

2022
ANNUAL REPORT

Unless the context indicates otherwise, the terms "Owens Corning," "Company," "we" and "our" in this 2022 Annual Report refer to Owens Corning and its subsidiaries. References to a particular year mean the Company's year commencing on January 1 and ending on December 31 of that year.

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

FORM 10-K

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

For the fiscal year ended December 31, 2022

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: 1-33100

Owens Corning

(Exact name of registrant as specified in its charter)

Delaware	**43-2109021**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
One Owens Corning Parkway, Toledo, OH	**43659**
(Address of principal executive offices)	**(Zip Code)**

(419) 248-8000

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $0.01 per share	**OC**	**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 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 Act). Yes ☐ No ☑

On June 30, 2022, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of $0.01 par value common stock (the voting stock of the registrant) held by non-affiliates (assuming for purposes of this computation only that the registrant had no affiliates) was approximately $7,225,611,878.

As of February 10, 2023, 90,771,129 shares of the registrant's common stock, par value $0.01 per share, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Owens Corning's proxy statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders to be held on or about April 20, 2023 (the "2023 Proxy Statement") are incorporated by reference into Part III hereof.

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PART I

ITEM 1. BUSINESS

OVERVIEW

Owens Corning is a global building and construction materials leader committed to building a sustainable future through material innovation. Its fiberglass composites make thousands of products lighter, stronger, and more durable. Its insulation products conserve energy and improve acoustics, fire resistance and air quality in the spaces where people live, work and play. Its roofing products and systems enhance curb appeal of people's homes and protect homes and commercial buildings alike.

The business is global in scope, with operations in 31 countries, and human in scale, with approximately 19,000 employees and longstanding, local relationships with its customers. Founded in 1938 and based in Toledo, Ohio, Owens Corning recorded net sales in 2022 of $9.8 billion.

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SEGMENT OVERVIEW

The Company has an integrated business model with three reportable segments: Composites, Insulation and Roofing. Our Composites, Insulation and Roofing reportable segments accounted for approximately 27%, 37% and 36% of our total reportable segment net sales, respectively, in 2022.

Composites

Owens Corning glass fiber materials can be found in over 40,000 end-use applications primarily within three markets: building and construction, renewable energy and infrastructure. Such end-use applications include building structures, roofing shingles, tubs and showers, pools, decking, flooring, pipes and tanks, poles, electrical equipment and wind-energy turbine blades. Our products are manufactured and sold worldwide. We primarily sell our products directly to parts molders and fabricators. Within the building and construction market, our Composites segment sells glass fiber and/or glass mat directly to a small number of major shingle manufacturers, including our own Roofing segment.

Our Composites segment includes vertically integrated material solutions. The Company manufactures, fabricates and sells glass reinforcements in the form of fiber. Glass reinforcement materials are also used downstream by the Composites segment to manufacture and sell glass fiber products in the form of fabrics, non-wovens and other specialized products.

Demand for composites is driven by general global economic activity and, more specifically, by the increasing replacement of traditional materials such as aluminum, wood and steel with composites that offer lighter weight, improved strength, lack of conductivity and corrosion resistance.

We compete with glass fiber manufacturers worldwide. According to various industry reports and Company estimates, our Composites segment is a world leader in the production of glass fiber reinforcement materials. Primary methods of competition include innovation, quality, customer service and global geographic reach.

ITEM 1. BUSINESS (continued)

Insulation

Our insulating products provide a variety of benefits such as energy conservation, thermal functionality, improved acoustical performance and convenience of installation and use. Our Insulation segment includes a diverse portfolio of high, mid and low-temperature products with a geographic mix of United States, Canada, Europe, Asia-Pacific and Latin America, a market mix of residential, commercial, industrial and other markets, and a channel mix of retail, contractor and distribution.

Our products in the North American residential market include thermal and acoustical batts, loosefill insulation, spray foam, foam sheathing and accessories, and are sold under well-recognized brand names and trademarks such as Owens Corning PINK® FIBERGLAS™ Insulation. Our products in the commercial and industrial markets include glass fiber pipe insulation, energy efficient flexible duct media, bonded and granulated mineral wool insulation, cellular glass insulation and foam insulation used in above- and below-grade construction applications, and are sold under well-recognized brand names and trademarks such as FOAMULAR®, FOAMGLAS® and Paroc®. We sell our insulation products primarily to insulation installers, home centers, lumberyards, retailers and distributors in the United States, Canada, Europe, Asia-Pacific and Latin America.

Demand for Owens Corning's insulating products is driven by North American new residential construction, repair and remodeling activity, commercial and industrial construction activity in the United States, Canada, Europe, Asia-Pacific and Latin America, and increasingly stringent building codes and the growing need for energy efficiency. Demand in the segment typically follows seasonal home improvement, remodeling and renovation and residential, commercial and industrial construction industry patterns. Demand for residential insulation in North America typically follows housing starts on a three-month lagged basis, although the new residential construction cycle can elongate due to labor availability and other factors beyond our control. The peak season for home construction and remodeling in our geographic markets generally corresponds with the second and third calendar quarters. Demand for commercial and industrial applications is more heavily tied to industrial production growth, commercial construction activity, and overall economic conditions in the global markets we serve.

Our Insulation segment competes primarily with fiberglass insulation manufacturers in the United States, with an international presence in Canada, Europe, Asia-Pacific and Latin America. According to industry reports and Company estimates, Owens Corning is North America's largest producer of residential, commercial and industrial insulation. Principal methods of competition include innovation and product design, service, location, quality, price and compatibility of systems solutions.

Working capital practices for this segment historically have followed a seasonal cycle. Typically, our insulation plants run continuously throughout the year. This production plan, along with the seasonal nature of portions of the segment, generally results in higher finished goods inventory balances in the first half of the year. Since sales increase during the second half of the year, our accounts receivable balances are typically higher during this period.

Roofing

Our primary products in the Roofing segment are laminate and strip asphalt roofing shingles. Other products include roofing components, synthetic packaging materials and oxidized asphalt. We have been able to meet the growing demand for longer lasting, aesthetically attractive laminate products with modest capital investment.

We sell shingles and roofing components primarily through distributors, home centers, lumberyards, retailers and contractors in the United States. Our synthetic packaging materials are used primarily in the construction industry for lumber packaging. Oxidized asphalt is a significant input used in the production of our asphalt roofing

ITEM 1. BUSINESS (continued)

shingles. We are vertically integrated and have manufacturing facilities that process asphalt for use in our roofing shingles manufacturing process. In addition, we sell processed asphalt to other shingle manufacturers, to roofing contractors for built-up roofing asphalt systems and to manufacturers in a variety of other industries, including automotive, chemical, rubber and construction. Asphalt input costs and third-party asphalt sales prices are correlated to crude oil prices.

Demand for products in our Roofing segment is generally driven by both residential repair and remodeling activity and by new residential construction. Roofing damage from major storms can significantly increase demand in this segment. As a result, sales in this segment do not always follow seasonal home improvement, remodeling and new construction industry patterns as closely as our Insulation segment.

Our Roofing segment competes primarily with asphalt shingle manufacturers in the United States. According to various industry reports and Company estimates, Owens Corning's Roofing segment is the second largest producer of asphalt roofing shingles in the United States. Principal methods of competition include innovation and product design, proximity to customers, quality and price.

Our manufacturing operations are generally continuous in nature, and we warehouse much of our production prior to sale since we operate with relatively short delivery cycles. One of the raw materials important to this segment is sourced from a sole supplier. We have a long-term supply contract for this material, and have no reason to believe that any availability issues will exist. If this supply was to become unavailable, our production could be interrupted until such time as the supplies again became available or the Company reformulated its products. Additionally, the supply of asphalt, another significant raw material in this segment, has been constricted at times. Although this has not caused a significant interruption of our production in the past, prolonged asphalt shortages would restrict our ability to produce products in this segment.

GENERAL

Intellectual Property

The Company relies on a combination of intellectual property laws, as well as confidentiality procedures and contractual provisions, to protect our intellectual property, proprietary technology and our brands. Through continuous and extensive use of the color PINK since 1956, Owens Corning became the first owner of a single color trademark registration. In addition to our Owens Corning and PINK brands, the Company has registered, and applied for the registration of, U.S. and international trademarks, service marks, and domain names. Additionally, the Company owns numerous U.S. and international patents and patent applications, covering certain of our proprietary technology resulting from research and development efforts. Over time, the Company has assembled a portfolio of intellectual property rights including patents, trademarks, service marks, copyrights, domain names, know-how and trade secrets covering our products, services and manufacturing processes. Our proprietary technology is not dependent on any single or group of intellectual property rights and the Company does not expect the expiration of existing intellectual property to have a material adverse effect on the business as a whole. The Company believes the duration of our patents is adequate relative to the expected lives of our products. Although the Company protects its intellectual property and proprietary technology, any significant impairment of, or third-party claim against, our intellectual property rights could harm our business or our ability to compete.

Environmental Control

Owens Corning has established policies and procedures to ensure that its operations are conducted in compliance with all relevant laws and regulations and that enable the Company to meet its high standards for corporate sustainability and environmental stewardship. Our manufacturing facilities are subject to numerous foreign,

ITEM 1. BUSINESS (continued)

federal, state and local laws and regulations relating to the presence of hazardous materials, pollution and protection of the environment, including emissions to air, discharges to water, management of hazardous materials, handling and disposal of solid wastes, and remediation of contaminated sites. All Company manufacturing facilities are required to use an ISO 14001 or equivalent environmental management system. The Company's 2030 Sustainability Goals require significant global reductions in energy use, water consumption, waste to landfill, emissions of greenhouse gases, fine particulate matter and volatile organic compound. The Company is dedicated to continuous improvement in our environmental, health and safety performance and to achieving its 2030 Sustainability Goals.

The Company has not experienced a material adverse effect upon its capital expenditures or competitive position as a result of environmental control legislation and regulations. Operating costs associated with environmental compliance were approximately $45 million in 2022. The Company continues to invest in equipment and process modifications to remain in compliance with applicable environmental laws and regulations worldwide.

Our manufacturing facilities are subject to numerous national, state and local environmental protection laws and regulations. Regulatory activities of particular importance to our operations include those addressing air pollution, water pollution, waste disposal and chemical control. It is possible that new laws and regulations will specifically address climate change, volatile organic compounds, ozone forming emissions and fine particulate matter. New environmental and chemical regulations could impact our ability to expand production or construct new facilities in geographic regions in which we operate. However, based on information known to the Company, including the nature of our manufacturing operations and associated air emissions, at this time we do not expect any of these new laws, regulations or activities to have a material adverse effect on our results of current operations, financial condition or long-term liquidity.

Owens Corning is involved in remedial response activities and is responsible for environmental remediation at a number of sites, including certain of its currently owned or formerly owned plants. These responsibilities arise under a number of laws, including, but not limited to, the Federal Resource Conservation and Recovery Act, and similar state or local laws pertaining to the management and remediation of hazardous materials and petroleum. The Company has also been named a potentially responsible party under the United States Federal Superfund law, or state equivalents, at a number of disposal sites. The Company became involved in these sites as a result of government action or in connection with business acquisitions. At the end of 2022, the Company was involved with a total of 23 sites worldwide, including 10 Superfund sites and 13 owned or formerly owned sites. None of the liabilities for these sites are individually significant to the Company.

Remediation activities generally involve a potential range of activities and costs related to soil and groundwater contamination. This can include pre-cleanup activities such as fact finding and investigation, risk assessment, feasibility studies, remedial action design and implementation (where actions may range from monitoring to removal of contaminants, to installation of longer-term remediation systems). A number of factors affect the cost of environmental remediation, including the number of parties involved in a particular site, the determination of the extent of contamination, the length of time the remediation may require, the complexity of environmental regulations, variability in clean-up standards, the need for legal action, and changes in remediation technology. Taking these factors into account, Owens Corning has predicted the costs of remediation reasonably estimated to be paid over a period of years. The Company accrues an amount on an undiscounted basis, consistent with the reasonable estimates of these costs when it is probable that a liability has been incurred. Actual cost may differ from these estimates for the reasons mentioned above.

At December 31, 2022, the Company had an accrual totaling $5 million for its environmental liabilities, of which the current portion is $1 million. Changes in required remediation procedures or timing of those procedures at existing legacy sites, or discovery of contamination at additional sites, could result in material increases to the Company's environmental obligations.

ITEM 1. BUSINESS (continued)

Additional Government Laws and Regulations

In addition to environmental laws and regulations, we are subject to various laws and regulations around the world. For example, trade regulations, including tariffs or other import or export restrictions, may increase the cost of some of our raw materials or cross-border shipments, and limit our ability to do business in certain countries or with certain individuals. Our business is also subject to competition laws in the various jurisdictions where we operate, including the Sherman Antitrust Act and related federal and state antitrust laws in the United States, as well as similar foreign laws and regulations. These laws and regulations generally prohibit competitors from fixing prices, boycotting competitors, or engaging in other conduct that unreasonably restrains competition, and such laws and regulations may impact potential business relationships or transactions with third parties in the future. In addition, health and safety regulations have necessitated, and may continue to necessitate, increased operating costs or capital investments to promote a safe working environment. The Company is also required to comply with increasingly complex and changing laws and regulations enacted to protect business and personal data in the United States and other jurisdictions regarding privacy, data protection and data security, including those related to the collection, storage, use, transmission and protection of personal information and other consumer, customer, vendor or employee data. Further, an increasing number of laws and regulations focused on product and chemical hazards, including regulations concerning the impact of product manufacturing and use on climate change, and resulting preferential product selection could also impact our ability to manufacture and sell certain products or require significant research and development investment and capital expenditures to meet regulatory requirements. With respect to the laws and regulations noted above, as well as other applicable laws and regulations, the Company's compliance programs, may under certain circumstances, involve material investments in the form of additional processes, training, personnel, information technology and capital. For a discussion of the risks associated with certain applicable laws and regulations, see Item 1A, "Risk Factors."

Sustainability

As a worldwide leader in our industry, we have the desire to be at the forefront of corporate sustainability efforts. It is our ambition to be a net-positive company, that is, one whose positive impact of our people and products, is greater than the negative impact of manufacturing our products. We work to continually increase the good our people and products do while we concurrently reduce the negative environmental impact of our operations.

Our climate-related sustainability efforts have led Owens Corning to develop a range of strategies and tactics that have had a significant impact on the way we conduct our business. We strive to reduce the greenhouse gas emissions released throughout the entire life cycle of our products by improving the use-phase impacts of our products, making our manufacturing processes more energy-efficient, sourcing more renewable electricity, improving our supply chain logistics, increasing recycled content, and developing end-of-life recycling solutions. Together, this work helps to reduce the environmental impact of our operations and lowers the embodied carbon in our products – an attribute of growing importance to our customers.

Many of Owens Corning's products are made using heavy, industrialized manufacturing processes. While we strive to go beyond all regulatory requirements, our factories do produce various emissions, including greenhouse gases. Owens Corning is subject to or has chosen to voluntarily participate in Emissions Trading Schemes around the world. Broad and gradual tightening of national, regional, and state government limits on emissions could disrupt our access to energy sources or specific raw materials, which in turn could disrupt the manufacturing of products dependent upon them. Owens Corning invests in research and development on climate-related risks and opportunities.

ITEM 1. BUSINESS (continued)

Human Capital Resources

Important to the Company's long-term success is ensuring its people feel valued, included, and engaged – from recruitment to retirement. That is why Owens Corning is dedicated to fostering an environment of learning and growth within a supportive, caring culture. We are committed to providing a safe, healthy workplace and a meaningful, engaging employee experience.

As of December 31, 2022, Owens Corning had approximately 19,000 employees, of which approximately 10,000 were located outside the United States. Approximately 9,000 (64%) of hourly employees are subject to collective bargaining agreements. The Company believes that its relations with employees are good.

The Company focuses on a number of human capital resource objectives in managing its business which, taken together, may be material to understanding our business under certain circumstances.

Safety and Well-Being

One of our primary objectives is the safety and well-being of our employees. Working safely is an unconditional, organization-wide expectation at Owens Corning, which we believe directly benefits employees' lives, improves our manufacturing processes and reduces our costs. The Company maintains comprehensive safety programs focused on identifying hazards and eliminating risks that can lead to severe injuries. One of our primary safety measures is the Recordable Incident Rate ("RIR") as defined by the United States Bureau of Labor Statistics. For the year ended December 31, 2022, our RIR was 0.65, compared to 0.59 as reported in the same period a year ago.

Additionally, with our Healthy Living platform, we provide a multifaceted well-being program designed to drive sustainable, long-term change, improve the health and lives of employees, and strengthen the culture and work experience.

Employee Performance and Related Objectives

We also focus on managing employee performance, development, succession planning, and turnover. Our goal is to create a high-performance culture and teams that are diverse, capable and engaged. We strive to have clear objectives, effective performance management, and a structure that includes regular feedback, talent reviews, succession planning, development, and compensation analysis.

Corporate Culture

Another objective we pursue is maintaining a corporate culture focused on inclusion and diversity, ethics and compliance, training, and positive employee relations and engagement.

The Company believes its success and sustainability are enhanced by an inclusive and diverse workforce. We believe that inclusion and diversity add value to the business by fostering an environment that leads to high engagement and innovative thinking in the workplace. Our Chief Executive Officer, along with more than a thousand other company leaders around the world, signed the CEO Action for Diversity & Inclusion pledge in 2018, signaling our commitment to advance diversity and inclusion within the workplace. Owens Corning operates programs that foster gender and ethnic diversity as well as equality within its workforce, including supporting various employee-led affinity groups, so its employees feel valued and appreciated for the distinct voices they bring to the team.

As of December 31, 2022, the composition of our Board of Directors was 60% demographically diverse, which includes gender, race, ethnicity, nationality, national origin or other elements of one's identity. Leadership

ITEM 1. BUSINESS (continued)

positions were comprised of approximately 29% women globally and 17% people of color in the United States. Our 2030 diversity goals set ambitious targets for Owens Corning leadership positions of 35% women globally and 22% people of color in the United States.

The Company performs a biennial pay equity review with the assistance of a third-party vendor. These reviews include a robust, statistical analysis of pay equity across the majority of its global salaried workforce. Consistent with our commitment to "equal pay for equal work," we remediate all identified and substantiated pay gaps through pay increases. Further, the Company has implemented processes and policies to avoid inheriting unequal pay bias of prior employers.

Ethics and compliance efforts include our support of the Owens Corning Code of Conduct ("Code of Conduct"), which is dedicated to encouraging compliance with a range of legal guidelines and our corporate values. Our training efforts encompass the Code of Conduct and other areas of compliance and development as relevant to employees. We also seek to foster positive and productive relations with the labor organizations representing them.

Owens Corning employees contribute service hours to boards, special causes and nonprofit organizations in the communities where they live and operate. These programs aim to enable the Company's employees to connect with the community, further improve its reputation locally and globally, and instill a sense of pride in the workforce.

Owens Corning is a recognized leader on advancing social issues, including issues related to diversity, equity and inclusion and human rights. Select awards and honors earned by the Company include:

- Obtained a perfect score on the Human Rights Campaign's 2022 Corporate Equality Index for the eighteenth year in a row;
- Recognized as one of the "2022 World's Most Ethical Companies" by Ethisphere Institute for the fifth year in a row; and
- Ranked 1st among the 100 Best Corporate Citizens in 2022 by 3BL Media for an unprecedented fourth year in a row

More information about Owens Corning's approach to human capital and other social issues can be found in our Sustainability Report on our website.[1]

AVAILABILITY OF INFORMATION

Owens Corning makes available, free of charge, through its website, the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission. These documents are available through the Investor Relations page of the Company's website at www.owenscorning.com. Copies of any materials we file with the SEC can also be obtained free of charge through the SEC's website at http://www.sec.gov.

ITEM 1A. RISK FACTORS

In an enterprise as diverse as ours, a wide range of factors could affect future performance. We discuss in this section some of the risk factors that could materially and adversely affect our business, financial condition, value

[1] The information on our website, including our Sustainability Report, is not, and will not be deemed to be, a part of this Annual Report on Form 10-K or incorporated into any of our other filings with the SEC.

ITEM 1A. RISK FACTORS (continued)

and results of operations. You should consider these risk factors in connection with evaluating the forward-looking statements contained in this Annual Report on Form 10-K because these factors could cause our actual results and financial condition to differ materially from those projected in forward-looking statements.

The Company maintains processes that aim to manage enterprise risks through identification and mitigation of those risks. Despite our efforts, we may fail to identify or mitigate certain risks, which could have a material and adverse impact on our business, financial condition, value and results of operations.

MACROECONOMIC, MARKET AND OPERATIONAL RISKS

Low levels of residential, commercial or industrial construction activity can have a material adverse impact on our business and results of operations.

A large portion of our products are used in the markets for residential and commercial construction and repair and remodeling. Demand for certain of our products is affected in part by the level of new residential construction in the United States and elsewhere, although typically not until a number of months after the change in the level of construction. Lower demand in the regions and markets where our products are sold could result in lower revenues and lower profitability. Historically, construction activity has been cyclical and is influenced by prevailing economic conditions, including the level of interest rates and availability of financing, inflation, employment levels, consumer spending habits, consumer confidence and other macroeconomic factors outside our control. Interest rates and inflation levels rose significantly in 2022, and the reduced affordability of mortgages and other financing options has reduced home sale transaction volumes and new construction activity. We cannot predict if or when interest rates or inflation levels will stabilize or decline or the impact that any such decline may have on repair and remodel activity, new construction activity, demand for our products, our business generally, or our financial condition.

Residential and commercial construction is also affected by the cost and availability of skilled labor, which could impact both the cost and pace of construction activity, as well as the construction methods used, all of which could adversely affect demand for our products.

Some of our products, particularly in our Insulation business, are used in industrial applications, such as piping and storage tanks. Lower levels of industrial production and other macroeconomic factors affecting industrial construction activity could lessen demand for those products and lead to lower revenues or profitability.

Our sales may fall rapidly in response to declines in demand because we do not operate under long-term volume agreements to supply our customers and because of customer concentration in certain segments.

Many of our customer volume commitments are short-term; therefore, we do not have a significant manufacturing backlog. As a result, we do not benefit from the visibility provided by long-term volume contracts against downturns in customer demand and sales. Further, we are not able to immediately adjust our costs in response to declines in sales. In addition, although no single customer represented more than 10% of our annual sales in 2022, our ability to sell some of the products in Insulation and Roofing is dependent on a limited number of customers, who account for a significant portion of such sales. The loss of key customers for these products, a consolidation of key customers or a significant reduction in sales to those customers, could significantly reduce our revenues from these products. In addition, if key customers experience financial pressure or consolidate, they could attempt to demand more favorable contractual terms, which would place additional pressure on our margins and cash flows. Lower demand for our products, loss of key customers and material changes to contractual terms could materially and adversely impact our business, financial condition and results of operations. Furthermore, some of our sales are concentrated in certain geographic areas, and market growth that is skewed to other geographic areas may negatively impact our rate of growth or market share.

ITEM 1A. RISK FACTORS (continued)

Supply constraints and increases in the cost of energy, including because of the ongoing conflict in Ukraine, could have a material adverse impact on our business or results of operations.

Natural gas forms the primary energy source for our European operations, and a significant amount of natural gas in Europe is primarily sourced from Russia. Our European operations can be directly affected by volatility in the cost and availability of energy, which is subject to factors outside of our control. The ongoing conflict between Russia and Ukraine has impacted global energy markets, particularly in Europe, leading to high volatility and increased prices for natural gas and other energy supplies. Reductions in the supply of natural gas from Russia to Europe led to ongoing supply shortages in Europe in 2022. Natural gas supply shortages, or a shutdown of natural gas supply from Russia, could lead to additional price increases, energy supply rationing, or temporary reduction in our European operations, which could have a material adverse impact on our business or results of operations.

We may be exposed to cost increases or reduced availability of raw materials or transportation, which could reduce our margins and have a material adverse impact on our business, financial condition and results of operations.

Our business relies heavily on certain commodities and raw materials used in our manufacturing processes. Additionally, we spend a significant amount on inputs that are influenced by energy prices, such as asphalt, chemicals, resins, and transportation. Price increases for these inputs could raise costs and reduce our margins if we are not able to offset them by increasing the prices of our products, improving productivity or hedging where appropriate.

Availability of certain of the raw materials we use has occasionally been limited, including because of the COVID-19 pandemic, and our sourcing of some of these raw materials from a limited number of suppliers, and in some cases a sole supplier, increases the risk of unavailability. For example, if one of the raw materials important to our business is sourced from a sole supplier, our production could be interrupted regardless of whether we have a long-term supply contract for the material. Despite our contractual supply agreements with many of our suppliers, and despite any programs we may undertake to mitigate supply risks, it is possible that we could experience a lack of certain raw materials that limits our ability to manufacture our products, thereby materially and adversely impacting our business, financial condition and results of operations.

Worldwide economic conditions and credit tightening could have a material adverse impact on the Company.

The Company's business may be materially and adversely impacted by changes in United States or global economic conditions, including global industrial production rates, inflation, deflation, interest rates, availability of capital, consumer spending rates, energy availability and commodity prices, trade laws, and the effects of governmental initiatives to manage economic conditions. Changes in and/or new laws, regulations and policies that may be enacted in the United States or elsewhere could also materially impact economic conditions and the Company's business and results of operations. Volatility in financial markets and the deterioration of national and global economic conditions could materially adversely impact the Company's operations, financial results and/or liquidity including:

- the financial stability of our customers or suppliers may be compromised, which could result in reduced demand for our products, additional bad debts for the Company or non-performance by suppliers;

- one or more of the financial institutions associated with our credit facilities could cease to fulfill their funding obligations, or the amount of eligible receivables under our receivables securitization facility could decrease, which could materially adversely impact our liquidity;

ITEM 1A. RISK FACTORS (continued)

- it may become more expensive or difficult to obtain financing or refinance the Company's debt in the future;
- the value of the Company's assets held in pension plans may decline; and
- the Company's assets may be impaired or subject to write-down or write-off.

Furthermore, inflation, which increased significantly in 2022, has and may continue to increase our operational costs and continued increases in interest rates in response to concerns about inflation may further increase economic uncertainty and heighten these risks. If we are unable to increase our prices to offset the effects of inflation, then our business, operating results, and financial condition could be materially and adversely affected.

Uncertainty about global economic conditions may also cause consumers of our products to reduce or postpone spending in response to tighter credit, negative financial news and/or declines in income or asset values. This could have a material adverse impact on the demand for our products and on our financial condition and operating results. A deterioration of economic conditions may exacerbate these adverse effects and could result in a wide-ranging and prolonged impact on general business conditions, thereby negatively impacting our operations, financial results and/or liquidity.

We are subject to risks relating to our information technology systems (cybersecurity), and any failure to adequately protect our critical information technology systems could materially affect our operations.

We rely on information technology systems across our operations, including for management, supply chain and financial information and various other processes and transactions. Our ability to effectively manage our business depends on the security, reliability and capacity of these systems. Our information technology systems, some of which are dependent on services provided by third parties, may be vulnerable to damage, interruption, or shutdown due to any number of causes outside of our control such as catastrophic events, natural disasters, fires, power outages, systems failures, telecommunications failures, employee error or malfeasance, security breaches, computer viruses or other malicious codes, ransomware, unauthorized access attempts, denial of service attacks, phishing, hacking, and other cyberattacks. Any such damage, interruption, or shutdown could cause delays or cancellation of customer orders or impede the manufacture or shipment of products, processing of transactions or reporting of financial results. An attack or other problem with our systems could also result in the disclosure of proprietary information about our business or confidential information concerning our customers or employees, which could result in significant damage to our business and our reputation.

