guarantors party thereto, and U.S. Bank National Association, as trustee and collateral agent, relating to GrafTech Finance Inc.'s 4.625% Senior Secured Notes due 2028 (incorporated herein by reference to Exhibit 4.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2020).
4.3	Form of 4.625% Senior Secured Notes due 2028 of GrafTech Finance Inc. (included in Exhibit 4.2).
4.4	Indenture, dated as of June 26, 2023, among GrafTech Global Enterprises Inc., as issuer, GrafTech International Ltd., as a guarantor, each subsidiary guarantor from time to time party thereto, and U.S. Bank Trust Company, National Association, as trustee and collateral agent, relating to GrafTech Global Enterprises Inc.'s 9.875% Senior Secured Notes due 2028 (incorporated herein by reference to Exhibit 4.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed June 26, 2023).
4.5	Form of 9.875% Senior Secured Notes due 2028 of GrafTech Global Enterprises Inc. (included in Exhibit 4.4).
4.6	4.625% Supplemental Indenture, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
4.7	9.875% Supplemental Indenture, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.2 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
4.8	New 4.625% Notes Indenture, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.3 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
4.9	Form of 4.625% Second Lien Notes due 2029 (included as Exhibit A to Exhibit 4.8).
4.10	New 9.875% Notes Indenture, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.5 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
4.11	Form of 9.875% Second Lien Notes due 2029 (included as Exhibit A to Exhibit 4.10).
10.1	Credit Agreement, dated February 12, 2018, among GrafTech International Ltd., as Holdings, GrafTech Finance Inc., GrafTech Switzerland SA and GrafTech Luxembourg II S.A.R.L., as co-borrowers, the lenders and issuing banks party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent and Collateral Agent (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Registration Statement on Form S-1 (Registration No. 333-223791) filed March 20, 2018).
10.2	First Amendment to the Credit Agreement, dated June 15, 2018, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland SA, GrafTech Luxembourg II S.A.R.L. each of the entities listed as an "Incremental Term Lender" on the signature pages thereto, JPMorgan Chase Bank, N.A., as Administrative Agent, and for purposes of Sections 5 and 6 thereof only, each of the entities listed as "Guarantor" on the signature pages thereto (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed on August 3, 2018).

10.3	Tax Receivable Agreement, dated as of April 23, 2018, as amended and restated as of April 10, 2023, between GrafTech International Ltd. and Brookfield Capital Partners IV GP, Ltd. (incorporated herein by reference to Exhibit 10.15 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2024).
10.4+	Form of Indemnification Agreement with Directors and Executive Officers (incorporated herein by reference to Exhibit 10.15 to GrafTech International Ltd.'s Registration Statement on Form S-1/A (Registration No. 333-223791) filed March 26, 2018).
10.5+	GrafTech International Ltd. Omnibus Equity Incentive Plan (incorporated herein by reference to Exhibit 10.24 to GrafTech International Ltd.'s Registration Statement on Form S-1/A (Registration No. 333-223791) filed April 4, 2018).
10.6+	Form of Stock Option Agreement for the GrafTech International Ltd. Omnibus Equity Incentive Plan (incorporated herein by reference to Exhibit 10.25 to GrafTech International Ltd.'s Registration Statement on Form S-1/A (Registration No. 333-223791) filed April 4, 2018).
10.7+	Form of Deferred Share Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan for Non-Employee Directors (incorporated herein by reference to Exhibit 10.27 to GrafTech International Ltd.'s Registration Statement on Form S-1/A (Registration No. 333-223791) filed April 4, 2018).
10.8+	Form of Deferred Share Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan for Non-Employee Directors (adopted November 1, 2018) (incorporated herein by reference to Exhibit 10.34 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 22, 2019).
10.9+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (incorporated herein by reference to Exhibit 10.2 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed May 1, 2019).
10.10	Second Amendment to the Credit Agreement, dated February 17, 2021, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Luxembourg II S.A.R.L., GrafTech Switzerland SA, JPMorgan Chase Bank, N.A., as Administrative Agent, and the lenders and issuing banks party thereto (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed on February 19, 2021).
10.11	Third Amendment to the Credit Agreement, dated as of May 31, 2022, by and among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Luxembourg II S.à r.l., GrafTech Switzerland SA, JPMorgan Chase Bank, N.A., as administrative agent, the New Revolving Lenders (as defined therein), the Consenting Revolving Lenders (as defined therein), each of the entities listed as an "Incremental Revolving Lender" on the signature pages thereto and for purposes of Sections 5, 7 and 8 thereof only, each of the entities listed as a "Guarantor" on the signature pages thereto (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed June 2, 2022).
10.12+	Form of Restricted Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2022 Version) (incorporated herein by reference to Exhibit 10.36 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 22, 2022).
10.13+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2022 Version) (incorporated herein by reference to Exhibit 10.37 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 22, 2022).
10.14+	Form of Restricted Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2022 Non-US Version) (incorporated herein by reference to Exhibit 10.4 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed August 5, 2022).
10.15+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2022 Non-US Version) (incorporated herein by reference to Exhibit 10.5 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed August 5, 2022).
10.16+	Form of Retention Bonus Agreement (incorporated herein by reference to Exhibit 10.38 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2023).
10.17+	Form of Director Restricted Stock Units Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.39 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2023).
10.18+	Form of Director Deferred Restricted Stock Units Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.40 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2023).
10.19+	Amended and Restated GrafTech International Ltd. Director Deferred Fee Plan, amended and restated effective as of April 1, 2023 (incorporated herein by reference to Exhibit 10.41 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2023).
10.20+	Form of Director Deferred Share Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.42 to GrafTech International Ltd.'s Annual Report on Form 10-K filed February 14, 2023).
10.21+	Benefits Addendum, dated July 27, 2023, by and between GrafTech Switzerland S.A. and Iñigo Perez Ortiz.(incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed July 27, 2023).