We have put in place security measures designed to protect against the misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, or disruption of our operations. However, advanced cybersecurity threats, such as malware, ransomware, and phishing attacks, attempts to access information, and other security breaches, are persistent and continue to evolve, making them increasingly difficult to identify and prevent. Protecting against these threats may require significant resources, and we may not be able to implement measures that will protect against all of the significant risks to our information technology systems. In addition, we rely on a number of third-party service providers to execute certain business processes and maintain certain information technology systems and infrastructure, and any breach of security on their part could impair our ability to effectively operate.

Any breach of our security measures could result in unauthorized access to and misappropriation of our information, corruption of data or disruption of operations or transactions, any of which could have a material adverse effect on our business.

Additionally, we regularly move data across national borders to conduct our operations and, consequently, are subject to a variety of laws and regulations in the United States and other jurisdictions regarding privacy, data

ITEM 1A. RISK FACTORS (continued)

protection, and data security, including those related to the collection, storage, handling, use, disclosure, transfer, and security of personal data, including the European Union General Data Protection Regulation. Our efforts to comply with privacy and data protection laws may impose significant costs and challenges that are likely to increase over time.

Our efforts in acquiring and integrating other businesses, establishing joint ventures, expanding our production capacity or divesting assets are subject to a number of risks.

Some of the ways we have historically grown or restructured our business have been through acquisitions, joint ventures, the expansion of our production capacity and divestitures. Our ability to grow or restructure our business depends upon our ability to identify, negotiate and finance suitable arrangements. If we cannot successfully execute on such arrangements or receive any required regulatory approvals on a timely basis, we may be unable to generate desired returns, and our expectations of future results of operations, including cost savings and synergies, may not be achieved. Acquisitions, joint ventures, production capacity expansions and divestitures involve substantial risks, including:

- unforeseen difficulties in operations, technologies, products, services, accounting and personnel;
- increased cybersecurity incidents;
- diversion of financial and management resources from existing operations;
- unforeseen difficulties related to entering geographic regions, markets or product lines where we do not have prior experience;
- risks relating to obtaining sufficient financing;
- difficulty in integrating the acquired business' standards, processes, procedures and controls with our existing operations;
- potential loss of key employees;
- unanticipated competitive responses;
- potential loss of customers or suppliers; and
- undisclosed or undiscovered liabilities or claims, or retention of unpredictable future liabilities.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions, investments and divestitures could cause us to fail to realize the anticipated benefits of such transactions, incur unanticipated liabilities, and harm our business generally. Future acquisitions and investments could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, or amortization expenses, or write-offs of goodwill, any of which could have a material adverse impact on our business, financial condition and results of operations. Also, the anticipated benefits of our investments may not materialize.

We face significant competition in the markets we serve and we may not be able to compete successfully.

All of the markets we serve are highly competitive. We compete with manufacturers and distributors, both within and outside the United States, in the sale of building products and composite products. Some of our competitors

ITEM 1A. RISK FACTORS (continued)

may have superior financial, technical, marketing and other resources than we do. In some cases, we face competition from manufacturers in countries able to produce similar products at lower costs. We also face competition from the introduction by competitors of new products or technologies that may address our customers' needs in a better manner, whether based on considerations of pricing, usability, effectiveness, sustainability, quality or other features or benefits. If we are not able to successfully commercialize our innovation efforts, we may lose market share. Price competition or overcapacity may limit our ability to raise prices for our products when necessary, may force us to reduce prices and may also result in reduced levels of demand for our products and cause us to lose market share. In addition, in order to effectively compete, we must continue to develop new products that meet changing consumer preferences and successfully develop, manufacture and market these new products. Our inability to effectively compete could result in the loss of customers and reduce the sales of our products, which could have a material adverse impact on our business, financial condition and results of operations.

Climate change, weather conditions and storm activity could have a material adverse impact on our business, financial condition and results of operations.

Climate change could have an impact on several aspects of our business, financial condition and results of operations. Weather phenomena associated with climate change, such as flooding or altered storm activity, may impact our ability to operate our manufacturing facilities in some locations. In addition, customer preferences for lower-carbon and more environmentally friendly solutions could impact demand for our products. Although we believe that some of our product categories, such as insulation and composites, could experience increased demand due to environmental benefits such as energy efficiency and renewable energy, the timing and impact of such increased demand is uncertain.

Weather conditions and the level of severe storms can have a significant impact on the markets for residential and commercial construction, repair and improvement. These factors could impact our business as follows:

- generally, any weather conditions that slow or limit residential or commercial construction activity can adversely impact demand for our products; and

- a portion of our annual product demand is attributable to the repair of damage caused by severe storms. In periods with below average levels of severe storms, demand for such products could be reduced.

Lower demand for our products as a result of either of these weather-related scenarios could have a material adverse impact on our business, financial condition and results of operations. Additionally, severely low temperatures may lead to significant and immediate spikes in costs of natural gas, electricity and other commodities that could negatively affect our results of operation.

We are subject to risks and uncertainties associated with our international operations.

We sell products and operate plants throughout the world. Our international sales and operations are subject to risks and uncertainties, including:

- difficulties and costs associated with complying with a wide variety of complex and changing laws, including securities laws, tax laws, employment and pension-related laws, competition laws, U.S. and foreign export and trading laws, and laws governing improper business practices, treaties and regulations;

- limitations on our ability to enforce legal rights and remedies;

- adverse domestic or international economic and political conditions, business interruption, war and civil disturbance;

ITEM 1A. RISK FACTORS (continued)

- changes to tax, currency, or other laws or policies that may adversely impact our ability to repatriate cash from non-United States subsidiaries, make cross-border investments, or engage in other intercompany transactions;

- future tax legislation, regulations, or related guidance or interpretations;

- changes to tariffs or other import or export restrictions, penalties or sanctions, including modification or elimination of international agreements covering trade or investment;

- costs and availability of shipping and transportation;

- nationalization or forced relocation of properties by foreign governments;

- currency exchange rate fluctuations between the United States Dollar and foreign currencies; and

- uncertainty with respect to any potential changes to laws, regulations and policies that could exacerbate the risks described above.

As we continue to expand our business globally, we may have difficulty anticipating and effectively managing these and other risks that our international operations may face, which may adversely impact our business, financial condition and results of operations.

In addition, we operate in many parts of the world that have experienced governmental corruption and we could be adversely affected by violations of the Foreign Corrupt Practices Act ("FCPA") and similar worldwide anti-corruption laws. The FCPA and similar anti-corruption laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to officials for the purpose of obtaining or retaining business. Although we mandate compliance with these anti-corruption laws and maintain an anti-corruption compliance program, these measures may not prevent our employees or agents from violating these laws. If we were found liable for violations of anti-corruption laws, we could be liable for criminal or civil penalties or other sanctions, which could have a material adverse impact on our business, financial condition and results of operations.

We will not be insured against all potential losses and could be seriously harmed by natural disasters, catastrophes, pandemics, theft or sabotage.

Many of our business activities globally involve substantial investments in manufacturing facilities and many products are produced at a limited number of locations. These facilities could be materially damaged by natural disasters such as floods, tornados, hurricanes, fires, earthquakes, pandemics or by theft or sabotage. We could incur uninsured losses and liabilities arising from such events, including damage to our reputation, and/or suffer material losses in operational capacity, which could have a material adverse impact on our business, financial condition and results of operations.

LEGAL, REGULATORY AND COMPLIANCE RISKS

We may be subject to liability under and may make substantial future expenditures to comply with environmental and emerging product-based laws and regulations.

Our manufacturing facilities are subject to numerous foreign, federal, state and local laws and regulations relating to the presence of hazardous materials, pollution and the protection of the environment, including those governing emissions to air, discharges to water, use, storage and transport of hazardous materials, storage, treatment and disposal of waste, remediation of contaminated sites and protection of worker health and safety.

ITEM 1A. RISK FACTORS (continued)

Liability under these laws involves inherent uncertainties. Environmental liability estimates may be affected by changing determinations of what constitutes an environmental exposure or an acceptable level of cleanup. For example, remediation activities generally involve a potential range of activities and costs related to soil and groundwater contamination. This can include pre-cleanup activities such as fact finding and investigation, risk assessment, feasibility studies, remedial action design and implementation (where actions may range from monitoring to removal of contaminants, to installation of longer-term remediation systems). Please see "Item 1 - Business - Environmental Control" for information on costs and accruals related to environmental remediation. To the extent that the required remediation procedures or timing of those procedures change, additional contamination is identified, or the financial condition of other potentially responsible parties is adversely affected, the estimate of our environmental liabilities may change. Change in required remediation procedures or timing of those procedures at existing legacy sites, or discovery of contamination at additional sites, could result in increases to our environmental obligations. Violations of environmental, health and safety laws are subject to civil, and, in some cases, criminal sanctions. As a result of these uncertainties, we may incur unexpected interruptions to operations, fines, penalties or other reductions in income which could adversely impact our business, financial condition and results of operations. It is possible that new laws and regulations will specifically address climate change, toxic air emissions, ozone forming emissions and fine particulate matter. New environmental and chemical regulations could impact our ability to expand production or construct new facilities in every geographic region in which we operate. Continued and increased government and public emphasis on environmental issues is expected to result in increased future investments for environmental controls at ongoing operations, which will be charged against income from future operations. Present and future environmental laws and regulations applicable to our operations, and changes in their interpretation, may require substantial capital expenditures or may require or cause us to modify or curtail our operations, which may have a material adverse impact on our business, financial condition and results of operations. Although emerging in nature, an increasing number of laws and regulations focused on product and chemical hazards, including regulations concerning the impact of product manufacturing and use on climate change, and resulting preferential product selection could also impact our ability to manufacture and sell certain products or require significant research and development investment and capital expenditures to meet regulatory requirements.

Proposed or future laws or regulations aimed at addressing climate change, including, but not limited to, local building codes, Environmental Protection Agency regulations on greenhouse gas emissions, the European Green Deal, laws or regulations impacting energy supply, and other laws or regulations, may materially impact demand for our products or our cost of doing business.

In addition, from time to time, we establish strategies and expectations related to climate change and other environmental matters. Our ability to achieve any such strategies or expectations is subject to numerous factors and conditions, many of which are outside of our control. Examples of such factors include, but are not limited to, evolving regulatory and other standards, processes, and assumptions, the pace of scientific and technological developments, increased costs and availability of requisite financing, market trends that may alter business opportunities, the conduct of third-party manufacturers and suppliers, constraints or disruptions to our supply chain, and changes in carbon markets. Failures or delays (whether actual or perceived) in achieving our strategies or expectations related to climate change and other environmental matters could adversely affect our business, operations, and reputation, and increase risk of litigation. In addition, energy prices could increase as a result of climate change legislation or other environmental mandates, which could have an adverse effect on our results of operations.

We could face potential product liability and warranty claims, we may not accurately estimate costs related to such claims, and we may not have sufficient insurance coverage available to cover such claims.

Our products are used and have been used in a wide variety of residential, commercial and industrial applications. We face an inherent business risk of exposure to product liability or other claims in the event our

ITEM 1A. RISK FACTORS (continued)

products are alleged to be defective or that the use of our products is alleged to have resulted in harm to others or to property. We may, in the future, incur liability if product liability lawsuits against us are successful. Moreover, any such lawsuits, whether or not successful, could result in adverse publicity to us, which could cause our sales to decline. We maintain insurance coverage to protect us against product liability claims, but that coverage may not be adequate to cover all claims that may arise or we may not be able to maintain adequate insurance coverage in the future at an acceptable cost. Any liability not covered by insurance or that exceeds our established reserves could materially and adversely impact our business, financial condition and results of operations.

In addition, consistent with industry practice, we provide warranties on many of our products. We may experience costs of warranty claims when the product is not performing to the satisfaction of the claimant even though it has not caused harm to others or property. We estimate our future warranty costs based on historical trends and product sales, but we may fail to accurately estimate those costs and thereby fail to establish adequate warranty reserves for them. Warranty claims are not insurable.

Our intellectual property rights may not provide meaningful commercial protection for our products or brands and third parties may assert that we violate their intellectual property rights, which could have a material adverse impact on our business, financial condition and results of operations.

Owens Corning relies on its intellectual property, including numerous patents, trademarks, trade secrets, confidential information, as well as its licensed intellectual property, to differentiate our products and brands in the marketplace. We monitor and protect against activities that might infringe, dilute, or otherwise harm our intellectual property and rely on the laws of the United States and other countries to protect our rights. However, in some instances, we may be unaware of unauthorized use of our intellectual property. To the extent we cannot protect our innovations or are unable to enforce our intellectual property, unauthorized use and misuse of our intellectual property or innovations could harm our competitive position and have a material adverse impact on our business, financial condition and results of operations. In addition, the laws of some foreign jurisdictions provide less protection for our proprietary rights than the laws of the United States and we therefore may not be able to effectively enforce our intellectual property rights in these jurisdictions. If we are unable to maintain certain exclusive licenses, our brand recognition and sales could be adversely impacted. Current employees, contractors and suppliers have, and former employees, contractors and suppliers may have, access to trade secrets and confidential information regarding our operations that could be disclosed improperly and in breach of contract to our competitors or otherwise used to harm us.

Third parties may also claim that we are infringing upon their intellectual property rights. If we are unable to successfully defend or license such alleged infringing intellectual property or if we are required to substitute similar technology from another source, our operations could be adversely affected. Even if we believe that such intellectual property claims are without merit, defending such claims can be costly, time consuming and require significant resources. Claims of intellectual property infringement also may require us to redesign affected products, pay costly damage awards, or face injunctions prohibiting us from manufacturing, importing, marketing or selling certain of our products. Even if we have agreements to indemnify us, indemnifying parties may be unable or unwilling to do so.

We are subject to various legal and regulatory proceedings, including litigation in the ordinary course of business, and uninsured judgments or a rise in insurance premiums may have a material adverse impact on our business, financial condition and results of operations.

In the ordinary course of business, we are subject to various legal and regulatory proceedings, which may include but are not limited to those involving antitrust, tax, trade, environmental, intellectual property, data privacy and other matters, including general commercial litigation. Any claims raised in legal and regulatory proceedings, whether with or without merit, could be time consuming and expensive to defend and could divert management's

ITEM 1A. RISK FACTORS (continued)

attention and resources. Additionally, the outcome of legal and regulatory proceedings may differ from our expectations because the outcomes of these proceedings are often difficult to predict reliably. Various factors and developments can lead to changes in our estimates of liabilities and related insurance receivables, where applicable, or may require us to make additional estimates, including new or modified estimates, that may be appropriate due to a judicial ruling or judgment, a settlement, regulatory developments or changes in applicable law. A future adverse ruling, settlement or unfavorable development could result in charges that could have a material adverse effect on our results of operations in any particular period.

In accordance with customary practice, we maintain insurance against some, but not all, of these potential claims. In the future, we may not be able to maintain insurance at commercially acceptable premium levels. In addition, the levels of insurance we maintain may not be adequate to fully cover any and all losses or liabilities. If any significant judgment or claim is not fully insured or indemnified against, it could have a material adverse impact on our business, financial condition and results of operations.

FINANCIAL RISKS

Our level of indebtedness could adversely impact our business, financial condition or results of operations.

Our debt level and degree of leverage could have important consequences, including the following:

- our ability to obtain additional debt or equity financing for working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes may be limited;
- a substantial portion of our cash flow could be required for the payment of principal and interest on our indebtedness, and may not be available for other business purposes;
- certain of our available borrowings are at variable rates of interest, exposing us to the risk of increased interest rates to borrow in the future;
- if due to liquidity needs we must replace any indebtedness upon maturity, we would be exposed to the risk that we may not be able to refinance such indebtedness;
- our ability to adjust to changing market conditions may be limited and place us at a competitive disadvantage compared to our competitors if they have less debt; and
- we may be vulnerable in a downturn in general economic conditions or in our business, or we may be unable to carry out important capital spending.

The credit agreement governing our senior revolving credit facility, the indentures governing our senior notes, and the receivables purchase agreement governing our receivables securitization facility contain various covenants that impose operating and financial restrictions on us and our subsidiaries. Additionally, instruments and agreements governing our future indebtedness may impose other restrictive conditions or covenants that could restrict our ability to conduct our business operations or pursue growth strategies.

Downgrades of our credit ratings could adversely impact us.

Our credit ratings are important to our cost of capital. The major debt rating agencies routinely evaluate our debt based on a number of factors, which include financial strength and business risk as well as transparency with rating agencies and timeliness of financial reporting. A downgrade in our debt rating could result in increased interest on our existing variable interest rate debt, increased interest and other expenses for future borrowings,

ITEM 1A. RISK FACTORS (continued)

and reduced ability for our suppliers to utilize supply chain financing programs. Downgrades in our debt rating could also restrict our access to capital markets and affect the value and marketability of our outstanding notes.

Our operations require substantial capital, leading to high levels of fixed costs that will be incurred regardless of our level of business activity.

Our businesses are capital intensive, and regularly require capital expenditures to expand operations, maintain equipment, increase operating efficiency and comply with applicable laws and regulations, leading to high fixed costs, including depreciation expense. Increased regulatory requirements for our operations could lead to additional or higher fixed costs in the future. We are limited in our ability to reduce fixed costs quickly in response to reduced demand for our products and these fixed costs may not be fully absorbed, resulting in higher average unit costs and lower gross margins if we are not able to offset this higher unit cost with price increases. Alternatively, we may be limited in our ability to quickly respond to unanticipated increased demand for our products, which could result in an inability to satisfy demand for our products and loss of market share.

Our ongoing efforts to increase productivity and reduce costs may not result in anticipated savings in operating costs.

Our cost reduction and productivity efforts, including those related to our existing operations, production capacity expansions, new manufacturing platforms, or other capital expenditures, may not produce anticipated results. Our ability to achieve cost savings and other benefits within expected time frames is subject to many estimates and assumptions. These estimates and assumptions are subject to significant economic, competitive, legal and other uncertainties, some of which are beyond our control. If these estimates and assumptions are incorrect, if we experience delays, or if other unforeseen events occur, our business, financial condition and results of operations could be adversely impacted.

Our results of operations in a given period may be impacted by price volatility in certain renewable-generated energy markets.

In connection with our sustainability goals to reduce greenhouse gas and toxic air emissions, we entered into contracts pursuant to which we have agreed to purchase renewable-generated electricity from third parties. Under these contracts, we do not take physical delivery of renewable-generated electricity. The generated electricity is instead sold by our counterparties to local grid operators at the prevailing market price and we obtain the associated non-tax renewable energy credits. The prevailing market pricing for renewable-generated electricity can be affected by factors beyond our control and is subject to significant period over period volatility. For example, renewable-generated energy output fluctuates due to climactic and other factors beyond our control and can be constrained by available transmission capacity, thereby significantly impacting pricing. Due to this potential volatility, it is possible that these contracts, or similar contracts we execute in the future, could have an impact on our results of operations in a given reporting period.

Our hedging activities to address energy price fluctuations may not be successful in offsetting increases in those costs or may reduce or eliminate the benefits of any decreases in those costs.

To mitigate short-term variation in our operating results due to commodity price fluctuations in certain geographic markets, we may hedge a portion of our near-term exposure to the cost of energy. The results of our hedging practices could be positive, neutral or negative in any period depending on price changes of the hedged exposures.

Our hedging activities are not designed to mitigate long-term commodity price fluctuations and, therefore, would not protect us from long-term commodity price increases. In addition, in the future, our hedging positions may

ITEM 1A. RISK FACTORS (continued)

not correlate to our actual energy costs, which would cause acceleration in the recognition of unrealized gains and losses on our hedging positions in our operating results.

If we were required to write down all or part of our goodwill or other indefinite-lived intangible assets, our results of operations or financial condition could be materially adversely affected in a particular period.

Declines in our business may result in an impairment of our tangible and intangible assets, which could result in a material non-cash charge. A significant or prolonged decrease in our market capitalization, including a decline in stock price, a negative long-term performance outlook, or an increase in discount rates could result in an impairment of our tangible and intangible assets which results when the carrying value of the Company's assets exceed their fair value.

At least annually, we assess our goodwill and intangible assets for impairment. When we utilize a discounted cash flow methodology to calculate the fair value of our reporting units, weak demand for a specific product line or business could result in an impairment. Accordingly, any determination requiring the write-off of a significant portion of goodwill or intangible assets could negatively impact our results of operations.

HUMAN CAPITAL RISKS

We depend on our senior management team and other skilled and experienced personnel to operate our business effectively, and the loss of any of these individuals or the failure to attract additional qualified personnel could adversely impact our business, financial condition and results of operations.

We are highly dependent on the skills and experience of our senior management team and other skilled and experienced personnel. These individuals possess sales, marketing, manufacturing, logistical, financial, business strategy and administrative skills that are important to the operation of our business. We cannot assure that we will be able to retain all of our existing senior management personnel and skilled and experienced personnel. The loss of any of these individuals or an inability to attract additional qualified personnel could prevent us from implementing our business strategy and could adversely impact our business and our future financial condition or results of operations. The current and future labor markets may impact our ability to retain these individuals.

Labor shortages and increased turnover rates, increases in employee and employee-related costs, and labor disputes could have a material adverse impact on our operations, results of operations, liquidity and cash flows.

Our operations depend on the availability and relative costs of labor and maintaining good relations with our personnel and the labor unions. While we have historically experienced some level of ordinary course turnover of employees, the impact of the COVID-19 pandemic and general economic uncertainty have exacerbated labor shortages and increased turnover. Several factors have had and may continue to have adverse effects on the labor force available to us, including government regulations, laws and regulations related to workers' health and safety, inflation, wage and hour practices and immigration. Labor shortages and increased turnover rates within our personnel have led to and could in the future lead to increased costs, such as increased costs associated with training new employees and increased wage rates to attract and retain employees. An overall or prolonged labor shortage, lack of skilled labor, increased turnover or labor inflation could have a material adverse impact on our operations, results of operations, liquidity and cash flows.

We are also subject to the risk that labor strikes or other types of conflicts with personnel may arise or that we may become the subject of union organizing activity at additional facilities. Renewal of collective bargaining agreements typically involves negotiation, with the potential for work stoppages or increased costs at affected facilities.

ITEM 1A. RISK FACTORS (continued)

Significant changes in the factors and assumptions used to measure our defined benefit plan obligations, actual investment returns on pension assets and other factors could have a negative impact on our financial condition or liquidity.

We have certain defined benefit pension plans and other post-employment benefit ("OPEB") plans. Our future funding requirements for defined benefit pension and OPEB plans depend upon a number of factors and assumptions, including our actual experience against assumptions with regard to interest rates used to determine funding levels; return on plan assets; benefit levels; participant experience (e.g., mortality and retirement rates); health care cost trends; and applicable regulatory changes. To the extent actual results are less favorable than our assumptions, there could be a material adverse impact on our financial condition and results of operations.

Additional risks exist due to the nature and magnitude of our investments, including the implementation of or changes to the investment policy, insufficient market capacity to absorb a particular investment strategy or high-volume transactions, and the inability to quickly rebalance illiquid and long-term investments.

If our cash flows and capital resources are insufficient to fund our pension or OPEB obligations, we could be forced to reduce or delay investments and capital expenditures, seek additional capital, or restructure or refinance our indebtedness.

RISKS RELATED TO OWNERSHIP OF OUR COMMON STOCK

The market price of our common stock is subject to volatility.

The market price of our common stock could be subject to wide fluctuations in response to numerous factors, many of which are beyond our control. These factors include actual or anticipated variations in our operational results and cash flow, our earnings relative to our competition, changes in financial estimates by securities analysts, trading volume, sales by holders of large amounts of our common stock, short selling, market conditions within the industries in which we operate, seasonality of our business operations, the general state of the securities markets and the market for stocks of companies in our industry, governmental legislation or regulation and currency and exchange rate fluctuations, as well as general economic and market conditions, such as recessions.

We are a holding company with no operations of our own and depend on our subsidiaries for cash.

As a holding company, most of our assets are held by our direct and indirect subsidiaries and we will primarily rely on dividends and other payments or distributions from our subsidiaries to meet our debt service and other obligations and to enable us to pay dividends. The ability of our subsidiaries to pay dividends or make other payments or distributions to us will depend on their respective operating results and may be restricted by, among other things, the laws of their jurisdiction of organization (which may limit the amount of funds available for the payment of dividends or other payments), agreements of those subsidiaries, agreements with any co-investors in non-wholly-owned subsidiaries, the terms of our credit and receivables facilities and senior notes and the covenants of any future indebtedness we or our subsidiaries may incur.

Provisions in our amended and restated certificate of incorporation and bylaws or Delaware law may discourage, delay or prevent a change in control of the Company or changes in our management and therefore depress the trading price of our common stock.

Our amended and restated certificate of incorporation and bylaws contain provisions that could depress the trading price of our common stock through provisions that may discourage, delay or prevent a change in control of the Company or changes in our management that our stockholders may deem advantageous.

ITEM 1A. RISK FACTORS (continued)

Additionally, we are subject to Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder and which may discourage, delay or prevent a change in control of our company.

Dividends on our common stock are declared at the discretion of our Board of Directors.

Since February 2014, our Board of Directors has declared a quarterly dividend on our common stock. The payment of any future cash dividends to our stockholders is not guaranteed and will depend on decisions that will be made by our Board of Directors and will depend on then-existing conditions, including our operating results, financial conditions, contractual restrictions, corporate law restrictions, capital agreements, applicable laws of the State of Delaware and business prospects.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Composites

Our Composites segment operates out of 29 manufacturing facilities. We are currently expanding our operations in Fort Smith, Arkansas, and we expect this new capacity to be available in 2023. In 2022, we divested the Chambery, France and Gous, Russia facilities and acquired the Danville, Illinois (Fiberteq) facility. Principal manufacturing facilities for our Composites segment, all of which are owned by the Company, include the following:

Aiken, South Carolina
Amarillo, Texas
Anderson, South Carolina
Apeldoorn, The Netherlands
Danville, Illinois
Fort Smith, Arkansas
Gastonia, North Carolina
Jackson, Tennessee
Kimchon, Korea
L'Ardoise, France
Rio Claro, Brazil
Taloja, India
Tlaxcala, Mexico
Yuhang, China

Insulation

Our Insulation segment operates out of 42 manufacturing facilities. The Company ceased operations at the Santa Clara, California facility in the fourth quarter of 2022 and plans to complete the purchase and sale transaction in the first quarter of 2023. Principal manufacturing facilities for our Insulation segment, all of which are owned by the Company, include the following:

Delmar, New York
Edmonton, Alberta, Canada
Fairburn, Georgia
Guangzhou, Guandong, China
Hällekis, Sweden
Joplin, Missouri
Kansas City, Kansas
Mexico City, Mexico
Newark, Ohio
Rockford, Illinois
Sedalia, Missouri
Tallmadge, Ohio
Tessenderlo, Belgium
Toronto, Ontario, Canada
Trzemeszno, Poland
Vilnius, Lithuania
Wabash, Indiana
Waxahachie, Texas

ITEM 2. PROPERTIES (continued)

Roofing

Our Roofing segment operates out of 36 manufacturing facilities. This number separately counts multiple roofing and asphalt manufacturing facilities that are located at the same site. Principal manufacturing facilities for our Roofing segment, all of which are owned by the Company, include the following:

Brookville, Indiana	Minneapolis, Minnesota
Denver, Colorado	Portland, Oregon
Irving, Texas	Qingdao, China
Kearny, New Jersey	Savannah, Georgia
Medina, Ohio	Silvassa, India
Memphis, Tennessee	Summit, Illinois

We believe that these properties are in good condition and well maintained, and are suitable and adequate to carry on our business. The capacity of each plant varies depending upon product mix.

Our principal executive offices are located at the Owens Corning World Headquarters in Toledo, Ohio, an owned facility of approximately 400,000 square feet. Our research and development activities are primarily conducted at our Science and Technology Center, located on approximately 500 acres of land owned by the Company outside of Granville, Ohio. It consists of approximately 20 structures totaling more than 650,000 square feet. In addition, we have application development and other product and market focused research and development centers in various locations.

ITEM 3. LEGAL PROCEEDINGS

Environmental Legal Proceedings

None.

Litigation, Other Regulatory Proceedings and Environmental Matters

Additional information required by this item is incorporated by reference to Note 17, Contingent Liabilities and Other Matters.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The name, age and business experience during the past five years of Owens Corning's executive officers as of January 1, 2023 are set forth below. Each executive officer holds office until his or her successor is elected and qualified or until his or her earlier resignation, retirement or removal. All those listed have been employees of Owens Corning during the past five years except as indicated.

Name and Age	Position*
Gina A. Beredo (48)	Executive Vice President, General Counsel and Corporate Secretary since June 2021; formerly Executive Vice President, General Counsel and Corporate Secretary of Nordson Corporation (a precision technology manufacturing company) (NASDAQ: NDSN) (2018); and Deputy General Counsel and Assistant Secretary of Nordson Corporation (2013)
Brian D. Chambers (56)	Board Chair, President and Chief Executive Officer since April 2020; formerly President and Chief Executive Officer (2019); formerly President and Chief Operating Officer (2018); formerly President, Roofing (2014)
Todd W. Fister (48)	President, Insulation since July 2019; formerly Vice President of Global Insulation and Strategy (2019); formerly Vice President and Managing Director for Europe Insulation and Global Foamglas® (2018); formerly Vice President and Managing Director for Foamglas® (2017)
José L. Méndez-Andino (49)	Executive Vice President, Chief Research and Development Officer since April 2021; formerly Vice President of Science and Technology for Insulation and Roofing (2019); formerly Vice President of Science and Technology for Insulation (2015)
Kenneth S. Parks (59)	Executive Vice President and Chief Financial Officer since January 2021; formerly Senior Vice President and Chief Financial Officer (2020); formerly Chief Financial Officer of Mylan N.V. (a specialty pharmaceuticals company) (NASDAQ: MYLN) (2016)
Paula J. Russell (45)	Executive Vice President, Chief Human Resources Officer since January 2021; formerly Senior Vice President, Chief Human Resources Officer (December 2019); formerly Vice President, Chief Human Resources Officer (April 2019); formerly Vice President of Total Rewards and Center of Excellence (2018); formerly Vice President of Total Rewards (2017)
Marcio A. Sandri (59)	President, Composites since May 2018; formerly Vice President Global Strategy and Operations, Composites (2017)
Kelly J. Schmidt (57)	Vice President, Controller since April 2011
Daniel T. Smith (57)	Executive Vice President, Chief Growth Officer since January 2021; formerly Senior Vice President, Chief Growth Officer (2019); formerly Senior Vice President, Organization and Administration (2014)
Gunner S. Smith (49)	President, Roofing since August 2018, formerly Vice President of Distribution Sales for Roofing (2012)

* Information in parentheses indicates year during the past five years in which service in position began. The last item listed for each individual represents the position held by such individual at the beginning of the five-year period.

Part II

ITEM 5. MARKET FOR OWENS CORNING'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Owens Corning's common stock trades on the New York Stock Exchange under the symbol "OC."

Holders of Common Stock

The number of stockholders of record of Owens Corning's common stock on February 10, 2023 was 57.

Cash Dividends

The payment of any future cash dividends to our stockholders will depend on decisions that will be made by our Board of Directors and will depend on then existing conditions, including our operating results, financial conditions, contractual restrictions, corporate law restrictions, capital agreements, applicable laws of the State of Delaware and business prospects.

Under the credit agreement applicable to our senior revolving credit facility, the Company may not declare a cash dividend if a default or event of default exists or would come to exist at the time of declaration or if a dividend declaration violates the provisions of our formation documents or other material agreements.

The Company's subsidiaries are subject to certain restrictions on their ability to pay dividends under the agreements governing our senior revolving credit facility and our receivables securitization facility.

Recent Sales of Unregistered Securities; Use of Proceeds from Registered Securities

None.

Issuer Purchases of Equity Securities

The following table provides information about Owens Corning's purchases of its common stock during the three months ended December 31, 2022:

Period	Total Number of Shares (or Units) Purchased*	Average Price Paid per Share (or Unit)	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs**	Maximum Number of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs**
October 1-31, 2022	1,600,000	$84.54	1,600,000	5,797,220
November 1-30, 2022	1,406,133	87.81	1,400,000	4,397,220
December 1-31, 2022	1,771	91.07	—	14,397,220
Total	3,007,904	$86.07	3,000,000	14,397,220

* The Company retained 7,904 shares surrendered to satisfy tax withholding obligations in connection with the vesting of restricted shares granted to our employees.

** On February 14, 2022, the Board of Directors approved a share buy-back program under which the Company is authorized to repurchase up to 10 million shares of the Company's outstanding common stock (the "February 2022 Repurchase Authorization"). The Company repurchased 3.0 million shares of its common stock for $259 million during the three months ended December 31, 2022 under the Repurchase Authorization.

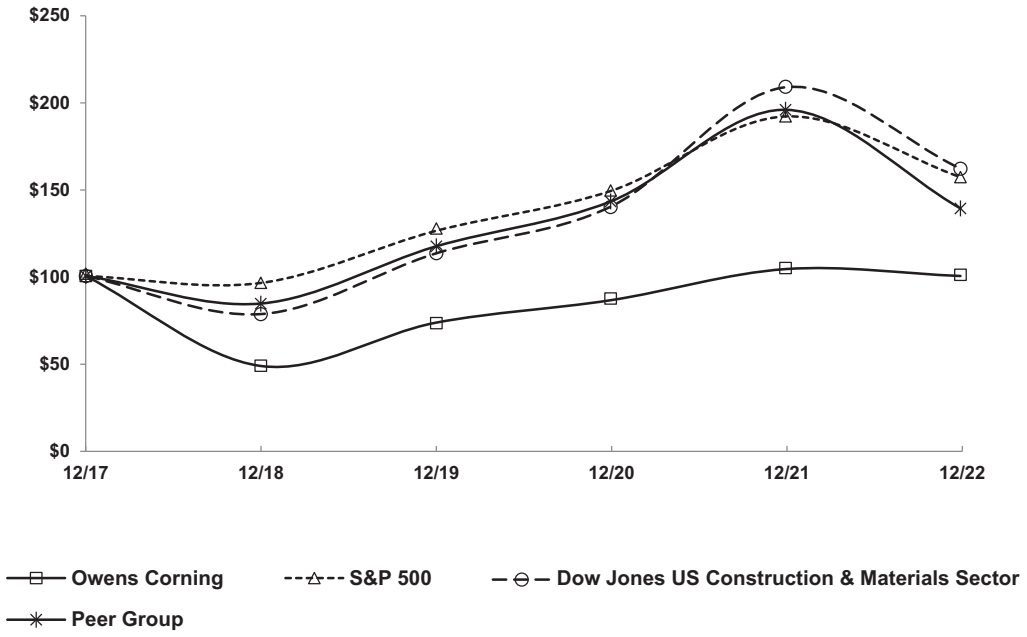
ITEM 5. MARKET FOR OWENS CORNING'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES (continued)

On December 1, 2022, the Board of Directors approved a new share buy-back program under which the Company is authorized to repurchase up to 10 million shares of the Company's outstanding common stock (the "December 2022 Repurchase Authorization"). The December 2022 Repurchase Authorization is in addition to the February 2022 Repurchase Authorization (together, the "Repurchase Authorization").

The Repurchase Authorization enables the Company to repurchase shares through the open market, privately negotiated, or other transactions. The actual number of shares repurchased depends on timing, market conditions and other factors and is at the Company's discretion. As of December 31, 2022, approximately 14.4 million shares remained available for repurchase under the Repurchase Authorization.

Performance Graph

The annual changes for the five-year period shown in the graph on this page are based on the assumption that $100 had been invested in Owens Corning (OC) stock, the Standard & Poor's 500 Stock Index ("S&P 500"), the Dow Jones U.S. Construction & Materials Index ("DJ Constr. & Mat."), and a peer group index on December 31, 2017, and that all quarterly dividends were reinvested. The total cumulative dollar returns shown on the graph represent the value that such investments would have had on December 31, 2022. For December 31, 2022, the Company chose to use a self-selected peer group instead of the Dow Jones U.S. Construction & Materials Index. We have selected this new peer group consisting of the companies noted below because we believe this peer group more appropriately aligns with our specific industry, markets, and global exposure. The criteria used in determining this new peer group included the size of the companies (measured in terms of annual revenue and market capitalization), industries and geographies in which the companies operate, stock price correlation and volatility relative to Owens Corning, and increased representation of comparator companies used by shareholder advisory firms.



Performance Graph

	2017	2018	2019	2020	2021	2022
OC	$ 100	$ 48	$ 73	$ 86	$ 104	$ 100
S&P 500	$ 100	$ 96	$ 126	$ 149	$ 192	$ 157
DJ Constr. & Mat.	$ 100	$ 78	$ 113	$ 140	$ 209	$ 162
Peer Group	$ 100	$ 84	$ 117	$ 143	$ 196	$ 139

ITEM 5. MARKET FOR OWENS CORNING'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES (continued)

The peer group index is comprised of the following companies: A.O Smith Corporation; Advance Drainage Systems, Inc.; Allegion plc; Armstrong World Industries, Inc.; Ball Corporation; Builders FirstSource, Inc.; Carlisle Companies Incorporated; Carrier Global Corporation; Celanese Corporation; Eastman Chemical Company; Fortune Brands Innovations, Inc.; Greif, Inc.; JELD-WEN Holding, Inc.; Johnson Controls International plc; Lennox International Inc.; Louisiana-Pacific Corporation; Masco Corporation; Masonite International Corporation; Mohawk Industries, Inc.; O-I Glass, Inc.; PPG Industries, Inc.; Resideo Technologies, Inc.; RPM International Inc. Stanley Black & Decker, Inc.; The Sherwin-Williams Company; Trane Technologies; Trex Company, Inc.; and UFP Industries, Inc.

ITEM 6. RESERVED

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Management's Discussion and Analysis ("MD&A") is intended to help investors understand Owens Corning, our operations and our present business environment. MD&A is provided as a supplement to, and should be read in conjunction with, our Consolidated Financial Statements and the accompanying Notes thereto contained in this report. Unless the context requires otherwise, the terms "Owens Corning," "Company," "we," "its," and "our" in this report refer to Owens Corning and its subsidiaries.

This section of this Form 10-K generally discusses 2022 and 2021 items and year-to-year comparisons between 2022 and 2021. Discussions of 2020 items and year-to-year comparisons between 2021 and 2020 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

GENERAL

Owens Corning is a global building and construction materials leader committed to building a sustainable future through material innovation. The Company has three reporting segments: Composites, Insulation and Roofing. Through these lines of business, the Company manufactures and sells products worldwide. We maintain leading market positions in many of our major product categories.

EXECUTIVE OVERVIEW

Net earnings attributable to Owens Corning were $1,241 million in 2022, compared to $995 million in 2021. The Company reported $1,723 million in earnings before interest and taxes ("EBIT") in 2022 compared to $1,448 million in 2021. The Company generated $1,762 million in adjusted earnings before interest and taxes ("Adjusted EBIT") in 2022 compared to $1,415 million in 2021. See the Adjusted Earnings Before Interest and Taxes paragraph of MD&A for further information regarding EBIT and Adjusted EBIT, including the reconciliation to net earnings (loss) attributable to Owens Corning. Segment EBIT performance compared to 2021 increased $122 million in our Composites segment, increased $166 million in our Insulation segment, and increased $78 million in our Roofing segment. Within our Corporate, Other and Eliminations category, General corporate expenses and other increased by $19 million.

Cash and cash equivalents were $1.1 billion as of December 31, 2022, compared to $959 million as of December 31, 2021, as a result of strong cash flow provided by operating activities. In 2022, the Company's operating activities provided $1,760 million of cash flow, compared to $1,503 million in 2021. The change was primarily driven by higher earnings.

On November 24, 2022, the Company finalized the sale of its Russian operations within the Composites and Insulation segments. As a result of this sale, the Company received $104 million, net of cash sold, in consideration and recorded a pre-tax loss of $33 million in Other expenses (income), net on the Consolidated Statements of Earnings (Loss).

On September 1, 2022, the Company acquired the remaining 50% interest in Fiberteq, LLC ("Fiberteq"), the joint venture between Owens Corning and IKO Industries, Ltd, which produces high-quality wet-formed fiberglass mat for roofing applications for $140 million, net of cash acquired. The acquisition advances the Composites strategy to focus on high-value material solutions and expands Owens Corning's capacity to produce non-woven mat. The Company's 50% interest in Fiberteq was accounted for as an equity-method investment and had a carrying value of $17 million at the acquisition date. The Company used the discounted cash flow method to remeasure the previously held equity method investment to its fair value of $147 million, resulting in the recognition of a gain of $130 million, which is recorded in Gain on equity method investment on the

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Consolidated Statements of Earnings (Loss). The operating results and a preliminary purchase price allocation for Fiberteq have been included in the Composites segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $58 million in intangible assets, which primarily consists of customer relationships with an estimated weighted average life of 3 years, a $62 million unfavorable contract liability and $243 million in goodwill, of which 50% of the goodwill is tax deductible. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On August 1, 2022, the Company acquired Natural Polymers, LLC ("Natural Polymers"), an innovative manufacturer of spray polyurethane foam insulation for building and construction applications for approximately $111 million, net of cash acquired. The acquisition advances the Owens Corning strategy to strengthen the Company's core building and construction products and expand its addressable markets into higher-growth segments. The operating results and a preliminary purchase price allocation for Natural Polymers have been included in the Insulation segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $44 million in intangible assets and $62 million in goodwill, of which all is tax deductible. The intangible assets consist of definite-lived trademarks of $5 million with an estimated weighted average life of 10 years, technology of $12 million with an estimated weighted average life of 6 years and customer relationships of $27 million with an estimated weighted average life of 17 years. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On July 1, 2022, the Company finalized the sale of the European portion of the dry-use chopped strands ("DUCS") product line located in Chambéry, France, within the Composites segment. As a result of this sale, the Company received $80 million, net of cash sold, in consideration and recorded a pre-tax loss of $30 million in Other expenses (income), net on the Consolidated Statements of Earnings (Loss).

On June 1, 2022, the Company acquired all of the outstanding assets of WearDeck®, a premium producer of composite weather-resistant decking for commercial and residential applications, for approximately $133 million, net of cash acquired. The acquisition advances the Composites business growth strategy to focus on high-value material solutions within the building and construction industry. The operating results and a preliminary purchase price allocation for WearDeck® have been included in the Composites segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $38 million in intangible assets and $68 million in goodwill, of which $61 million is tax deductible. The intangible assets consist of definite-lived trademarks of $7 million with an estimated weighted average life of 10 years, technology of $10 million with an estimated weighted average life of 11 years and customer relationships of $21 million with an estimated weighted average life of 15 years. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

On May 23, 2022, Owens Corning and Pultron Composites ("Pultron") formed a joint venture (the "JV") to manufacture and sell fiberglass rebar. The Company contributed approximately $47 million to acquire a 65.5% controlling interest and has established a redeemable noncontrolling interest of $25 million related to Pultron, the minority holder. The JV expands Owens Corning's capability to produce high-value material solutions by combining the Company's glass-fiber material technology, channel access and extensive industry experience with Pultron's manufacturing expertise and process efficiency. The fully consolidated operating results and a preliminary purchase price allocation for the JV have been included in the Company's Composites segment within the Consolidated Financial Statements since the date of the formation of the JV. Subsequent to the JV formation, the JV acquired assets and technology from Pultron for approximately $65 million. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. The preliminary purchase price allocation included $15 million in intangible assets, consisting of technology, with an estimated weighted average life of 15 years and $42 million in goodwill, of which $37 million is tax deductible. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

In 2022, the Company repurchased 9.0 million shares of the Company's common stock for $779 million under a previously announced repurchase authorization. On December 1, 2022, the Company's Board of Directors approved an additional 10 million share repurchase authorization. As of December 31, 2022, 14.4 million shares remained available for repurchase under the announced repurchase authorizations.

RESULTS OF OPERATIONS

Consolidated Results (in millions)

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Net sales	$9,761	$8,498	$7,055
Gross margin	$2,616	$2,217	$1,610
% of net sales	*27%*	*26%*	*23%*
Marketing and administrative expenses	$ 803	$ 757	$ 664
Goodwill impairment charge	$ —	$ —	$ 944
Gain on equity method investment	$ (130)	$ —	$ —
Other expenses (income), net	$ 123	$ (69)	$ 58
Earnings (loss) before interest and taxes	$1,723	$1,448	$ (124)
Interest expense, net	$ 109	$ 126	$ 132
Loss on extinguishment of debt	$ —	$ 9	$ —
Income tax expense	$ 373	$ 319	$ 129
Net earnings (loss) attributable to Owens Corning	$1,241	$ 995	$ (383)

The Consolidated Results discussion below provides a summary of our results and the trends affecting our business, and should be read in conjunction with the more detailed Segment Results discussion that follows.

NET SALES

Net sales increased $1,263 million in 2022 compared to 2021. The increase in net sales was driven by higher selling prices and favorable customer mix which were partially offset by lower sales volumes and the unfavorable impact of translating sales denominated in foreign currencies into United States dollars.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

GROSS MARGIN

Gross margin increased $399 million in 2022 compared to 2021. The increase in gross margin was driven by higher selling prices, partially offset by higher input cost inflation and transportation costs in all three segments. The impact of lower sales volumes in Composites and Roofing, as well as unfavorable manufacturing performance in all three segments, further offset the increase from higher selling prices.

MARKETING AND ADMINISTRATIVE EXPENSES

Marketing and administrative expenses increased $46 million in 2022 compared to 2021. The increase was driven primarily by higher general corporate expenses as business activities return to a more typical, post-pandemic level, along with ongoing inflationary pressures.

GAIN ON EQUITY METHOD INVESTMENT

As discussed above, the Company recognized a non-cash gain of $130 million from the remeasurement of the previously held equity method investment in Fiberteq upon the Company's acquisition of the remaining 50% of the joint venture with IKO.

OTHER EXPENSES (INCOME), NET

Other expenses (income), net increased $192 million in 2022 compared to 2021. The increase in expenses was primarily driven by the unfavorable comparison year-over-year to indefinite-lived intangible asset impairment charges of $96 million and the combined $63 million loss recognized on the sale of the DUCS business in Chambery, France and the sale of our Russian operations in 2022. The remaining increase was driven by $35 million in lower gains on sale of certain precious metals compared to the same period in 2021.

INTEREST EXPENSE, NET

Interest expense, net decreased $17 million in 2022 compared to 2021. The decrease was driven by lower long-term debt balances year-over-year due to the repayment of the senior notes due in 2022 and higher interest income.

LOSS ON EXTINGUISHMENT OF DEBT

During 2022, there were no extinguishments of debt. For the year ended December 31, 2021, the Company recognized a $9 million loss on extinguishment of debt in connection with the repayment of the remaining portion of its outstanding 2022 senior notes.

INCOME TAX EXPENSE

Income tax expense for 2022 was $373 million compared to $319 million in 2021. The Company's effective tax rate for 2022 was 23% on pre-tax income of $1,614 million. The difference between the 23% effective tax rate and the U.S. federal statutory tax rate of 21% is primarily due to U.S. state and local income tax expense, adjustments to R&D tax credits, and other discrete adjustments.

On August 16, 2022, the U.S. government enacted the Inflation Reduction Act of 2022 (the "Inflation Reduction Act") into law, which includes a new corporate alternative minimum tax and an excise tax of 1% on the fair market value of net stock repurchases. Both provisions are effective for years after December 31, 2022. The Company is evaluating the potential future impact of the Inflation Reduction Act on its financial position and results of operations.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

The realization of deferred tax assets depends on achieving a certain minimum level of future taxable income. Management currently believes that it is at least reasonably possible that the minimum level of taxable income will be met within the next 12 months to reduce the valuation allowances of certain foreign jurisdictions by a range of zero to $3 million.

The Company's effective tax rate for 2021 was 24% on pre-tax income of $1,313 million. The difference between the 24% effective tax rate and the U.S. federal statutory tax rate of 21% is primarily attributable to U.S. state and local income tax expense, adjustments to foreign tax credits, and other discrete adjustments.

Restructuring, Acquisition and Divestiture-Related Costs

The Company has incurred restructuring, transaction and integration costs related to acquisitions and divestitures, along with restructuring and other exit costs in connection with its global cost reduction, productivity initiatives and growth strategy. These costs are recorded within Corporate, Other and Eliminations. Please refer to Note 13 of the Consolidated Financial Statements for further information on the nature of these costs.

The following table presents the impact and respective location of these income (expense) items on the Consolidated Statements of Earnings (Loss) (in millions):

		Twelve Months Ended December 31,		
	Location	2022	2021	2020
Restructuring costs	Cost of sales	$ (42)	$(14)	$(26)
Restructuring costs	Marketing and administrative expenses	—	(2)	—
Severance	Other expenses (income), net	(1)	(11)	(13)
Other exit gains/(costs)	Other expenses (income), net	(5)	(5)	(2)
Gain on sale of land in India	Other expenses (income), net	—	15	—
Restructuring costs	Non-operating (income) expense	—	(2)	—
Recognition of acquisition inventory fair value step-up	Cost of sales	—	(1)	—
Acquisition and divestiture-related costs	Marketing and administrative expenses	(7)	—	—
Gain on sale of Shanghai, China facility	Other expenses (income), net	27	—	—
Loss on sale of Chambery, France DUCS business	Other expenses (income), net	(30)	—	—
Gain on remeasurement of Fiberteq equity investment	Gain on equity method investment	130	—	—
Loss on sale of Russian operations	Other expenses (income), net	(33)	—	—
Total restructuring, acquisition and divestiture-related gains (costs)		$ 39	$(20)	$(41)

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Adjusted Earnings Before Interest and Taxes ("Adjusted EBIT")

Adjusted EBIT is a non-GAAP measure that excludes certain items that management does not allocate to our segment results because it believes they are not representative of the Company's ongoing operations. Adjusted EBIT is used internally by the Company for various purposes, including reporting results of operations to the Board of Directors of the Company, analysis of performance and related employee compensation measures. Although management believes that these adjustments result in a measure that provides a useful representation of our operational performance, the adjusted measure should not be considered in isolation or as a substitute for Net earnings (loss) attributable to Owens Corning as prepared in accordance with accounting principles generally accepted in the United States.

Adjusting (expense) income items to EBIT are shown in the table below (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Restructuring costs	$ (48)	$(34)	$ (41)
Gain on sale of land in India	—	15	—
Gains on sale of certain precious metals	18	53	26
Goodwill impairment charge	—	—	(944)
Intangible assets impairment charge	(96)	—	(43)
Recognition of acquisition inventory fair value step-up	—	(1)	—
Acquisition and divestiture-related costs	(7)	—	—
Gain on sale of Shanghai, China facility	27	—	—
Gain on remeasurement of Fiberteq equity investment	130	—	—
Loss on sale of Chambery, France DUCS business	(30)	—	—
Loss on sale of Russian operations	(33)	—	—
Total adjusting items	$ (39)	$ 33	$(1,002)

The reconciliation from Net earnings (loss) attributable to Owens Corning to EBIT and Adjusted EBIT is shown in the table below (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
NET EARNINGS (LOSS) ATTRIBUTABLE TO OWENS CORNING	$1,241	$ 995	$ (383)
Net (loss) attributable to non-redeemable and redeemable noncontrolling interests	—	—	(2)
NET EARNINGS (LOSS)	1,241	995	(385)
Equity in net earnings of affiliates	—	1	—
Income tax expense	373	319	129
EARNINGS (LOSS) BEFORE TAXES	1,614	1,313	(256)
Interest expense, net	109	126	132
Loss on extinguishment of debt	—	9	—
EARNINGS (LOSS) BEFORE INTEREST AND TAXES	1,723	1,448	(124)
Less: Adjusting items from above	(39)	33	(1,002)
ADJUSTED EBIT	$1,762	$1,415	$ 878

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Segment Results

EBIT by segment consists of net sales less related costs and expenses and is presented on a basis that is used internally for evaluating segment performance. Certain items, such as general corporate expenses or income and certain other expense or income items, are excluded from the internal evaluation of segment performance. Accordingly, these items are not reflected in EBIT for our reportable segments and are included in the Corporate, Other and Eliminations category, which is presented following the discussion of our reportable segments.

Composites

The table below provides a summary of net sales, EBIT and depreciation and amortization expense for the Composites segment (in millions):

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Net sales	$2,660	$2,341	$1,960
% change from prior year	*14%*	*19%*	*-5%*
EBIT	$ 498	$ 376	$ 165
EBIT as a % of net sales	*19%*	*16%*	*8%*
Depreciation and amortization expense	$ 175	$ 162	$ 159

NET SALES

Net sales in our Composites segment increased $319 million in 2022 compared to 2021. The increase was driven by higher selling prices of $443 million, partially offset by slightly lower sales volumes of approximately 5%. Favorable customer mix of $61 million was more than offset by the $76 million unfavorable impact of translating sales denominated in foreign currencies into United States dollars. The remaining variance was driven by the net impact of divestitures and acquisitions.

EBIT

EBIT in our Composites segment increased $122 million in 2022 compared to 2021. Higher selling prices of $443 million more than offset $215 million of input cost inflation and $37 million in higher transportation costs. The unfavorable impact of lower sales volumes was nearly offset by the impact of favorable customer mix. The remaining variance was driven by unfavorable manufacturing performance and the $12 million net unfavorable impact of divestitures and acquisitions.

OUTLOOK

Global glass reinforcements market demand is driven by several economic indicators including residential, non-residential construction and manufacturing production indices, as well as global wind installations. The Company is monitoring dynamic market conditions such as an evolving macroeconomic environment, including potential recessionary pressures in the Americas and Europe, input cost inflation, and primary labor availability constraints, which could have an effect on the markets in which we participate. The Company will continue to focus on managing costs, capital expenditures, and working capital.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Insulation

The table below provides a summary of net sales, EBIT and depreciation and amortization expense for the Insulation segment (in millions):

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Net sales	$3,714	$3,184	$2,607
% change from prior year	*17%*	*22%*	*-2%*
EBIT	$ 612	$ 446	$ 250
EBIT as a % of net sales	*16%*	*14%*	*10%*
Depreciation and amortization expense	$ 206	$ 208	$ 201

NET SALES

In our Insulation segment, 2022 net sales increased $530 million compared to 2021. The increase was driven by higher selling prices of $573 million, partially offset by approximately 2% lower sales volumes. Favorable customer and product mix and $29 million from the acquisition of Natural Polymers were mostly offset by the $118 million unfavorable impact of translating sales denominated in foreign currencies into United States dollars.