10.22+	Form of Restricted Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.23+	Form of Restricted Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Non-US Version) (incorporated herein by reference to Exhibit 10.2 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.24+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.3 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.25+	Form of Stock Option Grant Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Non-US Version) (incorporated herein by reference to Exhibit 10.4 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.26+	Form of Performance Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Version) (incorporated herein by reference to Exhibit 10.5 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.27+	Form of Performance Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2023 Non-US Version) (incorporated herein by reference to Exhibit 10.6 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 28, 2023).
10.28+	GrafTech International Ltd. Short-Term Incentive Plan (Amended and Restated effective November 6, 2023) (incorporated herein by reference to Exhibit 10.43 to GrafTech International Ltd.'s Annual Report on Form 10-K filed on February 14, 2024).
10.29+	Form of Performance Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2024 Version) (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 26, 2024).
10.30+	Form of Performance Stock Unit Agreement under the GrafTech International Ltd. Omnibus Equity Incentive Plan (2024 Non-US Version) (incorporated herein by reference to Exhibit 10.2 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed April 26, 2024).
10.31+	CEO Offer Letter for Timothy K. Flanagan, dated as of April 26, 2024 (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Quarterly Report on Form 10-Q filed on July 26, 2024).
10.32	New First Lien Term Loan Credit Agreement, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.7 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
10.33	Fourth Amendment to the Revolving Credit Agreement, dated as of December 23, 2024 (incorporated herein by reference to Exhibit 4.8 to GrafTech International Ltd.'s Current Report on Form 8-K filed December 23, 2024).
10.34	Cooperation Agreement, dated as of January 10, 2025, by and between GrafTech International Ltd. and Nilesh Undavia (incorporated herein by reference to Exhibit 10.1 to GrafTech International Ltd.'s Current Report on Form 8-K filed on January 10, 2025).
19*	GrafTech International Ltd. Insider Trading Policy, dated July 24, 2024
21*	List of Subsidiaries of GrafTech International Ltd.
23*	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.
31.1*	Certification pursuant to Rule 13a-14(a) under the Exchange Act by Timothy K. Flanagan, Chief Executive Officer and President (Principal Executive Officer).
31.2*	Certification pursuant to Rule 13a-14(a) under the Exchange Act by Rory O'Donnell, Chief Financial Officer and Senior Vice President (Principal Financial Officer).
32.1**	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by Timothy K. Flanagan, Chief Executive Officer and President (Principal Executive Officer).
32.2**	Certification pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 by Rory O'Donnell, Chief Financial Officer and Senior Vice President (Principal Financial Officer).
97	GrafTech International Ltd. Compensation Clawback Policy, effective October 2, 2023 (incorporated herein by reference to Exhibit 97 to GrafTech International Ltd.'s Annual Report on Form 10-K filed on February 14, 2024).
101	The following financial information from GrafTech International Ltd.'s Annual Report on Form 10-K for the year ended December 31, 2024 formatted in Inline XBRL (Extensible Business Reporting Language) includes: (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations and Comprehensive (Loss) Income, (iii) the Consolidated Statements of Cash Flows, (iv) the Consolidated Statements of Stockholders' (Deficit) Equity, and (v) Notes to the Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith
** Furnished herewith
+ Indicates management contract or compensatory plan or arrangement

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

GRAFTECH INTERNATIONAL LTD.

February 14, 2025 By: /s/ Timothy K. Flanagan
Timothy K. Flanagan
Chief Executive Officer and President

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Timothy K. Flanagan Timothy K. Flanagan	Chief Executive Officer and President and Director (Principal Executive Officer)	February 14, 2025
/s/ Rory O'Donnell Rory O'Donnell	Chief Financial Officer and Senior Vice President (Principal Financial Officer and Principal Accounting Officer)	February 14, 2025
/s/ Henry R. Keizer Henry R. Keizer	Chairman and Director	February 14, 2025
/s/ Diego Donoso Diego Donoso	Director	February 14, 2025
/s/ Michel J. Dumas Michel J. Dumas	Director	February 14, 2025
/s/ Debra Fine Debra Fine	Director	February 14, 2025
/s/ Jean-Marc Germain Jean-Marc Germain	Director	February 14, 2025
/s/ Sachin Shivaram Sachin Shivaram	Director	February 14, 2025
/s/ Anthony R. Taccone Anthony R. Taccone	Director	February 14, 2025