EBIT

In our Insulation segment, EBIT increased $166 million in 2022 compared to 2021. Higher selling prices of $573 million more than offset $302 million of input cost inflation and $56 million in higher transportation costs. Favorable customer and product mix of $48 million were offset by the impact of unfavorable manufacturing performance and higher production downtime. The remaining variance was driven about equally by higher selling, general and administrative expenses, the impact of lower sales volumes and the negative impact of translating profits denominated in foreign currencies into United States dollars.

OUTLOOK

The outlook for Insulation demand is driven by North American new residential construction, remodeling and repair activity, as well as commercial and industrial construction activity in the United States, Canada, Europe, Asia-Pacific and Latin America. Demand in commercial and industrial insulation markets is most closely correlated to industrial production growth and overall economic activity in the global markets we serve. Demand for residential insulation is most closely correlated to U.S. housing starts.

During the fourth quarter of 2022, the average Seasonally Adjusted Annual Rate (SAAR) of U.S. housing starts was approximately 1.403 million starts, which was down from 1.644 million starts in the fourth quarter of 2021.

The Company expects a deceleration in both the North American new residential construction market and global commercial and industrial construction markets, continued input cost inflation, supply chain uncertainties and primary labor availability constraints. The Company will continue to focus on managing costs, capital expenditures, and working capital.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Roofing

The table below provides a summary of net sales, EBIT and depreciation and amortization expense for the Roofing segment (in millions):

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Net sales	$3,658	$3,209	$2,695
% change from prior year	*14%*	*19%*	*2%*
EBIT	$ 831	$ 753	$ 591
EBIT as a % of net sales	*23%*	*23%*	*22%*
Depreciation and amortization expense	$ 62	$ 59	$ 59

NET SALES

In our Roofing segment, net sales increased $449 million in 2022 compared to 2021. Higher selling prices of $522 million and higher third-party asphalt sales of $72 million were partially offset by lower sales volumes of approximately 4% and unfavorable customer and product mix.

EBIT

In our Roofing segment, EBIT increased $78 million in 2022 compared to 2021. Higher selling prices of $522 million more than offset input cost inflation, primarily asphalt, of $302 million and $34 million of higher transportation costs. Unfavorable manufacturing performance of $44 million and the impact of lower sales volumes further offset higher selling prices. The remaining variance was driven about equally by higher selling, general and administrative expenses and the impact of unfavorable customer and product mix.

OUTLOOK

In our Roofing segment, the Company expects a deceleration in the North American new residential construction market. Other uncertainties that may impact Roofing demand include demand from storms and other weather-related events, demand from repair and remodeling activity, competitive pricing pressure and the cost and availability of raw materials, particularly asphalt. The Company will continue to focus on managing costs, capital expenditures and working capital.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Corporate, Other and Eliminations

The table below provides a summary of EBIT and depreciation and amortization expense for the Corporate, Other and Eliminations category (in millions):

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Restructuring costs	$ (48)	$ (34)	$ (41)
Gain on sale of land in India	—	15	—
Gains on sale of certain precious metals	18	53	26
Goodwill impairment charge	—	—	(944)
Intangible assets impairment charge	(96)	—	(43)
Recognition of acquisition inventory fair value step-up	—	(1)	—
Acquisition and divestiture-related costs	(7)	—	—
Gain on sale of Shanghai, China facility	27	—	—
Gain on remeasurement of Fiberteq equity investment	130	—	—
Loss on sale of Chambery, France DUCS business	(30)	—	—
Loss on sale of Russian operations	(33)	—	—
General corporate expense and other	(179)	(160)	(128)
EBIT	$(218)	$(127)	$(1,130)
Depreciation and amortization	$ 88	$ 73	$ 74

EBIT

In Corporate, Other and Eliminations, EBIT expenses in 2022 were $91 million higher compared to 2021. Please reference the table above for information related to the significant year over year variances.

General corporate expense and other in 2022 was $19 million higher than in 2021, driven primarily by higher general corporate expenses as business activities return to a more typical, post-pandemic level.

OUTLOOK

In 2023, we expect general corporate expenses to range between $195 and $205 million.

LIQUIDITY, CAPITAL RESOURCES AND OTHER RELATED MATTERS

Liquidity

The Company's primary sources of liquidity are its balance of Cash and cash equivalents of $1.1 billion as of December 31, 2022, its Senior Revolving Credit Facility and its Receivables Securitization Facility (each as defined below).

The Company has an $800 million senior revolving credit facility (the "Senior Revolving Credit Facility") that has been amended from time to time, which matures in July 2026.

The Company has a $280 million securitization facility (the "Receivables Securitization Facility") that has been amended from time to time, which matures in April 2024.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

The following table shows how the Company utilized its primary sources of liquidity (in millions):

	As of December 31, 2022	
	Senior Revolving Credit Facility	**Receivables Securitization Facility**
Facility size	$800	$280
Collateral capacity limitation on availability	N/A	—
Outstanding borrowings	—	—
Outstanding letters of credit	4	1
Availability on facility	$796	$279

On August 19, 2021, the Company issued a make-whole call to repay the remaining portion of its outstanding 2022 senior notes, and the redemption was completed in the third quarter of 2021. The Company recognized approximately $9 million of loss on extinguishment of debt in the third quarter of 2021 associated with these actions.

The Company issued $300 million of 2030 senior notes on May 12, 2020. Interest on the notes is payable semiannually in arrears on June 1 and December 1 each year, beginning on December 1, 2020. The proceeds from these notes were used for general corporate purposes.

The Receivables Securitization Facility and Senior Revolving Credit Facility mature in 2024 and 2026, respectively. The Company has no significant debt maturities of senior notes before the fourth quarter of 2024. As of December 31, 2022, the Company had $3.0 billion of total debt and cash and cash equivalents of $1.1 billion. The agreements governing our Senior Revolving Credit Facility and Receivables Securitization Facility contain various covenants that we believe are usual and customary. These covenants include a maximum allowed leverage ratio. We were in compliance with these covenants as of December 31, 2022.

Cash and cash equivalents held by foreign subsidiaries may be subject to foreign withholding taxes upon repatriation to the U.S. As of December 31, 2022 and December 31, 2021, the Company had $188 million and $156 million, respectively, in cash and cash equivalents in certain of its foreign subsidiaries. The Company continues to assert indefinite reinvestment in accordance with Accounting Standards Codification (ASC) 740 based on the laws as of enactment of the tax legislation commonly known as the U.S. Tax Cuts and Jobs Act of 2017.

As a holding company, we have no operations of our own and most of our assets are held by our direct and indirect subsidiaries. Dividends and other payments or distributions from our subsidiaries will be used to meet our debt service and other obligations and to enable us to pay dividends to our stockholders. Please refer to the Risk Factors disclosed in Item 1A of this Form 10-K for details on the factors that could inhibit our subsidiaries' abilities to pay dividends or make other distributions to the parent company.

We have no material off-balance sheet arrangements that have or are reasonably likely to have a material current or future effect on our financial condition, results of operations, liquidity, capital expenditures or other resources.

Material Cash Requirements

Our anticipated uses of cash include capital expenditures, working capital needs, share repurchases, meeting financial obligations, payments of any dividends authorized by our Board of Directors, acquisitions, restructuring actions and pension contributions. We expect that our cash on hand, coupled with future cash flows from

operations and other available sources of liquidity, including our Senior Revolving Credit Facility and our Receivables Securitization Facility, will provide ample liquidity to enable us to meet our cash requirements.

The following discussion of material cash requirements evaluates known contractual and other obligations, but does not include amounts that are contingent on events or other factors that are uncertain or unknown at this time including legal contingencies, and uncertain tax positions among others. The amounts presented are based on various estimates, including estimates regarding the timing of payments, prevailing interest rates, the occurrence of certain events and other factors. Actual results may vary materially from the amounts discussed below.

Capital Expenditures: Our capital expenditures are primarily related to the maintenance and rebuild of our long-term assets, as well as investing in projects that support growth and innovation to further our enterprise strategy. Our capital expenditures on a cash basis were $446 million in 2022. We expect to have capital expenditures on a cash basis of approximately $520 million in 2023. The anticipated increase in capital expenditures in 2023 is primarily driven by growth and manufacturing productivity projects across all three segments. We expect that capital expenditures will be funded through cash flows from operations. See Note 2 and Note 6 of the Consolidated Financial Statements for additional information on property, plant and equipment.

Long-term debt obligations: As of December 31, 2022, total long-term debt of $3.0 billion primarily consists of various outstanding senior notes with scheduled maturities starting in 2024. Further discussion of the amount and timing of the future scheduled maturities of these senior notes can be found in Note 14 of the Consolidated Financial Statements. There were no borrowings on our Senior Revolving Credit Facility or our Receivables Securitization Facility as of December 31, 2022.

Interest on debt: We are obligated to make periodic interest payments at fixed rates, depending on the terms of the applicable debt agreements. Based on interest rates and scheduled maturities as of December 31, 2022, these interest obligations range from $99 million to $130 million annually over the next five years.

Finance lease obligations: Our finance lease obligations primarily consist of real estate, oxygen plants, computers and software, and fleet vehicles. As of December 31, 2022 we had a total of $157 million of minimum finance lease payments. Further discussion of the future maturities of these lease liabilities can be found in Note 10 of the Consolidated Financial Statements.

Operating lease obligations: Our operating lease obligations primarily consist of real estate and material handling equipment. As of December 31, 2022, we had a total of $227 million of minimum operating lease payments. Further discussion of the future maturities of these lease liabilities can be found in Note 10 of the Consolidated Financial Statements.

Purchase obligations: Purchase obligations are commitments to suppliers to purchase goods or services, and include take-or-pay arrangements, capital expenditures, and contractual commitments to purchase equipment. As of December 31, 2022, the total of these obligations was $384 million, inclusive of $269 million payable in the next 12 months. The Company did not include ordinary course of business purchase orders in this amount as the majority of such purchase orders may be canceled and are reflected in historical operating cash flow trends. The Company does not believe such purchase orders will adversely affect our liquidity position.

Pension Contributions: The Company has several defined benefit pension plans. The Company made cash contributions of $8 million and $21 million to the plans during the twelve months ended December 31, 2022 and 2021, respectively. The Company expects to contribute $25 million in cash to its pension plans during 2023. Actual contributions to the plans may change as a result of several factors, including changes in laws that impact funding requirements. The ultimate cash flow impact to the Company, if any, of the pension plan liability and the

timing of any such impact will depend on numerous variables, including future changes in actuarial assumptions, legislative changes to pension funding laws, and market conditions. Further discussion of the Company's defined benefit pension plans can be found in Note 15 of the Consolidated Financial Statements.

Other Strategic Uses of Cash: We have outstanding share repurchase authorizations and will evaluate and consider repurchasing shares of our common stock, as well as payments of any dividends authorized by our Board of Directors, strategic acquisitions, joint ventures, debt repurchases or repayments and other transactions to create stockholder value and enhance financial performance. Such transactions may require cash expenditures beyond current sources of liquidity or generated proceeds.

Supplier Finance Programs

We review supplier terms and conditions on an ongoing basis, and have negotiated payment terms extensions in recent years in connection with our efforts to reduce working capital and improve cash flow. Separate from those terms extension actions, certain of our subsidiaries have entered into paying agency agreements with third-party administrators. These voluntary supply chain finance programs (collectively, the "Programs") generally give participating suppliers the ability to sell, or otherwise pledge as collateral, their receivables from the Company to the participating financial institutions, at the sole discretion of both the suppliers and financial institutions. The Company is not a party to the arrangements between the suppliers and the financial institutions. The Company's obligations to its suppliers, including amounts due and scheduled payment dates, are not impacted by the suppliers' decisions to sell, or otherwise pledge as collateral, amounts under these arrangements. The Company's payment terms to the financial institutions, including the timing and amount of payments, are based on the original supplier invoices. One of our programs includes a parent guarantee to the participating financial institution for a certain U.S. subsidiary that, at the time of the respective program's inception in 2015, was a guarantor subsidiary of the Company's Credit Agreement. The obligations are presented as Accounts payable within Total current liabilities on the Consolidated Balance Sheets and all activity related to the obligations is presented within operating activities on the Consolidated Statements of Cash Flow.

The desire of suppliers and financial institutions to participate in the Programs could be negatively impacted by, among other factors, the availability of capital committed by the participating financial institutions, the cost and availability of our suppliers' capital, a credit rating downgrade or deteriorating financial performance of the Company or its participating subsidiaries, or other changes in financial markets beyond our control. We do not expect these risks, or potential long-term growth of our programs, to materially affect our overall financial condition, as we expect a significant portion of our payments to continue to be made outside of the Programs. Accordingly, we do not believe the programs have materially impacted our current period liquidity, and do not believe that the programs are reasonably likely to materially affect liquidity in the future.

Please refer to the *Supplier Finance Programs* section in Note 1 of the Consolidated Financial Statements for a rollforward of outstanding obligations under the supplier finance programs.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Cash Flows

The following table presents a summary of our cash balance, cash flows, and availability on credit facilities (in millions):

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Cash and cash equivalents	$1,099	$ 959	$ 717
Net cash flow provided by operating activities	$1,760	$1,503	$1,135
Net cash flow used for investing activities	$ (623)	$ (377)	$ (205)
Net cash flow used for financing activities	$ (974)	$ (881)	$ (358)
Availability on the Senior Revolving Credit Facility	$ 796	$ 796	$ 796
Availability on the Receivables Securitization Facility	$ 279	$ 279	$ 279

Cash and cash equivalents: Cash and cash equivalents as of December 31, 2022 increased $140 million compared to December 31, 2021, primarily due to higher cash flow provided by operating activities.

Operating activities: In 2022, the Company generated $1,760 million of cash from operating activities compared to $1,503 million in 2021. The change in cash provided by operating activities was primarily due to higher earnings.

Investing activities: The $246 million increase in cash used for investing activities in 2022 compared to 2021 was primarily driven by higher spending on acquisitions, partially offset by proceeds from divestitures (see Notes 7 and 8 of the Consolidated Financial Statements for further discussion related to our acquisitions and divestitures in 2022).

Financing activities: Net cash used for financing activities in 2022 was $974 million compared to $881 million in 2021. The change year-over-year was primarily due to higher purchases of treasury stock and increased dividends.

Derivatives

Please refer to Note 4 of the Consolidated Financial Statements.

Fair Value Measurement

Please refer to Notes 1, 4, 14 and 15 of the Consolidated Financial Statements.

CRITICAL ACCOUNTING ESTIMATES

Our discussion and analysis of our financial condition and results of operations is based upon our Consolidated Financial Statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments related to these assets, liabilities, revenues and expenses. We believe these estimates to be reasonable under the circumstances.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

Management bases its estimates and judgments on historical experience, expected future outcomes, and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The Company believes that the following accounting estimates are critical to our financial results:

Tax Estimates. The determination of our tax provision is complex due to operations in several tax jurisdictions outside the United States. We apply a more-likely-than-not recognition threshold for all tax uncertainties. Such uncertainties include any claims by the Internal Revenue Service for income taxes, interest, and penalties attributable to audits of open tax years.

In addition, we record a valuation allowance to reduce our deferred tax assets to the amount that we believe is more likely than not to be realized. We estimate future taxable income and the effect of tax planning strategies in our consideration of whether deferred tax assets will more likely than not be realized. In the event we were to determine that we would not be able to realize all or part of our net deferred tax assets in the future, an adjustment to reduce the net deferred tax assets would be charged to earnings in the period such determination was made. Conversely, if we were to determine that we would be able to realize our net deferred tax assets in the future in excess of their currently recorded amount, an adjustment to increase the net deferred tax assets would be credited to earnings in the period such determination was made.

Impairment of Assets. The Company exercises judgment in evaluating assets for impairment. Goodwill and other indefinite-lived intangible assets are tested for impairment annually, or when circumstances arise which indicate there may be an impairment. Long-lived assets are tested for impairment when economic conditions or management decisions indicate an impairment may exist. These tests require comparing recorded values to estimated fair values for the assets under review.

The Company has recorded its goodwill and conducted testing for potential goodwill impairment at a reporting unit level. Our reporting units represent a business for which discrete financial information is available and segment management regularly reviews the operating results. The Company has three reporting units: Composites, Insulation and Roofing.

2022 Annual Goodwill Impairment Assessment

Goodwill is an intangible asset that is not subject to amortization; however, annual tests are required to be performed to determine whether impairment exists. Prior to performing the impairment testing process described in ASC 350-20, the guidance permits companies to assess qualitative factors to determine if it is more likely than not that a reporting unit's fair value is less than its carrying value. If, based on the review of the qualitative factors, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying value, we would bypass the step one impairment test. Events and circumstances we consider in performing the qualitative assessment include macro-economic conditions, market and industry conditions, internal cost factors, and the operational stability and the overall financial performance of the reporting units. If it is more likely than not that a reporting unit's fair value is less than or close to its carrying value, then the step one quantitative impairment test must be performed to determine if impairment is required.

When it is determined necessary for the Company to perform the quantitative impairment process for goodwill, we estimate fair values using a discounted cash flow approach from the perspective of a market participant. Significant assumptions used in the discounted cash flow approach are revenue growth rates and EBIT margins used in estimating discrete period cash flow forecasts of the reporting unit, the discount rate, and the long-term

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

revenue growth rate and EBIT margins used in estimating the terminal business value. The cash flow forecasts of the reporting unit are based upon management's long-term view of our markets and are the forecasts that are used by senior management and the Board of Directors to evaluate operating performance. The discount rate utilized is management's estimate of what the market's weighted average cost of capital is for a company with a similar debt rating and stock volatility, as measured by beta. The terminal business value is determined by applying the long-term growth rate to the latest year for which a forecast exists. As part of our goodwill quantitative testing process, the Company evaluates whether there are reasonably likely changes to management's estimates that would have a material impact on the results of the goodwill impairment testing.

Our annual test of goodwill for impairment was conducted as of October 1, 2022. The Company elected to perform the qualitative approach on all of its reporting units: Composites, Insulation and Roofing. After evaluating and weighing all relevant events and circumstances, we concluded that it is not more likely than not that the fair value of the reporting units was less than their carrying amounts. Consequently, we did not perform a step one quantitative analysis for the reporting units and determined goodwill was not impaired for 2022.

The following table summarizes the segment allocation of recorded goodwill on our Consolidated Balance Sheet as of December 31, 2022 (in millions):

Segment	December 31, 2022	Percent of Total
Composites	$ 425	31%
Insulation	564	41%
Roofing	394	28%
Total goodwill	$1,383	100%

Annual 2022 Indefinite-lived Intangible Asset Impairment Assessment

Fair values used in testing for potential impairment of our trademarks and trade names are calculated by applying an estimated market value royalty rate to the forecasted revenues of the businesses that utilize those assets. The assumed cash flows from this calculation are discounted at a rate based on a market-participant discount rate. Our annual test of indefinite-lived intangibles was conducted as of October 1, 2022.

Based on the results of this testing, the Company recorded pre-tax non-cash impairment charges totaling $96 million in the fourth quarter of 2022. These charges were recorded in Other expenses (income), net on the Consolidated Statements of Earnings (Loss), and were included in the Corporate, Other and Eliminations reporting category.

These charges included the following within the Insulation segment: a pre-tax impairment charge of $63 million for a trade name used by our European building and technical insulation business due to the effect of a higher discount rate, associated with rising interest rates, and general economic and geopolitical uncertainty within the European markets resulting in a slightly lower profitability outlook; a pre-tax impairment charge of $12 million related to a trademark used on global cellular glass insulation products due to the effect of a higher discount rate, associated with rising interest rates, and general economic and geopolitical uncertainty within the European markets; a pre-tax impairment charge of $8 million for a trademark used on mineral wool insulation products sold in the United States due to forecasted profitability of the product line.

The remaining $13 million pre-tax impairment charge for trademarks used within the components business in our Roofing segment was due to the effect of a higher discount rate, associated with rising interest rates, and forecasted profitability of a specific product line.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

The fair value of the remaining indefinite-lived intangible assets substantially exceeded the carrying value as of the date of our assessment.

Long-lived Asset Recoverability Assessment

Fair values for long-lived asset testing are calculated by estimating the undiscounted cash flows from the use and ultimate disposition of the asset or by estimating the amount that a willing third party would pay. For impairment testing, long-lived assets are grouped at the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities. The Company groups long-lived assets based on manufacturing facilities that produce similar products either globally or within a geographic region. Management tests asset groups for potential impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. We evaluated and concluded that there are not any reasonably likely changes to management's estimates that would indicate that the carrying value of our long-lived assets is unrecoverable.

However, changes in management intentions, market conditions, operating performance and other similar circumstances could affect the assumptions used in these impairment tests. Changes in the assumptions could result in impairment charges that could be material to our Consolidated Financial Statements in any given period.

Pensions and Other Postretirement Benefits. Accounting for pensions and other postretirement benefits involves estimating the cost of benefits to be provided well into the future and attributing that cost over the time period each employee works. To accomplish this, extensive use is made of assumptions about investment returns, discount rates, inflation, mortality, turnover, and medical costs. Changes in assumptions used could result in a material impact to our Consolidated Financial Statements in any given period.

Two key assumptions that could have a significant impact on the measurement of pension liabilities and pension expense are the discount rate and the expected return on plan assets. For our largest plan, the United States plan, the discount rate used for the December 31, 2022 measurement date is based on a yield curve approach where the expected future benefit payments are matched with a yield curve derived from certain AA-rated corporate bonds.

The result supported a discount rate of 5.15% at December 31, 2022 compared to 2.85% at December 31, 2021. A 25 basis point increase (decrease) in the discount rate would (decrease) increase the December 31, 2022 projected benefit obligation for the United States pension plan by approximately ($14) and $14 million, respectively. A 25 basis point increase (decrease) in the discount rate would (decrease) increase 2023 net periodic pension cost by less than $1 million.

The expected return on plan assets in the United States was derived by taking into consideration the target plan asset allocation, historical rates of return on those assets, projected future asset class returns and net outperformance of the market by active investment managers and plan related and investment related expenses paid from the plan trust. The Company uses the target plan asset allocation because we rebalance our portfolio to target on at least a quarterly basis. An asset return model was used to develop an expected range of returns on plan investments over a 20-year period, with the expected rate of return selected from a best estimate range within the total range of projected results. This process resulted in the selection of an expected return of 5.75% at the December 31, 2022 measurement date, which is used to determine net periodic pension cost for the year 2023. This assumption corresponds to the 4.75% return selected at the December 31, 2021 measurement date. A 25 basis point increase (decrease) in return on plan assets assumption would result in a respective decrease (increase) of 2023 net periodic pension cost by approximately $2 million.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

The discount rate for our United States postretirement plan was selected using the same method as described for the pension plan. The result supported a discount rate of 5.10% at December 31, 2022 compared to 2.70% at December 31, 2021. A 25 basis point increase (decrease) in the discount rate would (decrease) increase the United States postretirement benefit obligation by approximately $2 million and (decrease) increase 2023 net periodic postretirement benefit cost by less than $1 million.

The methods corresponding to those described above are used to determine the discount rate and expected return on assets for non-U.S. pension and postretirement plans, to the extent applicable.

RECENT ACCOUNTING PRONOUNCEMENTS

Please refer to Note 1 of the Consolidated Financial Statements.

ENVIRONMENTAL MATTERS

Please refer to Note 17 of the Consolidated Financial Statements.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

Our disclosures and analysis in this report, including Management's Discussion and Analysis of Financial Condition and Results of Operations, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act"). Forward-looking statements present our current forecasts and estimates of future events. These statements do not strictly relate to historical or current results and can be identified by words such as "anticipate," "appear," "assume," "believe," "estimate," "expect," "forecast," "intend," "likely," "may," "plan," "project," "seek," "should," "strategy," "will" and other terms of similar meaning or import in connection with any discussion of future operating, financial or other performance. These forward-looking statements are subject to risks, uncertainties and other factors and actual results may differ materially from those results projected in the statements. These risks, uncertainties and other factors include, without limitation:

- levels of residential and commercial or industrial construction activity;
- demand for our products;
- supply constraints and increases in the cost of energy, particularly natural gas, as a result of the ongoing conflict in Ukraine;
- availability and cost of raw materials;
- industry and economic conditions including, but not limited to, supply chain disruptions, recessionary conditions, inflationary pressures and interest rate volatility, that affect the market and operating conditions of our customers, suppliers or lenders;
- levels of global industrial production;
- competitive and pricing factors;
- relationships with key customers and customer concentration in certain areas;

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (continued)

- issues related to acquisitions, divestitures and joint ventures or expansions;
- climate change, weather conditions and storm activity;
- legislation and related regulations or interpretations, in the United States or elsewhere;
- domestic and international economic and political conditions, policies or other governmental actions, as well as war and civil disturbance (such as Russia's invasion of Ukraine);
- changes to tariff, trade or investment policies or laws;
- uninsured losses, including those from natural disasters, catastrophes, pandemics, theft or sabotage;
- environmental, product-related or other legal and regulatory liabilities, proceedings or actions;
- research and development activities and intellectual property protection;
- issues involving implementation and protection of information technology systems;
- foreign exchange and commodity price fluctuations;
- our level of indebtedness;
- our liquidity and the availability and cost of credit;
- our ability to achieve expected synergies, cost reductions and/or productivity improvements;
- the level of fixed costs required to run our business;
- levels of goodwill or other indefinite-lived intangible assets;
- price volatility in certain wind energy markets in the U.S.;
- loss of key employees and labor disputes or shortages; and
- defined benefit plan funding obligations.

All forward-looking statements in this report should be considered in the context of the risks and other factors described herein, and in Item 1A above, and as detailed from time to time in the Company's filings with the U.S. Securities and Exchange Commission. Users of this report should not interpret the disclosure of any risk factor to imply that the risk has not already materialized. Any forward-looking statements speak only as of the date the statement is made and we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by federal securities laws. It is not possible to identify all of the risks, uncertainties and other factors that may affect future results. In light of these risks and uncertainties, the forward-looking events and circumstances discussed in this report may not occur and actual results may differ materially from those anticipated or implied in the forward-looking statements. Accordingly, users of this report are cautioned not to place undue reliance on the forward-looking statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is exposed to the impact of changes in foreign currency exchange rates, interest rates and the prices of various commodities used in the normal course of business. To mitigate some of the near-term volatility in our earnings and cash flows, the Company manages certain of our exposures through the use of financial contracts, contracts for physical delivery of a particular commodity, and derivative financial instruments. The Company's objective with these instruments is to reduce exposure to near-term fluctuations in earnings and cash flows. The Company's policy enables the use of foreign currency, interest rate and commodity derivative financial instruments only to the extent necessary to manage exposures as described above. The Company does not enter into such transactions for trading purposes.

A discussion of the Company's accounting policies for derivative financial instruments, as well as the Company's exposure to market risk, is included in Notes 1 and 4 to the Consolidated Financial Statements. Please refer to Note 4 for details of the fair values of derivative financial instruments and their classification on the Consolidated Balance Sheets.

For purposes of disclosing the market risk inherent in its derivative financial instruments the Company uses sensitivity analysis disclosures that express the potential loss in fair values of market rate sensitive instruments resulting from changes in interest rates, foreign currency exchange rates, and commodity prices that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves, and commodity prices. The following analysis provides such quantitative information regarding market risk. There are certain shortcomings inherent in the sensitivity analysis presented, primarily due to the assumption that exchange rates change instantaneously and that interest rates change in a parallel fashion. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled.

Foreign Exchange Rate Risk

The Company has transactional foreign currency exposures related to buying, selling, and financing in currencies other than the local currencies in which it operates. The Company enters into various forward contracts, which change in value as foreign currency exchange rates change, to preserve the carrying amount of foreign currency-denominated assets, liabilities, commitments, and certain anticipated foreign currency transactions. Exposures are related to the United States Dollar primarily relative to the Brazilian Real, Chinese Yuan, European Euro, Hong Kong Dollar, Indian Rupee, and South Korean Won exchange rates. Also, there are additional exposures related to the European Euro primarily versus the Polish Złoty and Norwegian Krone. These transactional risks are mitigated through the use of derivative financial instruments and balancing of cash deposits and loans. The net fair value of derivative financial instruments used to limit exposure to foreign currency risk was a liability of $1 million and a liability of $7 million as of December 31, 2022 and 2021, respectively. As of December 31, 2022, the potential change in fair value for such financial instruments from an increase (decrease) of 10% in the quoted foreign currency exchange rates would be a (decrease) increase of approximately $7 million and $5 million, respectively. As of December 31, 2021, the potential change in fair value for such financial instruments from an increase (decrease) of 10% in the quoted foreign currency exchange rates would be a (decrease) increase of approximately $36 million and $36 million, respectively.

We have translation exposure resulting from translating the financial statements of foreign subsidiaries into United States Dollars. Our most significant translation exposures are the Canadian Dollar, Chinese Yuan, European Euro, Indian Rupee, and Polish Złoty in relation to the United States Dollar.

Interest Rate Risk

The Company is subject to market risk from exposure to changes in interest rates due to its financing, investing, and cash management activities. The Company has a Senior Revolving Credit Facility, Receivables Securitization Facility, other floating rate debt and cash and cash equivalents which are exposed to floating

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK (continued)

interest rates and may impact cash flow. As of December 31, 2022, the Company had no borrowings on its Senior Revolving Credit Facility or Receivables Securitization Facility, with the balance of other floating-rate debt of $1 million. As of December 31, 2021, the Company had no borrowings on its Senior Revolving Credit Facility or Receivables Securitization Facility, with the balance of other floating rate debt of $6 million. Cash and cash equivalents were $1.1 billion and $959 million at December 31, 2022 and 2021, respectively. Based on the year-end outstanding balances on floating rate debt, a one percentage point increase (decrease) in interest rates at December 31, 2022 and 2021 would increase (decrease) our annual net interest expense by less than $1 million for each year.

The fair market value of the Company's senior notes are subject to interest rate risk. The following table shows how a one percentage point increase / decrease in interest rates would impact the fair market value of the senior notes:

	Senior Notes Maturity Year						
As of December 31, 2022:	**2024**	**2026**	**2029**	**2030**	**2036**	**2047**	**2048**
Increase in interest rates							
Decrease in fair value	2%	3%	6%	6%	8%	12%	12%
Decrease in interest rates							
Increase in fair value	2%	3%	6%	7%	10%	15%	15%
	Senior Notes Maturity Year						
As of December 31, 2021:	**2024**	**2026**	**2029**	**2030**	**2036**	**2047**	**2048**
Increase in interest rates							
Decrease in fair value	3%	4%	6%	7%	10%	15%	15%
Decrease in interest rates							
Increase in fair value	3%	4%	7%	8%	11%	18%	18%

Commodity Price Risk

The Company is exposed to changes in prices of commodities used in its operations, primarily associated with energy, such as natural gas, and raw materials, such as asphalt and polystyrene. The Company enters into cash-settled natural gas swap contracts in certain markets to protect against changes in natural gas prices that mature within 15 months; however, no financial instruments are currently used to protect against changes in raw material costs. At December 31, 2022 and 2021, the net fair value of such swap contracts was a liability of $30 million and an asset of $11 million, respectively. The potential change in fair value at December 31, 2022 and 2021 resulting from an increase (decrease) of 10% in the underlying commodity prices would be an increase (decrease) of $8 million for 2022 and an increase (decrease) of $6 million for 2021. This amount excludes the offsetting impact of the price risk inherent in the physical purchase of the underlying commodities.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Pages 58 through 107 of this filing are incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

The Company maintains (a) disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), and (b) internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act).

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures as of the end of the period covered by this report. Based on such evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective.

There has been no change in the Company's internal control over financial reporting during the quarter ended December 31, 2022 that materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

A report of the Company's management on the Company's internal control over financial reporting is contained on page 55 hereof and is incorporated here by reference. PricewaterhouseCoopers LLP's report on the effectiveness of internal control over financial reporting is included in the Report of Independent Registered Public Accounting Firm beginning on page 56 hereof.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

Part III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information with respect to directors and corporate governance will be presented in the 2023 Proxy Statement in the sections titled "Information Concerning Directors" and "Governance Information," and such information is incorporated herein by reference.

Information with respect to executive officers is included herein under Part I, "Information about our Executive Officers".

Code of Ethics for Senior Financial Officers

Owens Corning has adopted an Ethics Policy for Chief Executive and Senior Financial Officers that applies to our Chief Executive Officer, Chief Financial Officer and Controller. This policy is available on our website (www.owenscorning.com) under "Corporate Governance" located in the "Investing in Owens Corning" section and print copies will be made available free of charge upon request to the Secretary of the Company. To the extent required by applicable SEC rules or New York Stock Exchange listing standards, the Company intends to post any amendments or waivers to the above referenced codes of ethics to our website, under the tab entitled "Corporate Governance".

ITEM 11. EXECUTIVE COMPENSATION

Information regarding executive officer and director compensation will be presented in the 2023 Proxy Statement under the section titled "Executive Compensation," exclusive of the subsection titled "Compensation Committee Report," and the section titled "2022 Non-Management Director Compensation," and such information is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information regarding security ownership of certain beneficial owners and management and related stockholder matters, as well as equity compensation plan information, will be presented in the 2023 Proxy Statement under the sections titled "Beneficial Ownership of Shares," "Security Ownership of Executive Officers and Directors" and "Equity Compensation Plan Information," and such information is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, DIRECTOR INDEPENDENCE

Information regarding certain relationships and related transactions and director independence will be presented in the 2023 Proxy Statement under the sections titled "Review of Transactions with Related Persons," "Director Qualifications Standards" and "Director Independence," and such information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information regarding principal accounting fees and services will be presented in the 2023 Proxy Statement under the sections titled "Principal Accountant Fees and Services," and such information is incorporated herein by reference.

Part IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) DOCUMENTS FILED AS PART OF THIS REPORT

1. See Index to Consolidated Financial Statements on page 57 hereof.

2. See Index to Financial Statement Schedules on page 120 hereof.

EXHIBIT INDEX

Pursuant to the rules and regulations of the SEC, the Company has filed or incorporated by reference certain agreements as exhibits to this Annual Report on Form 10-K. These agreements may contain representations and warranties by the parties. These representations and warranties have been made solely for the benefit of the other party or parties to such agreements and (i) may have been qualified by disclosures made to such other party or parties, (ii) were made only as of the date of such agreements or such other date(s) as may be specified in such agreements and are subject to more recent developments, which may not be fully reflected in the Company's public disclosure, (iii) may reflect the allocation of risk among the parties to such agreements and (iv) may apply materiality standards different from what may be viewed as material to investors. Accordingly, these representations and warranties may not describe the Company's actual state of affairs at the date hereof and should not be relied upon.

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended March 31, 2016).
3.2	Third Amended and Restated Bylaws of Owens Corning (as adopted on July 28, 2021) (incorporated by reference to Exhibit 3.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2021).
4.1	Indenture, dated as of October 31, 2006, by and among Owens Corning, each of the guarantors named therein and LaSalle Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed November 2, 2006).
4.2	Form of 7.000% Senior Notes due 2036 (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed November 2, 2006).
4.3	First Supplemental Indenture, dated as of April 13, 2007, by and among Owens Corning, each of the guarantors named therein and LaSalle Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed April 13, 2007).
4.4	Second Supplemental Indenture, dated as of December 12, 2007, by and among Owens Corning, each of the guarantors named therein and LaSalle Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2007).
4.5	Third Supplemental Indenture, dated as of April 24, 2008, by and among Owens Corning, each of the guarantors named therein and LaSalle Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended June 30, 2008).

Exhibit Number	Description
4.6	Fourth Supplemental Indenture, dated as of May 26, 2010, by and among Owens Corning, each of the guarantors named therein and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed May 28, 2010).
4.7	Fifth Supplemental Indenture, dated as of October 3, 2016, by and among Owens Corning, each of the guarantors named therein and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.7 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2017).
4.8	Sixth Supplemental Indenture, dated as of February 27, 2017, by and among Owens Corning, each of the guarantors named therein and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.8 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2017).
4.9	Seventh Supplemental Indenture, dated as of August 23, 2017, by and among Owens Corning, the guarantor named therein and Wells Fargo Bank, National Association, as successor trustee (incorporated by reference to Exhibit 4.5 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended September 30, 2017).
4.10	Indenture, dated as of June 2, 2009, by and among Owens Corning, certain of Owens Corning's subsidiaries and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Registration Statement on Form S-3 (File No. 333-159689), filed June 3, 2009).
4.11	Third Supplemental Indenture, dated as of October 22, 2012, by and among Owens Corning, certain subsidiaries, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Form 8-K (File No. 1-33100), filed October 22, 2012).
4.12	Fourth Supplemental Indenture, dated as of November 12, 2014, by and among Owens Corning, the guarantors named therein and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100) filed November 12, 2014).
4.13	Form of 4.200% Senior Notes due 2024 (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed November 12, 2014).
4.14	Fifth Supplemental Indenture, dated as of August 8, 2016, by and among the Owens Corning, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100) filed August 8, 2016).
4.15	Form of 3.400% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100) filed August 8, 2016).
4.16	Sixth Supplemental Indenture, dated as of October 3, 2016, by and among Owens Corning, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.9 to Post-Effective Amendment No. 1 to Owens Corning's Registration Statement on Form S-3 (Registration No. 333-202011), filed June 21, 2017).
4.17	Seventh Supplemental Indenture, dated as of February 27, 2017, by and among Owens Corning, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.10 to Post-Effective Amendment No. 1 to Owens Corning's Registration Statement on Form S-3 (Registration No. 333-202011), filed June 21, 2017).

Exhibit Number	Description
4.18	Eighth Supplemental Indenture, dated as of June 26, 2017, by and among Owens Corning, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed June 26, 2017).
4.19	Form of 4.300% Senior Notes due 2047 (incorporated by reference to Exhibit 4.2 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed June 26, 2017).
4.20	Ninth Supplemental Indenture, dated as of August 23, 2017, by and among Owens Corning, the guarantor named therein and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.6 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended September 30, 2017).
4.21	Tenth Supplemental Indenture, dated as of January 25, 2018, by and among Owens Corning, the guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed January 25, 2018).
4.22	Form of 4.400% Senior Notes due 2048 (incorporated by reference to Exhibit 4.2 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed January 25, 2018).
4.23	Eleventh Supplemental Indenture, dated as of August 12, 2019, by and between Owens Corning and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed August 12, 2019).
4.24	Form of 3.950% Senior Note due 2029 (incorporated by reference to Exhibit 4.2 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed August 12, 2019).
4.25	Twelfth Supplemental Indenture, dated as of May 12, 2020, by and between Owens Corning and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed May 12, 2020).
4.26	Form of 3.875% Senior Note due 2030 (incorporated by reference to Exhibit 4.2 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed May 12, 2020.
4.27	Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934 (incorporated by reference to Exhibit 4.26 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2019).
10.1	Amended and Restated Credit Agreement, dated as of July 23, 2021, by and among Owens Corning, as borrower, the lenders signatory thereto and Wells Fargo Bank, National Association, as administrative agent (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended September 30, 2021).
10.2	First Amendment to Amended and Restated Credit Agreement dated as of June 13, 2022, by and among Owens Corning and Wells Fargo Bank, National Association (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended June 30, 2022).
10.3	Second Amended and Restated Receivables Purchase Agreement, dated as of May 5, 2017 (incorporated by reference to Exhibit 10.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed May 9, 2017).
10.4	First Amendment, dated April 12, 2018, related to the Second Amended and Restated Receivables Purchase Agreement, dated as of May 5, 2017 (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2018).

Exhibit Number	Description
10.5	Second Amendment to Second Amended and Restated Receivables Purchase Agreement, dated April 8, 2019 (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-133100) for the quarter ended June 30, 2019).
10.6	Third Amendment to Second Amended and Restated Receivables Purchase Agreement, dated as of April 26, 2021, by and among Owens Corning Sales, LLC, Owens Corning Receivables LLC, PNC Bank, National Association and other parties thereto (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended June 30, 2021).
10.7	Purchase and Sale Agreement, dated as of March 31, 2011, between Owens Corning Sales, LLC and Owens Corning Receivables, LLC (incorporated by reference to Exhibit 10.2 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed April 5, 2011).
10.8	First Amendment to Purchase and Sale Agreement, dated as of May 5, 2017, by and between Owens Corning Sales, LLC and Owens Corning Receivables LLC (incorporated by reference to Exhibit 10.2 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2017).
10.9	Second Amendment to Purchase and Sale Agreement, dated as of April 26, 2021, by and between Owens Corning Sales, LLC and Owens Corning Receivables, LLC (incorporated by reference to Exhibit 10.2 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2021).
10.10	Amended and Restated Performance Guaranty, dated as of May 5, 2017 (incorporated by reference to Exhibit 10.3 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2017).
10.11	Form of Key Management Severance Agreement for Executive Officers* (incorporated by reference to Exhibit 10.10 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2013).*
10.12	Form of Directors' Indemnification Agreement (incorporated by reference to Exhibit 10.2 of Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed November 2, 2006).
10.13	Owens Corning Executive Supplemental Benefit Plan, 2009 Restatement (incorporated by reference to Exhibit 10.28 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2008).*
10.14	Owens Corning Supplemental Executive Retirement Plan, as amended and restated, effective as of January 1, 2009 (incorporated by reference to Exhibit 10.30 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2008).*
10.15	Owens Corning 2021 Corporate Incentive Plan (incorporated by reference to Exhibit 10.16 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2020).*
10.16	Owens Corning Amended and Restated Deferred Compensation Plan, effective as of January 1, 2021 (incorporated by reference to Exhibit 10.17 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2020).*
10.17	Owens Corning 2010 Stock Plan (incorporated by reference to Exhibit 10.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed April 23, 2010).*
10.18	Owens Corning 2013 Stock Plan (incorporated by reference to Annex C to Owens Corning's Proxy Statement (File No 1-33100), filed March 14, 2013).*

Exhibit Number	Description
10.19	Owens Corning 2016 Stock Plan (incorporated by reference to Exhibit 10.39 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2016).*
10.20	Owens Corning 2019 Stock Plan (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2019).*
10.21	Amended and Restated Owens Corning Employee Stock Purchase Plan, (incorporated by reference to Exhibit 10.1 to Owens Corning's Current Report on Form 8-K (File No. 1-33100), filed April 21, 2020).*
10.22	Form of Owens Corning 2013 Long Term Incentive Program Award Agreement for Option Award (incorporated by reference to Exhibit 10.27 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100) for the year ended December 31, 2013).*
10.23	Form of Owens Corning 2018 Long Term Incentive Program Award Agreement for Performance Share Units (incorporated by reference to Exhibit 10.2 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2018).
10.24	Form of Owens Corning 2018 Long Term Incentive Program Award Agreement for Restricted Stock (incorporated by reference to Exhibit 10.3 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2018).
10.25	Form of Owens Corning 2019 Long Term Incentive Program Award Agreement pursuant to the Owens Corning 2016 Stock Plan for Restricted Stock Unit Award (incorporated by reference to Exhibit 10.2 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100) for the quarter ended March 31, 2019).*
10.26	Form of Deferred Stock Unit Award Agreement for Directors (incorporated by reference to Exhibit 10.32 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2015).*
10.27	Form of Long Term Incentive Program Award Agreement for Restricted Stock Unit (incorporated by reference to Exhibit 10.33 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2015).*
10.28	Form of Long Term Incentive Program Award Agreement for Performance Share Unit (incorporated by reference to Exhibit 10.34 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2015).*
10.29	Form of Owens Corning 2020 Long Term Incentive Program Award Agreement pursuant to the Owens Corning 2019 Stock Plan for Performance Share Unit Award (incorporated by reference to Exhibit 10.30 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100), for the year ended December 31, 2020).*
10.30	Form of Long Term Incentive Program Award Agreement for Restricted Stock (incorporated by reference to Exhibit 10.35 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended June 30, 2015).*
10.31	Form of Owens Corning 2020 Long Term Incentive Program Award Agreement pursuant to the Owens Corning 2019 Stock Plan for Restricted Stock Unit Award (incorporated by reference to Exhibit 10.32 to Owens Corning's Annual Report on Form 10-K (File No. 1-33100), for the year ended December 31, 2020).*
10.32	Form of Owens Corning 2022 Long Term Incentive Program Award Agreement pursuant to the Owens Corning 2019 Stock Plan for Restricted Stock Unit Award (incorporated by reference to Exhibit 10.1 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended March 31, 2022).*

Exhibit Number	Description
10.33	Form of Owens Corning 2022 Long Term Incentive Program Award Agreement pursuant to the Owens Corning 2019 Stock Plan for Performance Share Unit Award (incorporated by reference to Exhibit 10.2 to Owens Corning's Quarterly Report on Form 10-Q (File No. 1-33100), for the quarter ended March 31, 2022).*
21.1	Subsidiaries of Owens Corning (filed herewith).
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith).
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) (filed herewith).
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) (filed herewith).
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.
101	The following materials from the Annual Report on Form 10-K for Owens Corning for the period ended December 31, 2022, formatted in iXBRL (Inline Extensible Business Reporting Language): (i) Consolidated Statements of Earnings (Loss); (ii) Consolidated Statements of Comprehensive Earnings (Loss); (iii) Consolidated Balance Sheets; (iv) Consolidated Statements of Stockholders' Equity, (v) Consolidated Statements of Cash Flows; (vi) related notes to these financial statements; and (vii) document and entity information.
104	The cover page from this Annual Report on Form 10-K, formatted as Inline XBRL

* Denotes management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Form 10-K.

Owens Corning agrees to furnish to the U.S. Securities and Exchange Commission, upon request, copies of all instruments defining the rights of holders of long-term debt of Owens Corning where the total amount of securities authorized under each issue does not exceed 10% of the total assets of Owens Corning and its subsidiaries on a consolidated basis.

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.

OWENS CORNING

By /s/ Brian D. Chambers — February 15, 2023
Brian D. Chambers
Chief Executive Officer
(Principal Executive Officer)

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.

/s/ Brian D. Chambers — February 15, 2023
Brian D. Chambers,
Chief Executive Officer and Director
(Principal Executive Officer)

/s/ Kenneth S. Parks — February 15, 2023
Kenneth S. Parks,
Chief Financial Officer
(Principal Financial Officer)

/s/ Kelly J. Schmidt — February 15, 2023
Kelly J. Schmidt,
Vice President and Controller

/s/ Eduardo E. Cordeiro — February 15, 2023
Eduardo E. Cordeiro,
Director

/s/ Adrienne D. Elsner — February 15, 2023
Adrienne D. Elsner,
Director

/s/ Alfred E. Festa — February 15, 2023
Alfred E. Festa,
Director

/s/ Edward F. Lonergan — February 15, 2023
Edward F. Lonergan,
Director

/s/ Maryann T. Mannen — February 15, 2023
Maryann T. Mannen,
Director

/s/ Paul E. Martin Paul E. Martin, Director	February 15, 2023
/s/ W. Howard Morris W. Howard Morris, Director	February 15, 2023
/s/ Suzanne P. Nimocks Suzanne P. Nimocks, Director	February 15, 2023
/s/ John D. Williams John D. Williams, Director	February 15, 2023

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Management's Report on Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934.

Management has assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2022 based on criteria established in the Internal Control-Integrated Framework in 2013 issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

PricewaterhouseCoopers LLP has audited the effectiveness of the internal controls over financial reporting as of December 31, 2022 as stated in their Report of Independent Registered Public Accounting Firm on page 56 hereof.

Based on our assessment, management determined that, as of December 31, 2022, the Company's internal control over financial reporting was effective.

/s/ Brian D. Chambers — February 15, 2023

Brian D. Chambers,
Chief Executive Officer
(Principal Executive Officer)

/s/ Kenneth S. Parks — February 15, 2023

Kenneth S. Parks,
Chief Financial Officer
(Principal Financial Officer)

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Owens Corning

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Owens Corning and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of earnings (loss), of comprehensive earnings (loss), of stockholders' equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes and schedule of valuation and qualifying accounts and reserves for each of the three years in the period ended December 31, 2022 appearing on page 118 (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 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, 2022, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated 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 opinions on the Company's consolidated financial statements and 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 consolidated 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 consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated 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 consolidated 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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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 Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated 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.

Indefinite-Lived Intangible Asset Impairment Assessment—Trade Name used by the European Building and Technical Insulation Business

As described in Notes 1 and 5 to the consolidated financial statements, the carrying amount of the Company's trademarks and tradenames was $1,001 million as of December 31, 2022, a portion of which related to a trade name used by the European building and technical insulation business. Management tests indefinite-lived intangible assets for impairment as of October 1st each year, or more frequently should circumstances change or events occur that would more likely than not reduce the fair value below its carrying amount. Management uses the royalty relief approach to determine whether it is more likely than not that the fair value of these assets is less than the carrying amount. When applying the royalty relief approach, management performs a discounted cash flow analysis based on the value derived from owning the trade name and being relieved from paying royalty to third parties. Significant assumptions used include the discrete period revenue growth rates, long-term EBIT margins, royalty rates, discount rates, and terminal value. In the fourth quarter of 2022, a pre-tax impairment charge of $63 million was recognized related to a trade name used by the European building and technical insulation business.

The principal considerations for our determination that performing procedures relating to the indefinite-lived intangible asset impairment assessment for a trade name used by the European building and technical insulation business is a critical audit matter are (i) the significant judgment by management when developing the fair value estimate of the trade name; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's significant assumptions related to the estimate of long-term EBIT margins and the royalty rate; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of a control relating to management's indefinite-lived intangible asset impairment assessment for a trade name used by the European building and technical insulation business, including controls over the review of significant assumptions used in the valuation of the trade name. These procedures also included, among others (i) testing management's process for developing the fair value estimate of the trade name; (ii) evaluating the appropriateness of the royalty relief approach; (iii) testing the completeness and accuracy of underlying data used in the royalty relief approach; and (iv) evaluating the reasonableness of the significant assumptions used by management related to the estimate of long-term EBIT margins and the royalty rate. Evaluating management's assumptions related to the estimate of long-term EBIT margins and the royalty rate involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the business associated with the trade name; (ii) the consistency with external market and industry data; and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the reasonableness of the royalty rate.

PricewaterhouseCoopers LLP

Toledo, Ohio
February 15, 2023

We have served as the Company's auditor since 2002.

OWENS CORNING AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EARNINGS (LOSS)
(in millions, except per share amounts)

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
NET SALES	$9,761	$8,498	$7,055
COST OF SALES	7,145	6,281	5,445
Gross margin	2,616	2,217	1,610
OPERATING EXPENSES			
Marketing and administrative expenses	803	757	664
Science and technology expenses	106	91	82
Goodwill impairment charge	—	—	944
Gain on equity method investment	(130)	—	—
Other expenses (income), net	123	(69)	58
Total operating expenses	902	779	1,748
OPERATING INCOME (LOSS)	1,714	1,438	(138)
Non-operating income	(9)	(10)	(14)
EARNINGS (LOSS) BEFORE INTEREST AND TAXES	1,723	1,448	(124)
Interest expense, net	109	126	132
Loss on extinguishment of debt	—	9	—
EARNINGS (LOSS) BEFORE TAXES	1,614	1,313	(256)
Income tax expense	373	319	129
Equity in net earnings of affiliates	—	1	—
NET EARNINGS (LOSS)	1,241	995	(385)
Net (loss) attributable to non-redeemable and redeemable noncontrolling interests	—	—	(2)
NET EARNINGS (LOSS) ATTRIBUTABLE TO OWENS CORNING	$1,241	$ 995	$ (383)
EARNINGS (LOSS) PER COMMON SHARE ATTRIBUTABLE TO OWENS CORNING COMMON STOCKHOLDERS			
Basic	$12.85	$ 9.61	$ (3.53)
Diluted	$12.70	$ 9.54	$ (3.53)
WEIGHTED AVERAGE COMMON SHARES			
Basic	96.6	103.5	108.6
Diluted	97.7	104.3	108.6

The accompanying Notes to the Consolidated Financial Statements are an integral part of this Statement.

OWENS CORNING AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS (LOSS)
(in millions)

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
NET EARNINGS (LOSS)	$1,241	$ 995	$(385)
Other comprehensive (loss) income, net of tax:			
Currency translation adjustment (net of tax of $(1), $(3) and $(4), for the periods ended December 31, 2022, 2021 and 2020, respectively)	(104)	(59)	62
Pension and other postretirement adjustment (net of tax of $(3), $(18), and $14, for the periods ended December 31, 2022, 2021 and 2020, respectively)	17	54	(46)
Hedging adjustment (net of tax of $6, $(4) and $(3), for the periods ended December 31, 2022, 2021 and 2020, respectively)	(16)	12	6
Total other comprehensive (loss) income, net of tax	(103)	7	22
TOTAL COMPREHENSIVE EARNINGS (LOSS)	1,138	1,002	(363)
Comprehensive (loss) attributable to non-redeemable and redeemable noncontrolling interests	(3)	—	(2)
COMPREHENSIVE EARNINGS (LOSS) ATTRIBUTABLE TO OWENS CORNING	$1,141	$1,002	$(361)

The accompanying Notes to the Consolidated Financial Statements are an integral part of this Statement.

OWENS CORNING AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions)

	December 31, 2022	December 31, 2021
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 1,099	$ 959
Receivables, less allowances of $11 at December 31, 2022 and $9 at December 31, 2021	961	939
Inventories	1,334	1,078
Assets held for sale	45	—
Other current assets	117	121
Total current assets	3,556	3,097
Property, plant and equipment, net	3,729	3,873
Operating lease right-of-use assets	204	158
Goodwill	1,383	990
Intangible assets, net	1,602	1,617
Deferred income taxes	16	31
Other non-current assets	262	249
TOTAL ASSETS	$10,752	$10,015
LIABILITIES AND EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 1,345	$ 1,095
Current operating lease liabilities	52	49
Other current liabilities	707	553
Total current liabilities	2,104	1,697
Long-term debt, net of current portion	2,992	2,960
Pension plan liability	78	77
Other employee benefits liability	118	157
Non-current operating lease liabilities	152	109
Deferred income taxes	388	376
Other liabilities	299	304
Total Liabilities	6,131	5,680
Redeemable noncontrolling interest	25	—
OWENS CORNING STOCKHOLDERS' EQUITY		
Preferred stock, par value $0.01 per share (a)	—	—
Common stock, par value $0.01 per share (b)	1	1
Additional paid in capital	4,139	4,092
Accumulated earnings	3,794	2,706
Accumulated other comprehensive deficit	(681)	(581)
Cost of common stock in treasury (c)	(2,678)	(1,922)
Total Owens Corning stockholders' equity	4,575	4,296
Noncontrolling interests	21	39
Total equity	4,596	4,335
TOTAL LIABILITIES AND EQUITY	$10,752	$10,015

(a) 10 shares authorized; none issued or outstanding at December 31, 2022 and December 31, 2021
(b) 400 shares authorized; 135.5 issued and 91.9 outstanding at December 31, 2022; 135.5 issued and 100.4 outstanding at December 31, 2021
(c) 43.6 shares at December 31, 2022 and 35.1 shares at December 31, 2021

The accompanying Notes to the Consolidated Financial Statements are an integral part of this Statement.

OWENS CORNING AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Common Stock Outstanding		Treasury Stock						
	Shares	Par Value	Shares	Cost	APIC (a)	Accumulated Earnings	AOCI (b)	NCI (c)	Total
Balance at December 31, 2019	**109.0**	**$ 1**	**26.5**	**$(1,130)**	**$4,051**	**$2,319**	**$(610)**	**$ 40**	**$4,671**
Net loss attributable to Owens Corning	—	—	—	—	—	(383)	—	—	(383)
Net loss attributable to non-redeemable noncontrolling interests	—	—	—	—	—	—	—	(2)	(2)
Currency translation adjustment	—	—	—	—	—	—	62	3	65
Pension and other postretirement adjustment (net of tax)	—	—	—	—	—	—	(46)	—	(46)
Deferred gain on hedging transactions (net of tax)	—	—	—	—	—	—	6	—	6
Issuance of common stock under share-based payment plans	1.1	—	(1.1)	48	(33)	—	—	—	15
Purchases of treasury stock	(4.5)	—	4.5	(318)	—	—	—	—	(318)
Stock-based compensation expense	—	—	—	—	41	—	—	—	41
Dividends declared (d)	—	—	—	—	—	(107)	—	(1)	(108)
Balance at December 31, 2020	**105.6**	**$ 1**	**29.9**	**$(1,400)**	**$4,059**	**$1,829**	**$(588)**	**$ 40**	**$3,941**
Net earnings attributable to Owens Corning	—	—	—	—	—	995	—	—	995
Currency translation adjustment	—	—	—	—	—	—	(59)	(1)	(60)
Pension and other postretirement adjustment (net of tax)	—	—	—	—	—	—	54	—	54
Deferred gain on hedging transactions (net of tax)	—	—	—	—	—	—	12	—	12
Issuance of common stock under share-based payment plans	1.0	—	(1.0)	48	(17)	—	—	—	31
Purchases of treasury stock	(6.2)	—	6.2	(570)	—	—	—	—	(570)
Stock-based compensation expense	—	—	—	—	50	—	—	—	50
Dividends declared (d)	—	—	—	—	—	(118)	—	—	(118)
Balance at December 31, 2021	**100.4**	**$ 1**	**35.1**	**$(1,922)**	**$4,092**	**$2,706**	**$(581)**	**$ 39**	**$4,335**
Net earnings attributable to Owens Corning	—	—	—	—	—	1,241	—	—	1,241
Net earnings attributable to non-redeemable noncontrolling interests	—	—	—	—	—	—	—	2	2
Redeemable noncontrolling interest adjustment to redemption value	—	—	—	—	(2)	—	—	—	(2)
Currency translation adjustment	—	—	—	—	—	—	(101)	(3)	(104)
Pension and other postretirement adjustment (net of tax)	—	—	—	—	—	—	17	—	17
Deferred loss on hedging transactions (net of tax)	—	—	—	—	—	—	(16)	—	(16)
Purchases of noncontrolling interest	—	—	—	—	8	—	—	(17)	(9)
Issuance of common stock under share-based payment plans	0.7	—	(0.7)	39	(10)	—	—	—	29
Purchases of treasury stock	(9.2)	—	9.2	(795)	—	—	—	—	(795)
Stock-based compensation expense	—	—	—	—	51	—	—	—	51
Dividends declared (d)	—	—	—	—	—	(153)	—	—	(153)
Balance at December 31, 2022	**91.9**	**$ 1**	**43.6**	**$(2,678)**	**$4,139**	**$3,794**	**$(681)**	**$ 21**	**$4,596**

(a) Additional Paid in Capital (APIC)

(b) Accumulated Other Comprehensive Earnings (Deficit) ("AOCI")

(c) Noncontrolling Interest ("NCI")

(d) Dividend declarations of $1.57 per share as of December 31, 2022, $1.13 per share as of December 31, 2021, and $0.98 per share as of December 31, 2020.

The accompanying Notes to the Consolidated Financial Statements are an integral part of this Statement.

OWENS CORNING AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
NET CASH FLOW PROVIDED BY OPERATING ACTIVITIES			
Net earnings (loss)	$1,241	$ 995	$ (385)
Adjustments to reconcile net earnings (loss) to cash provided by operating activities:			
Depreciation and amortization	531	502	493
Deferred income taxes	37	44	86
Provision for pension and other employee benefits liabilities	2	2	(3)
Stock-based compensation expense	51	50	41
Goodwill impairment charge	—	—	944
Intangible assets impairment charge	96	—	43
Loss on extinguishment of debt	—	9	—
Gains on sale of certain precious metals	(18)	(53)	(26)
Gain on equity method investment	(130)	—	—
Net loss on sale of assets or affiliates	36	—	—
Other adjustments to reconcile net earnings (loss) to cash provided by operating activities	2	9	(14)
Change in operating assets and liabilities:			
Changes in receivables, net	(14)	(28)	(109)
Changes in inventories	(287)	(227)	189
Changes in accounts payable and accrued liabilities	363	302	25
Changes in other operating assets and liabilities	(81)	(65)	(11)
Pension fund contributions	(8)	(21)	(122)
Payments for other employee benefits liabilities	(11)	(13)	(13)
Other	(50)	(3)	(3)
Net cash flow provided by operating activities	1,760	1,503	1,135
NET CASH FLOW USED FOR INVESTING ACTIVITIES			
Cash paid for property, plant and equipment	(446)	(416)	(307)
Derivative settlements	44	(4)	50
Proceeds from the sale of assets or affiliates	212	89	52
Investment in subsidiaries and affiliates, net of cash acquired	(417)	(42)	—
Other	(16)	(4)	—
Net cash flow used for investing activities	(623)	(377)	(205)
NET CASH FLOW USED FOR FINANCING ACTIVITIES			
Proceeds from senior revolving credit and receivables securitization facilities	—	—	876
Payments on senior revolving credit and receivables securitization facilities	—	—	(876)
Payments on term loan borrowing	—	—	(200)
Proceeds from long-term debt	—	—	297
Payments on long-term debt	—	(193)	—
Purchase of noncontrolling interest	(9)	—	—
Dividends paid	(136)	(108)	(104)
Net (decrease) increase in short-term debt	(5)	4	(19)
Purchases of treasury stock	(795)	(570)	(318)
Finance lease payments	(30)	(23)	(16)
Other	1	9	2
Net cash flow used for financing activities	(974)	(881)	(358)
Effect of exchange rate changes on cash	(22)	(3)	(27)
Net increase in cash, cash equivalents and restricted cash	141	242	545
Cash, cash equivalents and restricted cash at beginning of period	966	724	179
CASH, CASH EQUIVALENTS AND RESTRICTED CASH AT END OF PERIOD	$1,107	$ 966	$ 724
DISCLOSURE OF CASH FLOW INFORMATION			
Cash paid during the year for income taxes	$ 319	$ 244	$ 78
Cash paid during the year for interest	$ 123	$ 133	$ 135

The accompanying Notes to the Consolidated Financial Statements are an integral part of this Statement.

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

Owens Corning, a Delaware corporation, is a global building and construction materials leader committed to building a sustainable future through material innovation. The Company operates within three segments: Composites, Insulation and Roofing. Through these lines of business, Owens Corning manufactures and sells products worldwide. The Company maintains leading market positions in many of its major product categories.

General

On February 2, 2023, the Board of Directors declared a quarterly dividend of $0.52 per common share payable on April 6, 2023 to shareholders of record as of March 3, 2023.

Basis of Presentation

Unless the context requires otherwise, the terms “Owens Corning,” “Company,” “we” and “our” in these notes refer to Owens Corning and its subsidiaries.

The accompanying Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States.

Principles of Consolidation

The Consolidated Financial Statements of the Company include the accounts of majority-owned subsidiaries. Intercompany accounts and transactions are eliminated.

Reclassifications

Certain reclassifications have been made to the 2021 and 2020 Consolidated Financial Statements and Notes to the Consolidated Financial Statements to conform to the classifications used in 2022.

Use of Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates.

Revenue Recognition

We recognize revenue as the amount of consideration that we expect to receive in exchange for transferring promised goods or services to customers. We do not adjust the transaction price for the effects of a significant financing component, as the time period between control transfer of goods and services and expected payment is one year or less. At the time of sale, we estimate provisions for different forms of variable consideration (discounts, rebates, returns and other refund liabilities) based on historical experience, current conditions and contractual obligations, as applicable. The estimated transaction price is typically not subject to significant

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

reversals. We adjust these estimates when the most likely amount of consideration we expect to receive changes, although these changes are typically minor. Sales, value-added and other similar taxes that we collect are excluded from revenue.

Many of our customer volume commitments are short-term and our performance obligations are generally limited to single purchase orders. Substantially all of our revenue is recognized at a point-in-time when control of goods transfers to the customer. Control transfer typically occurs when goods are shipped from our facilities or at other predetermined control transfer points (for instance, destination terms or consignment arrangements).

We typically do not satisfy performance obligations without obtaining an unconditional right to payment from customers and, therefore, do not carry contract asset balances on the Consolidated Balance Sheets. Contract liability balances are recorded separately from receivables on the Consolidated Balance Sheets in either Total current liabilities or Other liabilities, depending on the timing of performance obligation satisfaction.

We sell separately-priced warranties that extend certain product and workmanship coverages beyond our standard product warranty, which is described in Note 12. The up-front consideration on extended warranty contracts is deferred and recognized as revenue over time, based on the respective coverage period, ranging from 16 to 20 years. On an annual basis, we expect to recognize approximately $6 million of revenue associated with these extended warranty contracts. Additionally, in certain limited cases, we receive consideration before goods or services are transferred to the customer. These customer down payments and deposits are deferred, and typically recognized as revenue in the following quarter when we satisfy the related performance obligations.

As of December 31, 2022, our contract liability balances (for extended warranties, down payments and deposits, collectively) totaled $89 million. As of December 31, 2021, our contract liability balances totaled $76 million, of which $17 million was recognized as revenue throughout 2022. As of December 31, 2020, our contract liability balances (for extended warranties, down payments and deposits, collectively) totaled $66 million, of which $17 million was recognized as revenue throughout 2021. As of December 31, 2019, our contract liability balances (for extended warranties, down payments and deposits, collectively) totaled $60 million, of which $19 million was recognized as revenue throughout 2020.

As a practical expedient, we recognize incremental costs of obtaining a contract, if any, as an expense when incurred if the amortization period of the asset would have been one year or less. We do not have any costs to obtain or fulfill a contract that are capitalized under Accounting Standards Codification (ASC) 606.

Cost of Sales

Cost of sales includes material, labor, energy and manufacturing overhead costs, including depreciation and amortization expense associated with the manufacture and distribution of the Company's products. Provisions for warranties are provided in the same period that the related sales are recorded and are based on historical experience, current conditions and contractual obligations, as applicable. Distribution costs include inbound freight costs; purchasing and receiving costs; inspection costs; warehousing costs; shipping and handling costs, which include costs incurred relating to preparing, packaging, and shipping products to customers; and other costs of the Company's distribution network. We account for shipping and handling activities that occur after control of the related good transfers as fulfillment activities instead of performance obligations. All shipping and handling costs billed to the customer are included as net sales in the Consolidated Statements of Earnings (Loss).

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Marketing and Advertising Expenses

Marketing and advertising expenses are included in Marketing and administrative expenses. These costs include advertising and marketing communications, which are expensed the first time the advertisement takes place. Marketing and advertising expenses for the years ended December 31, 2022, 2021 and 2020 were $125 million, $110 million and $98 million, respectively.

Science and Technology Expenses

The Company incurs certain expenses related to science and technology. These expenses include salaries, building and equipment costs, utilities, administrative expenses, materials and supplies associated with the improvement and development of the Company's products and manufacturing processes. These costs are expensed as incurred.

Earnings per Share

Basic earnings (loss) per share are computed using the weighted-average number of common shares outstanding during the period. Diluted earnings (loss) per share reflect the dilutive effect of common equivalent shares and increased shares that would result from the conversion of equity securities. The effects of anti-dilution are not presented.

Cash, Cash Equivalents and Restricted Cash

The Company defines cash and cash equivalents as cash and time deposits with maturities of three months or less when purchased. On the Consolidated Statements of Cash Flows, the total of Cash, cash equivalents and restricted cash includes restricted cash of $8 million, $7 million and $7 million as of December 31, 2022, 2021 and 2020, respectively. Restricted cash primarily represents amounts received from a counterparty related to its performance assurance on an executory contract, and is included in Other current assets on the Consolidated Balance Sheets. These amounts are contractually required to be set aside, and the counterparty can exchange the cash for another form of performance assurance at its discretion.

Accounts Receivable

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. Consistent with the requirements of ASU 2016-13, "Financial Instruments—Credit Losses (Topic 236)," the allowance for credit losses is based on the Company's assessment of the expected losses of customer accounts. The Company regularly reviews the allowance by considering factors such as historical experience, credit quality, the age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay. Account balances are charged off against the allowance when the Company believes it is probable the receivable will not be recovered.

Inventory Valuation

Inventory costs include material, labor, and manufacturing overhead costs, including depreciation and amortization expense associated with the manufacture and distribution of the Company's products. Inventories are stated at lower of cost or net realizable value and expense estimates are made for excess and obsolete inventories. Cost is determined by the first-in, first-out ("FIFO") method.

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Investments in Affiliates

The Company accounts for investments in affiliates of 20% to 50% ownership when the Company does not have a controlling financial interest using the equity method under which the Company's share of earnings and losses of the affiliate is reflected in earnings, and dividends are credited against the investment in affiliate when declared. Investments in affiliates are recorded in Other non-current assets on the Consolidated Balance Sheets, and as of December 31, 2022 and 2021, the total value of investments was $27 million and $45 million, respectively.

Goodwill and Other Intangible Assets

Goodwill assets are not amortized but are tested for impairment on at least an annual basis. The Company has the option to use a qualitative approach to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value as a basis for determining whether it is necessary to perform a quantitative test. In the current year, as part of the annual assessment, the Company elected to use the qualitative approach for all of its reporting units.

Events and circumstances we consider in performing the qualitative assessment include macro-economic conditions, market and industry conditions, internal cost factors, and the operational stability and the overall financial performance of the reporting units. When it is determined necessary for the Company to perform the quantitative testing process for goodwill, the Company estimates fair values using a discounted cash flow approach from the perspective of a market participant. Significant assumptions used in the discounted cash flow approach are revenue growth rates and earnings before interest and taxes ("EBIT") margins used in estimating discrete period cash flow forecasts of the reporting unit, the discount rate, and the long-term revenue growth rate and EBIT margins used in estimating the terminal business value. The cash flow forecasts of the reporting units are based upon management's long-term view of our markets and are the forecasts that are used by senior management and the Board of Directors to evaluate operating performance. The discount rate utilized is management's estimate of what the market's weighted average cost of capital is for a company with a similar debt rating and stock volatility, as measured by beta. The terminal business value is determined by applying the long-term growth rate to the latest year for which a forecast exists. As part of our goodwill quantitative testing process, we would evaluate whether there are reasonably likely changes to management's estimates that would have a material impact on the results of the goodwill impairment testing.

Other indefinite-lived intangible assets are not amortized but are tested for impairment on at least an annual basis or when determined to have a finite useful life. Substantially all of the indefinite-lived intangible assets are in trademarks and trade names. The Company uses the royalty relief approach to determine whether it is more likely than not that the fair value of these assets is less than its carrying amount. This review is performed annually, or when circumstances arise which indicate there may be impairment. When applying the royalty relief approach, the Company performs a discounted cash flow analysis based on the value derived from owning these trademarks and trade names and being relieved from paying royalty to third parties. Significant assumptions used include the discrete period revenue growth rates, long-term EBIT margins, royalty rates, discount rates, and terminal value.

The inputs for the goodwill and indefinite-lived intangible tests are considered Level 3 inputs under the fair value hierarchy as they are the Company's own data, and are unobservable in the marketplace. Indefinite-lived intangible assets purchased through acquisition are generally tested qualitatively for impairment in the first year following the acquisition before transitioning to the standard methodology described herein in subsequent years.

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Please refer to Note 5 for additional disclosures related to Goodwill and Other Intangible Assets.

Emissions Rights

The Company is allotted carbon emission credit allowances ("emissions rights") from several of the governments under which it operates. These emissions rights are recorded at market value as of the date of issuance and are classified as Intangible assets on the Consolidated Balance Sheets. When the Company emits more than the allotted amounts, additional emissions rights must be purchased.

Properties and Depreciation

Property, plant and equipment are stated at cost and depreciated over their estimated useful lives using the straight-line method. When assets are disposed or otherwise retired, Property, plant and equipment accounts are relieved of the cost and related accumulated depreciation and any gain or loss is included in the Consolidated Statements of Earnings (Loss).

Precious metals used in our production tooling are included in property, plant and equipment and are depleted as they are consumed during the production process. Depletion typically represents an annual expense of less than 3% of the outstanding value and is recorded in Cost of sales on the Consolidated Statements of Earnings (Loss).

The range of useful lives for the major components of the Company's plant and equipment is as follows:

Buildings and leasehold improvements	15 – 40 years
Machinery and equipment	
Furnaces	4 – 15 years
Information systems	5 – 10 years
Equipment	5 – 20 years

Expenditures for normal maintenance and repairs are expensed as incurred.

Asset Impairments

The Company evaluates tangible and intangible long-lived assets for impairment when triggering events have occurred. This requires significant assumptions including projected cash flows, projected income tax rate and terminal business value. These inputs are considered Level 3 inputs under the fair value hierarchy as they are the Company's own data, and are unobservable in the marketplace. Changes in management intentions, market conditions or operating performance could indicate that impairment charges might be necessary that could be material to the Company's Consolidated Financial Statements in any given period. Please refer to Note 5 for additional detail on impairment charges recorded in 2022 and 2020.

Supplier Finance Programs

We review supplier terms and conditions on an ongoing basis, and have negotiated payment terms extensions in recent years in connection with our efforts to reduce working capital and improve cash flow. Separate from those terms extension actions, certain of our subsidiaries have entered into paying agency agreements with third-party administrators. These voluntary supply chain finance programs (collectively, the "Programs") generally give

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

participating suppliers the ability to sell, or otherwise pledge as collateral, their receivables from the Company to the participating financial institutions, at the sole discretion of both the suppliers and financial institutions. The Company is not a party to the arrangements between the suppliers and the financial institutions. The Company's obligations to its suppliers, including amounts due and scheduled payment dates, are not impacted by the suppliers' decisions to sell, or otherwise pledge as collateral, amounts under these arrangements. The Company's payment terms to the financial institutions, including the timing and amount of payments, are based on the original supplier invoices. One of our programs includes a parent guarantee to the participating financial institution for a certain U.S. subsidiary that, at the time of the respective program's inception in 2015, was a guarantor subsidiary of the Company's Credit Agreement. The obligations are presented as Accounts payable within Total current liabilities on the Consolidated Balance Sheets and all activity related to the obligations is presented within operating activities on the Consolidated Statements of Cash Flow.

The Company's outstanding obligations under the programs for the twelve months ended December 31, 2022 and 2021 are as follows:

	Twelve Months Ended December 31,	
	2022	2021
Confirmed obligations outstanding at the beginning of the year	$ 226	$ 170
Invoices confirmed during the year	656	587
Confirmed invoices paid during the year	(648)	(531)
Confirmed obligations outstanding at the end of the year	$ 234	$ 226

Income Taxes

The Company recognizes current tax liabilities and assets for the estimated taxes payable or refundable on the tax returns for the current year. Deferred tax balances reflect the impact of temporary differences between the carrying amount of assets and liabilities and their tax basis. Amounts are stated at enacted tax rates expected to be in effect when taxes are actually paid or recovered. In addition, realization of certain deferred tax assets is dependent upon our ability to generate future taxable income. The Company records a valuation allowance to reduce its deferred tax assets to the amount that it believes is more likely than not to be realized. In addition, the Company estimates tax reserves to cover potential taxing authority claims for income taxes and interest attributable to audits of open tax years. Please refer to Note 21 for additional disclosures related to Income Taxes.

Taxes Collected from Customers and Remitted to Government Authorities and Taxes Paid to Vendors

Taxes are assessed by various governmental authorities at different rates on many different types of transactions. The Company charges sales tax or value-added tax (VAT) on sales to customers where applicable, as well as captures and claims back all available VAT that has been paid on purchases. VAT is recorded in separate payable or receivable accounts and does not affect revenue or cost of sales line items in the income statement. VAT receivable is recorded as a percentage of qualifying purchases at the time the vendor invoice is processed. VAT payable is recorded as a percentage of qualifying sales at the time an Owens Corning sale to a customer subject to VAT occurs. Amounts are paid to the taxing authority according to the method and collection prescribed by local regulations. Where applicable, VAT payable is netted against VAT receivable. The Company also pays sales tax to vendors who include a tax, required by government regulations, to the purchase price charged to the Company.

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Pension and Other Postretirement Benefits

Accounting for pensions and other postretirement benefits involves estimating the cost of benefits to be provided well into the future and attributing that cost over the time period each employee works. To accomplish this, extensive use is made of assumptions about investment returns, discount rates, inflation, mortality, turnover and medical costs. Please refer to Notes 15 and 16 for additional disclosures related to Pension Plans and Other Postretirement Benefits, respectively.

Derivative Financial Instruments

The Company recognizes all derivative instruments as either assets or liabilities at fair value on the balance sheet. Please refer to Note 4 for further disclosure on derivatives.

The Company performs an analysis for effectiveness of its derivatives designated as hedging instruments at the end of each quarter based on the terms of the contracts and the underlying items being hedged. The change in the fair value of cash flow hedges is deferred in Accumulated other comprehensive income (deficit) ("AOCI") and is subsequently recognized in Cost of sales (for commodity and foreign currency cash flow hedges) on the Consolidated Statements of Earnings (Loss) in order to mirror the location of the hedged items impacting earnings. Cash settlements for commodity and foreign currency hedges qualifying as cash flow hedges are included in Operating activities in the Consolidated Statements of Cash Flows.

The Company has translation exposure resulting from translating the financial statements of foreign subsidiaries into U.S. Dollars, which is recognized in Currency translation adjustment (a component of AOCI). The Company uses cross-currency forward contracts to hedge portions of the net investment in foreign subsidiaries against fluctuations in foreign exchange rates. The changes in fair values of these derivative instruments are recognized in Currency translation adjustment (a component of AOCI), with recognition of the excluded components amortized to Interest expense, net on the Consolidated Statements of Earnings (Loss). Cash settlements for derivatives qualifying as net investment hedges are included in Investing activities in the Consolidated Statements of Cash Flows.

The Company uses forward currency exchange contracts to manage existing exposures to foreign exchange risk related to assets and liabilities recorded on the Consolidated Balance Sheets. Gains and losses resulting from the changes in fair value of these instruments are recorded in Other expenses (income), net on the Consolidated Statements of Earnings (Loss), and are substantially offset by net revaluation impacts on foreign currency denominated balance sheet exposures (which are also recorded in Other expenses (income), net). Cash settlements for non-designated derivatives are included in the Consolidated Statements of Cash Flows in the category that is consistent with the nature of the derivative instrument, which is generally the same category as the underlying item being hedged.

Fair Value Measurements

The carrying value of cash and cash equivalents, accounts receivable and short-term debt approximate fair value because of the short-term maturity of the instruments.

Please refer to Notes 4, 14 and 15 for fair value disclosures of derivative financial instruments, long-term debt and pension plans.

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Foreign Currency

The functional currency of the Company's subsidiaries is generally the applicable local currency. Assets and liabilities of foreign subsidiaries are translated into United States Dollars at the period-end rate of exchange, and their Statements of Earnings (Loss) and Statements of Cash Flows are converted on an ongoing basis at the monthly average rate. The resulting translation adjustment is included in AOCI in the Consolidated Balance Sheets and Consolidated Statements of Stockholders' Equity. Transaction gains and losses that arise from exchange rate fluctuations on transactions denominated in a currency other than the functional currency are recorded in Other expenses (income), net in the Consolidated Statements of Earnings (Loss) as incurred. As discussed in the Derivative Financial Instruments section above, the Company uses non-designated foreign currency derivative financial instruments to mitigate this risk. The Company recorded foreign currency transactional (losses)/gains, net of associated derivative activity, of $(4) million, $1 million and $6 million during the years ended December 31, 2022, 2021, and 2020, respectively. Please refer to Note 4 for additional disclosures related to non-designated derivatives.

Related Party Transactions

In the first quarter of 2021, a related party relationship was established as a result of a member of the Company's Board of Directors being named an executive officer of one of the Company's preexisting suppliers. The related party transactions with this supplier consist of the purchase of raw materials. Purchases from the related party supplier were $129 million for the year ended December 31, 2022. As of December 31, 2022, amounts due to the related party supplier were $3 million. Purchases from the related party supplier were $87 million for the year ended December 31, 2021. As of December 31, 2021, amounts due to the related party supplier were $1 million.

Accounting Pronouncements

The following table summarizes recent accounting standard updates (ASU) issued by the Financial Accounting Standards Board (FASB) that could have an impact on the Company's Consolidated Financial Statements:

Standard	Description	Effective Date for Company	Effect on the Consolidated Financial Statements
Recently adopted standards:			
ASU 2021-10 "Government Assistance (Topic 832)"	This standard modifies the annual disclosure requirements for business entities that receive government assistance and use a grant or contribution accounting model by analogy to other account guidance.	January 1, 2022	The Company has adopted this standard for the year ending December 31, 2022. The adoption of this guidance did not have a material effect on our consolidated financial statements.

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Standard	Description	Effective Date for Company	Effect on the Consolidated Financial Statements
ASU 2022-04 "Liabilities—Supplier Finance Programs (Subtopic 405-50)"	This standard modifies the annual and interim disclosure requirements for entities which participate in a supplier finance program.	October 1, 2022	The Company has adopted this standard for the year ending December 31, 2022. Please refer to the Supplier Finance Programs section above in Note 1 of the Consolidated Financial Statements for additional detail.

2. SEGMENT INFORMATION

The Company has three reportable segments: Composites, Insulation and Roofing. Accounting policies for the segments are the same as those for the Company. The Company's three reportable segments are defined as follows:

Composites – Within our Composites segment, the Company manufactures, fabricates and sells glass reinforcements in the form of fiber. Glass reinforcement materials are also used by the Composites segment to manufacture and sell high value applications in the form of fabrics, non-wovens and other specialized products.

Insulation – Within our Insulation segment, the Company manufactures and sells thermal and acoustical batts, loosefill insulation, spray foam insulation, foam sheathing and accessories. It also manufactures and sells glass fiber pipe insulation, energy efficient flexible duct media, bonded and granulated mineral wool insulation, cellular glass insulation, and foam insulation used in above- and below-grade construction applications.

Roofing – Within our Roofing segment, the Company manufactures and sells residential roofing shingles, oxidized asphalt materials, roofing components used in residential and commercial construction and specialty applications, and synthetic packaging materials.

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

2. SEGMENT INFORMATION (continued)

NET SALES

The following tables show a disaggregation of our net sales by segment and geographic region (in millions). Corporate eliminations (shown below) largely reflect intercompany sales from Composites to Roofing. External customer sales are attributed to geographic region based upon the location from which the product is sold to the external customer.

	Twelve Months Ended December 31, 2022				
Reportable Segments	**Composites**	**Insulation**	**Roofing**	**Eliminations**	**Consolidated**
Disaggregation Categories					
U.S. residential	$ 352	$1,523	$3,355	$(262)	$4,968
U.S. commercial and industrial	872	796	160	(4)	1,824
Total United States	1,224	2,319	3,515	(266)	6,792
Europe	671	805	21	(5)	1,492
Asia-Pacific	550	160	6	—	716
Rest of world	215	430	116	—	761
NET SALES	$2,660	$3,714	$3,658	$(271)	$9,761

	Twelve Months Ended December 31, 2021				
Reportable Segments	**Composites**	**Insulation**	**Roofing**	**Eliminations**	**Consolidated**
Disaggregation Categories					
U.S. residential	$ 312	$1,194	$2,958	$(230)	$4,234
U.S. commercial and industrial	637	705	120	—	1,462
Total United States	949	1,899	3,078	(230)	5,696
Europe	653	718	19	(6)	1,384
Asia-Pacific	552	187	7	—	746
Rest of world	187	380	105	—	672
NET SALES	$2,341	$3,184	$3,209	$(236)	$8,498

	Twelve Months Ended December 31, 2020				
Reportable Segments	**Composites**	**Insulation**	**Roofing**	**Eliminations**	**Consolidated**
Disaggregation Categories					
U.S. residential	$ 272	$ 949	$2,450	$(204)	$3,467
U.S. commercial and industrial	538	603	133	—	1,274
Total United States	810	1,552	2,583	(204)	4,741
Europe	524	609	14	(1)	1,146
Asia-Pacific	495	158	11	—	664
Rest of world	131	288	87	(2)	504
NET SALES	$1,960	$2,607	$2,695	$(207)	$7,055

2. SEGMENT INFORMATION (continued)

Our contracts with customers are broadly similar in nature throughout our reportable segments, but the amount, timing and uncertainty of revenue and cash flows may vary in each reportable segment due to geographic and end-market economic factors.

Sales to major customer – No individual customers accounted for 10% or more of consolidated sales in 2022 or 2020. One customer, which is a customer of both the Roofing and Insulation segments, accounted for $895 million (11%) of consolidated sales in 2021.

In the United States, sales are primarily related to the residential housing market and commercial and industrial applications. Residential market demand is driven by housing starts and repair and remodeling activity (influenced by existing home sales, seasonal home improvement and damage from major storms). Significant portions of our residential products across our three reportable segments are used interchangeably in both new construction and repair and remodeling, and our customers typically distribute (or use) the products for both applications. U.S. commercial and industrial revenues are largely driven by U.S. industrial production growth, commercial construction activity and overall economic conditions in the U.S.

Outside of the United States (Europe, Asia-Pacific and Rest of world), sales are primarily related to commercial and industrial applications and, to a lesser extent, residential applications in certain countries. Throughout the international regions, demand is primarily driven by industrial production growth, commercial construction activity and overall economic conditions in each respective geographical region.

EARNINGS BEFORE INTEREST AND TAXES

Earnings (loss) before interest and taxes (EBIT) by segment consists of net sales less related costs and expenses and are presented on a basis that is used internally for evaluating segment performance. Certain items, such as general corporate expenses or income and certain other expense or income items, are excluded from the internal evaluation of segment performance. Accordingly, these items are not reflected in EBIT for our reportable segments and are included within Corporate, Other and Eliminations.

2. SEGMENT INFORMATION (continued)

The following table summarizes EBIT by segment (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Reportable Segments			
Composites	$ 498	$ 376	$ 165
Insulation	612	446	250
Roofing	831	753	591
Total reportable segments	1,941	1,575	1,006
Restructuring costs	(48)	(34)	(41)
Gain on sale of land in India	—	15	—
Gain on sale of Shanghai, China facility	27	—	—
Gains on sale of certain precious metals	18	53	26
Goodwill impairment charge	—	—	(944)
Intangible assets impairment charge	(96)	—	(43)
Acquisition and divestiture-related costs	(7)	—	—
Recognition of acquisition inventory fair value step-up	—	(1)	—
Loss on sale of Chambery, France DUCS business	(30)	—	—
Loss on sale of Russian operations	(33)	—	—
Gain on remeasurement of Fiberteq equity investment	130	—	—
General corporate expense and other	(179)	(160)	(128)
Total Corporate, other and eliminations	(218)	(127)	(1,130)
EBIT	$1,723	$1,448	$ (124)

TOTAL ASSETS AND PROPERTY, PLANT AND EQUIPMENT

The following table summarizes total assets by segment and property, plant and equipment by geographic region (in millions):

	December 31,	
TOTAL ASSETS	2022	2021
Reportable Segments		
Composites	$ 3,202	$ 2,599
Insulation	3,930	3,937
Roofing	1,897	1,884
Total reportable segments	9,029	8,420
Cash and cash equivalents	1,099	959
Noncurrent deferred income taxes	16	31
Investments in affiliates	27	45
Assets held for sale	45	—
Corporate property, plant and equipment, other assets and eliminations	536	560
CONSOLIDATED TOTAL ASSETS	$10,752	$10,015

2. SEGMENT INFORMATION (continued)

PROPERTY, PLANT AND EQUIPMENT BY GEOGRAPHIC REGION	December 31, 2022	2021
United States	$2,383	$2,262
Europe	541	742
Asia-Pacific	541	608
Rest of world	264	261
TOTAL PROPERTY, PLANT AND EQUIPMENT	$3,729	$3,873

PROVISION FOR DEPRECIATION AND AMORTIZATION

The following table summarizes the provision for depreciation and amortization by segment (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Reportable Segments			
Composites	$175	$162	$159
Insulation	206	208	201
Roofing	62	59	59
Total reportable segments	443	429	419
General corporate depreciation and amortization (a)	88	73	74
CONSOLIDATED PROVISION FOR DEPRECIATION AND AMORTIZATION	$531	$502	$493

(a) In 2022, 2021 and 2020, General corporate depreciation and amortization expense included $26 million, $13 million and $20 million, respectively, of accelerated depreciation related to restructuring actions further explained in Note 13 to the Consolidated Financial Statements.

ADDITIONS TO PROPERTY, PLANT AND EQUIPMENT

The following table summarizes cash paid for property, plant and equipment by segment (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Reportable Segments			
Composites	$151	$153	$ 95
Insulation	196	144	136
Roofing	50	54	44
Total reportable segments	397	351	275
General corporate additions	49	65	32
CONSOLIDATED ADDITIONS TO PROPERTY, PLANT AND EQUIPMENT	$446	$416	$307

3. INVENTORIES

Inventories consist of the following (in millions):

	December 31,	
	2022	2021
Finished goods	$ 843	$ 672
Materials and supplies	491	406
Total inventories	$1,334	$1,078

4. DERIVATIVE FINANCIAL INSTRUMENTS

The Company is exposed to, among other risks, the impact of changes in commodity prices, foreign currency exchange rates, and interest rates in the normal course of business. The Company's risk management program is designed to manage the exposure and volatility arising from these risks, and utilizes derivative financial instruments to offset a portion of these risks. The Company uses derivative financial instruments only to the extent necessary to hedge identified business risks, and does not enter into such transactions for trading purposes.

The Company generally does not require collateral or other security with counterparties to these financial instruments and is therefore subject to credit risk in the event of nonperformance; however, the Company monitors credit risk and currently does not anticipate nonperformance by other parties. Contracts with counterparties generally contain right of offset provisions. These provisions effectively reduce the Company's exposure to credit risk in situations where the Company has gain and loss positions outstanding with a single counterparty. It is the Company's policy to offset on the Consolidated Balance Sheets the amounts recognized for derivative instruments with any cash collateral arising from derivative instruments executed with the same counterparty under a master netting agreement. As of December 31, 2022 and 2021, the Company did not have any amounts on deposit with any of its counterparties, nor did any of its counterparties have any amounts on deposit with the Company.

Derivative Fair Values

Our derivatives consist of natural gas forward swaps, cross-currency swaps, foreign exchange forward contracts and U.S. treasury rate lock agreements, all of which are over-the-counter and not traded through an exchange. The Company uses widely accepted valuation tools to determine fair value, such as discounting cash flows to calculate a present value for the derivatives. The models use Level 2 inputs, such as forward curves and other commonly quoted observable transactions and prices. The fair value of our derivatives and hedging instruments are all classified as Level 2 investments within the three-tier hierarchy.

4. DERIVATIVE FINANCIAL INSTRUMENTS (continued)

The following table presents the fair value of derivatives and hedging instruments and the respective location on the Consolidated Balance Sheets (in millions):

	Location	Fair Value at December 31, 2022	Fair Value at December 31, 2021
Derivative assets designated as hedging instruments:			
Net investment hedges:			
Cross currency swaps	Other current assets	$ —	$ 5
Cross currency swaps	Other non-current assets	$ —	$ 1
Cash flow hedges:			
Natural gas forward swaps	Other current assets	$ 2	$ 16
Treasury interest rate lock	Other current assets	$ —	$ 11
Derivative liabilities designated as hedging instruments:			
Net investment hedges:			
Cross-currency swaps	Other liabilities	$ —	$ 1
Cash flow hedges:			
Natural gas forward swaps	Other current liabilities	$ 32	$ 5
Foreign exchange forward contracts	Other current liabilities	$ —	$ 2
Derivative assets not designated as hedging instruments:			
Foreign exchange forward contracts	Other current assets	$ 1	$ 1
Derivative liabilities not designated as hedging instruments:			
Foreign exchange forward contracts	Other current liabilities	$ 2	$ 6

OWENS CORNING AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

4. DERIVATIVE FINANCIAL INSTRUMENTS (continued)

Consolidated Statements of Earnings (Loss) Activity

The following table presents the impact and respective location of derivative activities on the Consolidated Statements of Earnings (Loss) (in millions):

		Twelve Months Ended December 31,		
	Location	2022	2021	2020
Derivative activity designated as hedging instruments:				
Natural gas cash flow hedges:				
Amount of (gain) loss reclassified from AOCI (as defined below) into earnings (a)	Cost of sales	$(52)	$ (15)	$ 5
Cross-currency swap net investment hedges:				
Amount of gain recognized in earnings on derivative amounts excluded from effectiveness testing	Interest expense, net	$ (1)	$ (5)	$ (8)
Derivative activity not designated as hedging instruments:				
Foreign currency:				
Amount of (gain) loss recognized in earnings (b)	Other expenses (income), net	$(29)	$ (41)	$ 41
Treasury interest rate lock:				
Amount of gain recognized in earnings	Other expenses (income), net	$ (6)	$ —	$ —

(a) Accumulated Other Comprehensive Earnings (Deficit) ("AOCI")

(b) (Gains)/losses related to foreign currency derivatives were substantially offset by net revaluation impacts on foreign currency denominated balance sheet exposures, which were also recorded in Other expenses (income), net. Please refer to the "Other Derivatives" section below for additional detail.

Consolidated Statements of Comprehensive Earnings (Loss) Activity

The following table presents the impact of derivative activities on the Consolidated Statements of Comprehensive Earnings (Loss) (in millions):

		Amount of (Gain) Loss Recognized in Comprehensive Earnings (Loss)	
		Twelve Months Ended December 31,	
Hedging Type	Derivative Financial Instrument	2022	2021
Net investment hedge	Cross-currency swaps	$ (5)	$ (12)
Cash flow hedge	Natural gas forward swaps	$ 40	$ (10)
Cash flow hedge	Treasury interest rate lock	$ (20)	$ (7)
Cash flow hedge	Foreign exchange forward contracts	$ —	$ 2

Cash Flow Hedges

The Company uses a combination of derivative financial instruments, which qualify as cash flow hedges, and physical contracts to manage forecasted exposure to electricity and natural gas prices. As of December 31, 2022,

4. DERIVATIVE FINANCIAL INSTRUMENTS (continued)

the notional amounts of these natural gas forward swaps were 8 million MMBTu (or MMBTu equivalent based on U.S. and European indices), compared with the notional amounts of 6 million MMBTu at December 31, 2021.

In March 2020, the Company entered into a $175 million forward U.S. Treasury rate lock agreement to manage the U.S. Treasury portion of its interest rate risk associated with the anticipated issuance of certain 10-year fixed rate senior notes. The Company designated this outstanding forward U.S. Treasury rate lock agreement as a cash flow hedge. The locked fixed rate of this agreement was 0.994%. In September 2022, a gain of $6 million was recognized as a result of a change in the forecasted issuance of certain senior notes. On December 15, 2022, the Company received cash of $37 million upon the settlement of the rate lock agreement, of which $31 million will be amortized as a component of interest expense upon the future issuance of senior notes.

In June 2021, the Company entered into five currency forward contracts with unrelated counterparties with notional amounts totaling $23 million to mitigate against unwanted or anticipated moves in the European Euro exchange rate against the U.S. Dollar, pertaining to forecasted Euro denominated invoices for capital expenditures. The Company has designated each of the individual contracts as cash flow hedges, with the last hedge maturing in December 2022.

Net Investment Hedges

The Company has translation exposure resulting from translating the financial statements of foreign subsidiaries into U.S. Dollars, which is recognized in Currency translation adjustment (a component of AOCI). In the second quarter of 2022, the Company terminated the remaining cross-currency forward contracts related to the hedged portions of the net investment in foreign subsidiaries, resulting in cash proceeds of $11 million.

Other Derivatives

The Company uses forward currency exchange contracts to manage existing exposures to foreign exchange risk related to assets and liabilities recorded on the Consolidated Balance Sheets. As of December 31, 2022, the Company had notional amounts of $474 million for non-designated derivative financial instruments related to foreign currency exposures in U.S. Dollars primarily related to Brazilian Real, Indian Rupee, Chinese Yuan, European Euro, Hong Kong Dollar, and South Korean Won. In addition, the Company had notional amounts of $111 million for non-designated derivative financial instruments related to foreign currency exposures in European Euro primarily related to the Polish Złoty, Norwegian Krone, and Chinese Yuan.

5. GOODWILL AND OTHER INTANGIBLE ASSETS

The Company tests goodwill and indefinite-lived intangible assets for impairment as of October 1st each year, or more frequently should circumstances change or events occur that would more likely than not reduce the fair value of a reporting unit below its carrying amount.

5. GOODWILL AND OTHER INTANGIBLE ASSETS (continued)

Goodwill

The changes in the net carrying amount of goodwill by segment are as follows (in millions):

	Composites	Insulation	Roofing	Total
Gross carrying amount at December 31, 2021	$ 75	$1,481	$397	$1,953
Acquisitions (see Note 7)	353	62	—	415
Foreign currency translation	(3)	(44)	(3)	(50)
Gross carrying amount at December 31, 2022	425	1,499	394	2,318
Accumulated impairment losses at December 31, 2021	—	(963)	—	(963)
Foreign currency translation	—	28	—	28
Accumulated impairment losses at December 31, 2022	—	(935)	—	(935)
Balance, net of impairment at December 31, 2022	$425	$ 564	$394	$1,383

	Composites	Insulation	Roofing	Total
Gross carrying amount at December 31, 2020	$ 57	$1,519	$400	$1,976
Acquisitions (see Note 7)	16	—	—	16
Additions	3	—	—	3
Foreign currency translation	(1)	(38)	(3)	(42)
Gross carrying amount at December 31, 2021	75	1,481	397	1,953
Accumulated impairment losses at December 31, 2020	—	(987)	—	(987)
Foreign currency translation	—	24	—	24
Accumulated impairment losses at December 31, 2021	—	(963)	—	(963)
Balance, net of impairment at December 31, 2021	$ 75	$ 518	$397	$ 990

The annual tests performed in the fourth quarter of 2022 and 2021 resulted in no impairment of goodwill.

In the first quarter of 2020, the Company performed its ongoing assessment to consider whether events or circumstances had occurred that could more likely than not reduce the fair value of a reporting unit below its carrying value. The Company's significant share price reduction during the onset of the COVID-19 pandemic was determined to be an indicator of impairment under ASC 350. The valuation limitation from the Company's share price decline, the narrow cushion on the Insulation reporting unit and the high level of near-term macroeconomic uncertainty caused the Company to perform an interim goodwill impairment test as of March 31, 2020 over the Insulation reporting unit.

As part of our quantitative testing process for goodwill of the Insulation reporting unit, we estimated fair values using a discounted cash flow analysis, a form of the income approach, from the perspective of a market participant. Significant assumptions used in the discounted cash flow approach are revenue growth rates and EBIT margins used in estimating discrete period cash flow forecasts of the reporting unit, the discount rate, and the long-term revenue growth rate and EBIT margins used in estimating the terminal business value. The terminal business value is determined by applying the long-term growth rate to the latest year for which a forecast exists.

5. GOODWILL AND OTHER INTANGIBLE ASSETS (continued)

Based on the results of this interim testing over the Insulation reporting unit, the Company recorded a $944 million pre-tax non-cash impairment charge in the first quarter of 2020. This charge was recorded in Goodwill impairment charge on the Consolidated Statements of Earnings (Loss), and was included in the Corporate, Other and Eliminations reporting category. Consistent with the Company's adoption of ASU 2017-04 in the first quarter of 2020, the impairment charge was equal to the excess of the Insulation reporting unit's carrying value over its fair value. The reduction in fair value for the Insulation reporting unit, and corresponding impairment charge, was primarily driven by an increase in the discount rate arising from higher equity risk premiums that reflected significant uncertainty surrounding the effect from the COVID-19 pandemic and a decrease in the reporting unit's forecasted near-term cash flows.

Other Intangible Assets

Other intangible assets consist of the following (in millions):

	December 31, 2022			December 31, 2021		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Trademarks and trade names	$1,001	$ —	$1,001	$1,096	$ —	$1,096
Customer relationships	638	(243)	395	559	(218)	341
Technology	330	(187)	143	298	(168)	130
Other (a)	66	(3)	63	53	(3)	50
Total other intangible assets	$2,035	$(433)	$1,602	$2,006	$(389)	$1,617

(a) Other primarily includes emissions rights.

Indefinite-Lived Intangible Assets

The annual tests performed in the fourth quarter of 2022 resulted in impairment of five of the Company's indefinite-lived intangible assets.

Based on the results of this testing, the Company recorded pre-tax non-cash impairment charges totaling $96 million in the fourth quarter of 2022. These charges were recorded in Other expenses (income), net on the Consolidated Statements of Earnings (Loss), and were included in the Corporate, Other and Eliminations reporting category.

Fair values used in testing for potential impairment of our trademarks are calculated using the relief-from-royalty method by applying an estimated market value royalty rate to the forecasted revenues of the businesses that utilize those assets. The assumed cash flows from this calculation are discounted at a rate based on a market participant discount rate.

These charges included the following within the Insulation segment: a pre-tax impairment charge of $63 million for a trade name used by our European building and technical insulation business due to the effect of a higher discount rate, associated with rising interest rates, and general economic and geopolitical uncertainty within the European markets resulting in a slightly lower profitability outlook; a pre-tax impairment charge of $12 million related to a trademark used on global cellular glass insulation products due to the effect of a higher discount rate,

5. GOODWILL AND OTHER INTANGIBLE ASSETS (continued)

associated with rising interest rates, and general economic and geopolitical uncertainty within the European markets; a pre-tax impairment charge of $8 million for a trademark used on mineral wool insulation products sold in the United States due to forecasted profitability of the product line.

The remaining $13 million pre-tax impairment charge for trademarks used within the components business in our Roofing segment was due to the effect of a higher discount rate, associated with rising interest rates, and forecasted profitability of a specific product line.

The following table presents the remaining carrying values of the impaired trade names and trademarks as of December 31, 2022 (in millions):

Trade names and trademarks	December 31, 2022
European building and technical insulation trade name	$87
Global cellular glass insulation trademark	$80
Components branded roofing trademark	$42
Mineral wool insulation trademark	$—
Components packaging trademark	$—

The fair value of the remaining indefinite-lived intangible assets substantially exceeded the carrying value as of the date of our assessment.

The annual test performed in the fourth quarter of 2021 and 2020 resulted in no impairment of indefinite-lived intangible assets.

In the first quarter of 2020, we performed an interim impairment test of one indefinite-lived trademark and one trade name used by our Insulation segment, based on the macroeconomic conditions that precipitated the interim goodwill impairment test described above.

Based on the results of this testing, the Company recorded pre-tax non-cash impairment charges totaling $43 million in the first quarter of 2020 related to one trademark and one trade name in the Insulation segment. These charges were recorded in Other expenses, net on the Consolidated Statements of Earnings (Loss), and were included in the Corporate, Other and Eliminations reporting category.

A pre-tax impairment charge of $34 million for a trade name used by our European building and technical insulation business was recognized in the first quarter of 2020 due to the combined effect of lower expected sales following an immaterial divestiture in the first quarter of 2020, a decrease in the forecasted near-term cash flows, and a higher discount rate associated with the economic impact and uncertainty from the COVID-19 pandemic. A pre-tax impairment charge of $9 million related to a trademark used on global cellular glass insulation products was recorded in the first quarter of 2020 due to a slightly lower sales outlook and a similarly higher discount rate associated with the economic impact and uncertainty from the COVID-19 pandemic.

Definite-Lived Intangible Assets

The Company amortizes the cost of other intangible assets over their estimated useful lives which, individually, range up to 45 years. The Company's future cash flows are not materially impacted by its ability to extend or renew agreements related to its amortizable intangible assets.

5. GOODWILL AND OTHER INTANGIBLE ASSETS (continued)

Amortization expense for intangible assets for the years ended December 31, 2022, 2021, and 2020 was $55 million, $49 million, and $48 million, respectively. The estimated amortization expense for intangible assets for the next five years is as follows (in millions):

Period	Amortization
2023	$67
2024	$64
2025	$58
2026	$42
2027	$34

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consist of the following (in millions):

	December 31,	
	2022	2021
Land	$ 166	$ 219
Buildings and leasehold improvements	1,221	1,265
Machinery and equipment	5,220	5,343
Construction in progress	522	387
	7,129	7,214
Accumulated depreciation	(3,400)	(3,341)
Property, plant and equipment, net	$ 3,729	$ 3,873

Machinery and equipment includes certain precious metals used in our production tooling, which comprise approximately 10% of total machinery and equipment as of both December 31, 2022 and December 31, 2021.

Our production tooling needs in our Composites segment are changing in response to economic and technological factors. As a result, we exchanged certain precious metals used in production tooling for certain other precious metals to be used in production tooling. These non-cash exchanges resulted in a net increase to Machinery and equipment of $18 million and $41 million and gains totaling $18 million and $41 million for the twelve months ended December 31, 2022 and 2021, respectively. These gains are included in Other expenses (income), net on the Consolidated Statements of Earnings (Loss) and reflected in the Corporate, Other and Eliminations reporting category. These non-cash investing activities are not included in Net cash flow used for investing activities in the Consolidated Statements of Cash Flows. We do not expect these non-cash exchanges to materially impact our current or future capital expenditure requirements or rate of depletion.

For the years ended December 31, 2022, 2021 and 2020, depreciation expense was $447 million, $429 million and $429 million, respectively, which includes depletion expense related to precious metals used in our production tooling. In 2022, 2021 and 2020, depreciation expense included $26 million, $13 million and $20 million, respectively, of accelerated depreciation related to restructuring actions further explained in Note 13 to the Consolidated Financial Statements.

7. ACQUISITIONS

On September 1, 2022, the Company acquired the remaining 50% interest in Fiberteq, LLC ("Fiberteq"), the joint venture between Owens Corning and IKO Industries, Ltd, which produces high-quality wet-formed fiberglass mat for roofing applications for $140 million, net of cash acquired. The acquisition advances the Composites strategy to focus on high-value material solutions and expands Owens Corning's capacity to produce non-woven mat. The Company's 50% interest in Fiberteq was accounted for as an equity-method investment and had a carrying value of $17 million at the acquisition date. The Company used the discounted cash flow method to remeasure the previously held equity method investment to its fair value of $147 million, resulting in the recognition of a gain of $130 million, which is recorded in Gain on equity method investment on the Consolidated Statements of Earnings (Loss). The operating results and a preliminary purchase price allocation for Fiberteq have been included in the Composites segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $58 million in intangible assets, which primarily consists of customer relationships with an estimated weighted average life of 3 years, a $62 million unfavorable contract liability and $243 million in goodwill, of which 50% of the goodwill is tax deductible. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On August 1, 2022, the Company acquired Natural Polymers, LLC ("Natural Polymers"), an innovative manufacturer of spray polyurethane foam insulation for building and construction applications for approximately $111 million, net of cash acquired. The acquisition advances the Owens Corning strategy to strengthen the Company's core building and construction products and expand its addressable markets into higher-growth segments. The operating results and a preliminary purchase price allocation for Natural Polymers have been included in the Insulation segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $44 million in intangible assets and $62 million in goodwill, of which all is tax deductible. The intangible assets consist of definite-lived trademarks of $5 million with an estimated weighted average life of 10 years, technology of $12 million with an estimated weighted average life of 6 years and customer relationships of $27 million with an estimated weighted average life of 17 years. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On June 1, 2022, the Company acquired all of the outstanding assets of WearDeck®, a premium producer of composite weather-resistant decking for commercial and residential applications, for approximately $133 million, net of cash acquired. The acquisition advances the Composites business growth strategy to focus on high-value material solutions within the building and construction industry. The operating results and a preliminary purchase price allocation for WearDeck® have been included in the Composites segment within the Consolidated Financial Statements since the date of the acquisition. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. During the year ended December 31, 2022, the Company recorded immaterial measurement period adjustments to the purchase price allocation. The preliminary purchase price allocation included $38 million in intangible assets and $68 million in goodwill, of which $61 million is tax deductible. The intangible assets consist of definite-lived trademarks of $7 million with an estimated weighted average life of 10 years, technology of $10 million with an estimated weighted average

7. ACQUISITIONS (continued)

life of 11 years and customer relationships of $21 million with an estimated weighted average life of 15 years. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On May 23, 2022, Owens Corning and Pultron Composites ("Pultron") formed a joint venture (the "JV") to manufacture and sell fiberglass rebar. The Company contributed approximately $47 million to acquire a 65.5% controlling interest and has established a redeemable noncontrolling interest of $25 million related to Pultron, the minority holder. The JV expands Owens Corning's capability to produce high-value material solutions by combining the Company's glass-fiber material technology, channel access and extensive industry experience with Pultron's manufacturing expertise and process efficiency. The fully consolidated operating results and a preliminary purchase price allocation for the JV have been included in the Company's Composites segment within the Consolidated Financial Statements since the date of the formation of the JV. Subsequent to the JV formation, the JV acquired assets and technology from Pultron for approximately $65 million. The Company is continuing to obtain information to complete its valuation of certain assets and liabilities. The preliminary purchase price allocation included $15 million in intangible assets, consisting of technology, with an estimated weighted average life of 15 years and $42 million in goodwill, of which $37 million is tax deductible. The factors contributing to the recognition of the amount of goodwill are based on several strategic and synergistic benefits that are expected to be realized from the acquisition. The pro-forma effect of this acquisition on revenues and earnings was not material.

On July 13, 2021, the Company acquired vliepa GmbH ("vliepa"), which specializes in the coating, printing, and finishing of non-wovens, paper, and film for the building materials industry in Europe, for $42 million, net of cash acquired. The acquisition broadens the Company's global non-wovens portfolio to better serve European customers and accelerate growth of building and construction market applications in the region. The operating results for vliepa have been included in the Company's Composites segment within the Consolidated Financial Statements since the date of the acquisition. The acquisition resulted in the recognition of $13 million in intangible assets, primarily consisting of customer relationships with an estimated weighted average life of 12 years, and $16 million in goodwill. The pro-forma effect of this acquisition on revenues and earnings was not material.

8. DIVESTITURES

On November 24, 2022, the Company finalized the sale of its Russian operations within the Composites and Insulation segments. As a result of this sale, the Company received $104 million, net of cash sold, in consideration and recorded a pre-tax loss of $33 million in Other expenses (income), net on the Consolidated Statements of Earnings (Loss).

On July 1, 2022, the Company finalized the sale of the European portion of the dry-use chopped strands ("DUCS") product line located in Chambéry, France, within the Composites segment. As a result of this sale, the Company received $80 million, net of cash sold, in consideration and recorded a pre-tax loss of $30 million in Other expenses (income), net on the Consolidated Statements of Earnings (Loss).

9. ASSETS HELD FOR SALE

During the third quarter of 2021, the Company entered into a purchase and sale agreement for the Company's Insulation site in Santa Clara, California to commercial real estate developer Panattoni for expected gross proceeds of approximately $240 million, including a non-refundable deposit of $50 million received at signing. The Company ceased operations in the fourth quarter of 2022, meeting the assets held for sale criteria, and plans to complete the transaction in the first quarter of 2023. This action is part of the Company's on-going strategy to operate a flexible, cost-efficient manufacturing network and geographically locate its assets to better service its customers. Assets held for sale as of December 31, 2022 were $45 million and primarily consisted of land.

10. LEASES

The Company leases certain equipment and facilities under both operating and finance leases expiring on various dates through 2050. The nature of these leases generally fall into the following five categories: real estate, material handling equipment, fleet vehicles, office equipment and energy equipment.

For leases with initial terms greater than 12 months, we consider these our right-of-use assets and record the related asset and obligation at the present value of lease payments over the term. For leases with initial terms equal to or less than 12 months, we do not consider them as right-of-use assets and instead consider them short-term lease costs that are recognized on a straight-line basis over the lease term.

Many of our leases include escalation clauses, renewal options and/or termination options that are factored into our determination of lease payments when reasonably certain. These options to extend or terminate a lease are at our discretion. We have elected to take the practical expedient and not separate lease and non-lease components of contracts. We estimate our incremental borrowing rate to discount the lease payments based on information available at lease commencement. Our lease agreements do not contain any material residual value guarantees.

Balance Sheet Classification

The table below presents the lease-related assets and liabilities recorded on the balance sheet (in millions):

		December 31,	
Leases	**Classification on Balance Sheet**	**2022**	**2021**
Assets			
Operating lease assets	Operating lease right-of-use assets	$204	$158
Finance lease assets	Other non-current assets	127	95
Total lease assets		$331	$253
Liabilities			
Current			
Operating	Current operating lease liabilities	$ 52	$ 49
Finance	Other current liabilities	28	25
Non-Current			
Operating	Non-current operating lease liabilities	152	109
Finance	Long-term debt, net of current portion	103	74
Total lease liabilities		$335	$257

10. LEASES (continued)

Lease Costs

The table below presents lease-related costs (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Operating lease cost	$67	$69	$71
Finance lease cost			
Amortization	$30	$23	$16
Interest	$ 4	$ 4	$ 3
Short-term lease cost	$12	$ 7	$11
Variable lease cost	$ 6	$ 5	$ 5

Cash paid for operating leases approximated operating lease expense for the years ended December 31, 2022, 2021 and 2020. Cash paid for finance leases included $30 million for financing activities and $4 million for operating activities for the year ended December 31, 2022. Cash paid for finance leases included $23 million for financing activities and $4 million for operating activities for the year ended December 31, 2021. Cash paid for finance leases included $16 million for financing activities and $3 million for operating activities for the year ended December 31, 2020.

We added $119 million and $81 million of operating lease liabilities as a result of obtaining operating lease right-of-use assets in the years ended December 31, 2022 and 2021, respectively. We added $70 million and $51 million of finance lease liabilities as a result of obtaining finance lease right-of-use assets in the years ended December 31, 2022 and 2021, respectively.

Other Information

The tables below present supplemental information related to leases:

	December 31,		
Weighted-average remaining lease term (years)	2022	2021	2020
Operating leases	4.8	4.2	3.8
Finance leases	9.6	6.9	6.8

	December 31,		
Weighted-average discount rate	2022	2021	2020
Operating leases	3.32%	3.27%	3.29%
Finance leases	3.46%	3.67%	4.04%

10. LEASES (continued)

Maturities of Lease Liabilities

The table below reconciles the undiscounted cash flows for each of the first five years and the total of the remaining years to the finance lease liabilities and operating lease liabilities recorded on the balance sheet as of December 31, 2022 (in millions):

Period	Operating Leases	Finance Leases
2023	$ 62	$ 31
2024	50	24
2025	40	16
2026	31	11
2027	20	6
2028 and beyond	24	69
Total minimum lease payments	227	157
Less: implied interest	23	26
Present value of future minimum lease payments	204	131
Less: current lease obligations	52	28
Long-term lease obligations	$152	$103

11. OTHER CURRENT LIABILITIES

Other current liabilities consist of the following current portions of these liabilities (in millions):

	December 31,	
	2022	2021
Payroll, vacation pay and incentive compensation	$233	$232
Income, property, and other non-payroll taxes	108	70
Other	366	251
Total other current liabilities	$707	$553

12. WARRANTIES

The Company records a liability for warranty obligations at the date the related products are sold. Adjustments are made as new information becomes available. Please refer to Note 1 for information about our separately-priced extended warranty contracts. A reconciliation of the warranty liability is as follows (in millions):

	December 31,	
	2022	2021
Beginning balance	$ 81	$ 72
Amounts accrued for current year	20	21
Settlements of warranty claims	(13)	(12)
Ending balance	$ 88	$ 81

13. RESTRUCTURING, ACQUISITION AND DIVESTITURE-RELATED COSTS

The Company may incur restructuring, transaction and integration costs related to acquisitions and divestitures, and may incur restructuring and other exit costs in connection with its global cost reduction, productivity initiatives and the Company's growth strategy.

ACQUISITION AND DIVESTITURE-RELATED COSTS

During 2022, the Company incurred $7 million of transaction costs related to its announced acquisitions and divestitures. Please refer to Note 7 and Note 8 of the Consolidated Financial Statements for further information regarding these actions.

RESTRUCTURING RELATED-COSTS

Composites Strategic Realignment Actions

Throughout 2022, the Company took actions to support our growth strategy in building and construction applications and reduce its cost structure within the Composites segment. These actions include converting the DUCS manufacturing facilities located in Anderson, South Carolina and Kimchon, Korea to produce other glass fiber products and exiting a facility in Japan. The Company recorded costs of $9 million associated with these actions in 2022 and expects to incur an immaterial amount of incremental costs related to these actions in 2023.

Roofing Restructuring Actions

In December 2021, the Company took actions to restructure operations within the Roofing segment's components product line by relocating production assets from China to India to allow the business to optimize its manufacturing network and support a tariff mitigation strategy. During 2022, the Company recorded $3 million of charges primarily related to severance and other exit costs. The Company expects to recognize $2 million of incremental charges related to these actions in 2023.

Santa Clara Insulation Site

During the third quarter of 2021, the Company entered into a purchase and sale agreement for the Company's Insulation site in Santa Clara, California. The Company ceased operations at this facility in the fourth quarter of 2022, meeting the assets held for sale criteria, with plans to complete the transaction in the first quarter of 2023. Please refer to Note 9 of the Consolidated Financial Statements for further information. This action is part of the Company's on-going strategy to operate a flexible, cost-efficient manufacturing network and geographically locate its assets to better service its customers. Cumulative cash pre-tax charges associated with the transaction are expected to be in the range of $30 million to $40 million, primarily related to severance and one-time employee termination benefits, demolition costs, and other closing costs. In addition, cumulative non-cash charges are expected to be in the range of $75 million to $85 million, primarily consisting of accelerated depreciation of property, plant and equipment and derecognition of the carrying value of land, which will offset the gross proceeds at closing.

During 2022, the Company recorded $35 million of charges, comprised of $22 million of accelerated depreciation and $13 million of other exit costs, associated with this agreement.

13. RESTRUCTURING, ACQUISITION AND DIVESTITURE-RELATED COSTS (continued)

2020 Insulation Restructuring Actions

During the fourth quarter of 2020, the Company took actions to avoid future capital outlays and reduce costs in its global Insulation segment, mainly through decisions to close certain manufacturing facilities in Shanghai, China and Fresno, Texas, and optimize a facility in Parainen, Finland. During 2022, the Company recorded $2 million of charges primarily related to accelerated depreciation. The Company expects to recognize an immaterial amount of incremental charges related to these actions in 2023.

Acquisition-Related Restructuring

Following the acquisitions of Paroc Group Oy ("Paroc") and Pittsburgh Corning Corporation and Pittsburgh Corning Europe NV (collectively, "Pittsburgh Corning") into the Company's Insulation segment, the Company took actions to realize expected synergies from the newly acquired operations. The Company does not expect to recognize significant incremental costs related to these actions.

Consolidated Statements of Earnings (Loss) Classification

The following table presents the impact and respective location of total restructuring, acquisition and divestiture-related costs on the Consolidated Statements of Earnings (Loss), which are included within Corporate, Other and Eliminations (in millions):

		Twelve Months Ended December 31,		
Type of Cost	**Location**	**2022**	**2021**	**2020**
Accelerated depreciation	Cost of sales	$ 26	$ 13	$ 20
Other exit costs	Cost of sales	16	1	6
Other exit costs	Marketing and administrative expenses	—	2	—
Recognition of acquisition inventory fair value step-up	Cost of sales	—	1	—
Severance	Other expenses (income), net	1	11	13
Other exit costs (gains) (a)	Other expenses (income), net	41	(10)	2
Acquisition-related gains	Gain on equity method investment	(130)	—	—
Acquisition and divestiture-related costs	Marketing and administrative expenses	7	—	—
Other exit costs	Non-operating (income) expense	—	2	—
Total restructuring, acquisition and divestiture-related (gains) costs		$ (39)	$ 20	$ 41

(a) Other exit costs (gains) in 2021 includes a $15 million gain related to the sale of land in Thimmapur, India. Please refer to Note 11 of our 2017 Form 10-K for more information about the 2017 Cost Reduction actions.

13. RESTRUCTURING, ACQUISITION AND DIVESTITURE-RELATED COSTS (continued)

Summary of Unpaid Liabilities

The following table summarizes the status of the unpaid liabilities from the Company's restructuring activities (in millions):

	Composites Strategic Realignment Actions	Roofing Components Restructuring Actions	Santa Clara Insulation Site	2020 Insulation Restructuring Actions	Acquisition-Related Restructuring
Balance at December 31, 2021	$—	$ 1	$ 13	$ 1	$ 5
Restructuring costs (gains)	9	3	35	2	(1)
Payments	(2)	—	(19)	(1)	(3)
Accelerated depreciation and other non-cash items	(6)	(4)	(22)	(2)	1
Balance at December 31, 2022	$ 1	$—	$ 7	$—	$ 2
Cumulative charges incurred	$ 9	$ 8	$ 60	$ 29	$26

As of December 31, 2022, the remaining liability balance is comprised of $11 million of severance, which the Company expects to pay over the next twelve months.

14. DEBT

Details of the Company's outstanding long-term debt, as well as the fair values, are as follows (in millions):

	December 31, 2022		December 31, 2021	
	Carrying Value	Fair Value	Carrying Value	Fair Value
4.200% senior notes, net of discount and financing fees, due 2024	$ 398	99%	$ 397	107%
3.400% senior notes, net of discount and financing fees, due 2026	398	94%	397	106%
3.950% senior notes, net of discount and financing fees, due 2029	446	90%	446	110%
3.875% senior notes, net of discount and financing fees, due 2030	298	89%	297	109%
7.000% senior notes, net of discount and financing fees, due 2036	368	107%	368	141%
4.300% senior notes, net of discount and financing fees, due 2047	589	78%	589	115%
4.400% senior notes, net of discount and financing fees, due 2048	390	78%	390	118%
Various finance leases, due through 2050 (a)	131	100%	99	100%
Other	2	N/A	2	N/A
Total long-term debt	3,020	N/A	2,985	N/A
Less – current portion (a)	28	100%	25	100%
Long-term debt, net of current portion	$2,992	N/A	$2,960	N/A

(a) The Company determined that the book value of the above noted long-term debt instruments approximates fair value.

14. DEBT (continued)

The fair values of the Company's outstanding long-term debt instruments were estimated using market observable inputs, including quoted prices in active markets, market indices and interest rate measurements. Within the hierarchy of fair value measurements, these are Level 2 fair values.

Senior Notes

The Company issued $300 million of 2030 senior notes on May 12, 2020. Interest on the notes is payable semiannually in arrears on June 1 and December 1 each year, beginning on December 1, 2020. The proceeds from these notes were used for general corporate purposes.

The Company issued $450 million of 2029 senior notes on August 12, 2019. Interest on the notes is payable semiannually in arrears on February 15 and August 15 each year, beginning on February 15, 2020. The proceeds from these notes were used to repay $416 million of our 2022 senior notes and $34 million of our 2036 senior notes.

The Company issued $400 million of 2048 senior notes on January 25, 2018. Interest on the notes is payable semiannually in arrears on January 30 and July 30 each year, beginning on July 30, 2018. The proceeds from these notes were used, along with borrowings on a $600 million term loan commitment and borrowings on the Receivables Securitization Facility (as defined below), to fund the purchase of Paroc in the first quarter of 2018.

The Company issued $600 million of 2047 senior notes on June 26, 2017. Interest on the notes is payable semiannually in arrears on January 15 and July 15 each year, beginning on January 15, 2018. A portion of the proceeds from these notes was used to fund the purchase of Pittsburgh Corning in 2017 and for general corporate purposes. The remaining proceeds were used to repay $144 million of our 2019 senior notes and $140 million of our 2036 senior notes.

The Company issued $400 million of 2026 senior notes on August 8, 2016. Interest on the notes is payable semiannually in arrears on February 15 and August 15 each year, beginning on February 15, 2017. A portion of the proceeds from these notes was used to redeem $158 million of our 2016 senior notes. The remaining proceeds were used to pay down portions of our Receivables Securitization Facility and for general corporate purposes.

The Company issued $400 million of 2024 senior notes on November 12, 2014. Interest on the notes is payable semiannually in arrears on June 1 and December 1 each year, beginning on June 1, 2015. A portion of the proceeds from these notes was used to repay $242 million of our 2016 senior notes and $105 million of our 2019 senior notes. The remaining proceeds were used to pay down our Senior Revolving Credit Facility (as defined below), finance general working capital needs, and for general corporate purposes.

The Company issued $600 million of 2022 senior notes on October 17, 2012. Interest on the notes is payable semiannually in arrears on June 15 and December 15 each year, beginning on June 15, 2013. The proceeds of these notes were used to repay $250 million of our 2016 senior notes and $100 million of our 2019 senior notes and pay down our Senior Revolving Credit Facility. On August 19, 2021, the Company issued a make-whole call to repay the remaining portion of its outstanding 2022 senior notes, and the redemption was completed in the third quarter of 2021. The Company recognized approximately $9 million of loss on extinguishment of debt in the third quarter of 2021 associated with these actions.

14. DEBT (continued)

On October 31, 2006, the Company issued $550 million of 2036 senior notes. The proceeds of these notes were used to pay certain unsecured and administrative claims, finance general working capital needs and for general corporate purposes.

Collectively, the senior notes above are referred to as the "Senior Notes." The Senior Notes are general unsecured obligations of the Company and rank *pari passu* with all existing and future senior unsecured indebtedness of the Company.

The Company has the option to redeem all or part of the Senior Notes at any time at a "make-whole" redemption price. The Company is subject to certain covenants in connection with the issuance of the Senior Notes that it believes are usual and customary. The Company was in compliance with these covenants as of December 31, 2022.

Senior Revolving Credit Facility

The Company has an $800 million senior revolving credit facility (the "Senior Revolving Credit Facility") that includes both borrowings and letters of credit. Borrowings under the Senior Revolving Credit Facility may be used for general corporate purposes and working capital. The Company has the discretion to borrow under multiple options, which provide for varying terms and interest rates including the United States prime rate, federal funds rate plus a spread or LIBOR plus a spread.

In June 2022, the Senior Revolving Credit Facility was amended to allow the Company to continue to operate in comprehensively-sanctioned countries so long as it is not violating any sanctions. In July 2021, the Senior Revolving Credit Facility was amended to extend the maturity date to July 2026. The new agreement also includes fallback language related to a benchmark reference rate replacement, when a LIBOR transition occurs, and eliminated the minimum required interest expense coverage ratio covenant.

The Senior Revolving Credit Facility contains various covenants, including a maximum allowed leverage ratio, that the Company believes are usual and customary for a senior unsecured credit agreement. The Company was in compliance with these covenants as of December 31, 2022. Please refer to the Credit Facility Utilization section below for liquidity information as of December 31, 2022.

Receivables Securitization Facility

The Company has a Receivables Purchase Agreement (RPA) that is accounted for as secured borrowings in accordance with ASC 860, "Accounting for Transfers and Servicing." Owens Corning Sales, LLC and Owens Corning Receivables LLC, each a subsidiary of the Company, have a $280 million RPA with certain financial institutions. The Company has the ability to borrow at the lenders' cost of funds, which approximates A-1/P-1 commercial paper rates vs. LIBOR, plus a fixed spread. In April 2021, the securitization facility (the "Receivables Securitization Facility") was amended to extend the maturity date to April 2024. The new agreement also includes fallback language related to a benchmark reference rate replacement, when a LIBOR transition occurs.

The RPA contains various covenants, including a maximum allowed leverage ratio, that the Company believes are usual and customary for a securitization facility. The Company was in compliance with these covenants as of December 31, 2022. Please refer to the Credit Facility Utilization section below for liquidity information as of December 31, 2022.

14. DEBT (continued)

Owens Corning Receivables LLC's sole business consists of the purchase or acceptance through capital contributions of trade receivables and related rights from Owens Corning Sales, LLC and the subsequent retransfer of or granting of a security interest in such trade receivables and related rights to certain purchasers who are party to the RPA. Owens Corning Receivables LLC is a separate legal entity with its own separate creditors who will be entitled, upon its liquidation, to be satisfied out of Owens Corning Receivables LLC's assets prior to any assets or value in Owens Corning Receivables LLC becoming available to Owens Corning Receivables LLC's equity holders. The assets of Owens Corning Receivables LLC are not available to pay creditors of the Company or any other affiliates of the Company or Owens Corning Sales, LLC.

Credit Facility Utilization

The following table shows how the Company utilized its primary sources of liquidity (in millions):

	Balance at December 31, 2022	
	Senior Revolving Credit Facility	Receivables Securitization Facility
Facility size	$800	$280
Collateral capacity limitation on availability	N/A	—
Outstanding borrowings	—	—
Outstanding letters of credit	4	1
Availability on facility	$796	$279

Debt Maturities

The aggregate maturities for all outstanding long-term debt borrowings for each of the five years following December 31, 2022 and thereafter are presented in the table below (in millions). The maturities below are the aggregate par amounts of the outstanding senior notes and finance lease liabilities:

Period	Maturities
2023	$ 28
2024	420
2025	13
2026	408
2027	4
2028 and beyond	2,184
Total	$3,057

Short-Term Debt

At December 31, 2022 and December 31, 2021, short-term borrowings were $1 million and $6 million, respectively. The short-term borrowings for both periods consisted of various operating lines of credit. The weighted average interest rate on all short-term borrowings was approximately 2.8% and 1.5% for December 31, 2022 and December 31, 2021, respectively.

15. PENSION PLANS

Pension Plans

The Company sponsors defined benefit pension plans. Under the plans, pension benefits are based on an employee's years of service and, for certain categories of employees, qualifying compensation. Company contributions to these pension plans are determined by an independent actuary to meet or exceed minimum funding requirements. In our U.S. plan, the unrecognized cost of any retroactive amendments and actuarial gains and losses are amortized over the average remaining life expectancy of inactive participants. In all of our Non-U.S plans, the unrecognized cost of any retroactive amendments and actuarial gains and losses are amortized over the average future service period of plan participants expected to receive benefits.

The following tables provide a reconciliation of the change in the projected benefit obligation, the change in plan assets and the net amount recognized in the Consolidated Balance Sheets (in millions):

	December 31, 2022			December 31, 2021		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Change in Projected Benefit Obligation						
Benefit obligation at beginning of period	$ 841	$ 476	$1,317	$910	$523	$1,433
Service cost	5	4	9	5	6	11
Interest cost	23	11	34	22	9	31
Actuarial gain	(174)	(103)	(277)	(31)	(28)	(59)
Currency gain	—	(38)	(38)	—	(10)	(10)
Benefits paid	(58)	(18)	(76)	(67)	(19)	(86)
Plan amendments	—	—	—	—	(1)	(1)
Settlements/curtailments	—	(4)	(4)	—	(4)	(4)
Other	1	(2)	(1)	2	—	2
Benefit obligation at end of period	$ 638	$ 326	$ 964	$841	$476	$1,317

	December 31, 2022			December 31, 2021		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Change in Plan Assets						
Fair value of assets at beginning of period	$ 816	$443	$1,259	$842	$441	$1,283
Actual return on plan assets	(156)	(92)	(248)	41	12	53
Currency loss	—	(35)	(35)	—	(8)	(8)
Company contributions	—	8	8	—	21	21
Benefits paid	(58)	(18)	(76)	(67)	(19)	(86)
Settlements/curtailments	—	(4)	(4)	—	(4)	(4)
Fair value of assets at end of period	602	302	904	816	443	1,259
Funded status	$ (36)	$ (24)	$ (60)	$ (25)	$ (33)	$ (58)

15. PENSION PLANS (continued)

The following table presents the amount recorded and respective location in the Consolidated Balance sheet (in millions):

		December 31, 2022			December 31, 2021		
	Location	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Prepaid pension cost	Other non-current assets	$ —	$ 21	$ 21	$ —	$ 21	$ 21
Accrued pension cost – current	Other current liabilities	(1)	(2)	(3)	—	(2)	(2)
Accrued pension cost – non-current	Pension plan liability	(35)	(43)	(78)	(25)	(52)	(77)
Total amount recorded		$ (36)	$(24)	$ (60)	$ (25)	$(33)	$ (58)
Amounts Recorded in AOCI							
Net actuarial loss		$(340)	$(72)	$(412)	$(333)	$(74)	$(407)
Net prior service cost		—	(5)	(5)	—	(7)	(7)
Total amount recorded		$(340)	$(77)	$(417)	$(333)	$(81)	$(414)

For the year ended December 31, 2022, the actuarial gain of $277 million was largely the result of increases in discount rates across all plans. In the U.S. plan, the actuarial gain was primarily driven by the increase in the discount rate. The gain was slightly offset by the unfavorable impact of differences between expected and actual pension experience. In the Non-U.S. plans, the actuarial gain was driven by an increase in the discount rate of the U.K. and Canada plans, partially offset by the unfavorable impact of differences between expected and actual pension experience.

For the year ended December 31, 2021, the actuarial gain of $59 million was largely the result of increases in discount rates across all plans. In the U.S. plan, the actuarial gain was primarily driven by the increase in the discount rate. The gain was slightly offset by the unfavorable impact of updated mortality assumptions. In the Non-U.S. plans, the actuarial gain was driven by an increase in the discount rate of the U.K. and other plans, partially offset by inflation.

The following table presents information about the projected benefit obligation, accumulated benefit obligation (ABO) and plan assets of the Company's pension plans (in millions):

	December 31, 2022			December 31, 2021		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Plans with PBO in excess of fair value of plan assets:						
Projected benefit obligation	$638	$208	$846	$841	$328	$1,169
Fair value of plan assets	$602	$163	$765	$816	$275	$1,091
Plans with ABO in excess of fair value of plan assets:						
Accumulated benefit obligation	$638	$192	$830	$841	$300	$1,141
Fair value of plan assets	$602	$153	$755	$816	$257	$1,073

15. PENSION PLANS (continued)

Weighted-Average Assumptions Used to Determine Benefit Obligation

The following table presents weighted average assumptions used to determine benefit obligations at the measurement dates:

	December 31,	
	2022	2021
United States Plans		
Discount rate	5.15%	2.85%
Cash balance interest crediting rate	3.77%	1.26%
Non-United States Plans		
Discount rate	5.02%	2.35%
Rate of compensation increase	3.31%	3.31%

Components of Net Periodic Pension Cost

The following table presents the components of net periodic pension cost (income) (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
United States Plans			
Service cost	$ 5	$ 5	$ 5
Interest cost	23	22	28
Expected return on plan assets	(36)	(36)	(45)
Amortization of actuarial loss	11	12	12
Settlement/curtailment	—	—	—
Other	—	2	—
Net periodic pension cost	$ 3	$ 5	$—
Non-United States Plans			
Service cost	$ 4	$ 6	$ 5
Interest cost	11	9	10
Expected return on plan assets	(16)	(18)	(17)
Amortization of actuarial loss	2	4	3
Settlement/curtailment	(1)	—	1
Other	—	—	—
Net periodic pension cost	$—	$ 1	$ 2
Total			
Service cost	$ 9	$ 11	$ 10
Interest cost	34	31	38
Expected return on plan assets	(52)	(54)	(62)
Amortization of actuarial loss	13	16	15
Settlement/curtailment	(1)	—	1
Other	—	2	—
Net periodic pension cost	$ 3	$ 6	$ 2

15. PENSION PLANS (continued)

Weighted-Average Assumptions Used to Determine Net Periodic Pension Cost

The following table presents weighted-average assumptions used to determine net periodic pension costs for the periods noted:

	Twelve Months Ended December 31,		
	2022	2021	2020
United States Plans			
Discount rate	2.85%	2.50%	3.30%
Expected return on plan assets	4.75%	4.75%	6.50%
Cash balance interest crediting rate	1.26%	0.79%	2.66%
Rate of compensation increase	N/A(a)	N/A(a)	N/A(a)
Non-United States Plans			
Discount rate	2.35%	1.73%	2.24%
Expected return on plan assets	3.93%	4.08%	4.66%
Rate of compensation increase	3.31%	3.00%	3.99%

(a) Not applicable due to changes in plan made on August 1, 2009 that were effective beginning January 1, 2010.

The expected return on plan assets assumption is derived by taking into consideration the target plan asset allocation, historical rates of return on those assets, projected future asset class returns and net outperformance of the market by active investment managers. An asset return model is used to develop an expected range of returns on plan investments over a 30 year period, with the expected rate of return selected from a best estimate range within the total range of projected results. The result is then rounded down to the nearest 25 basis points.

Items Measured at Fair Value

The Company classifies and discloses pension plan assets in one of the following three categories:

Level 1: Quoted market prices in active markets for identical assets.

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

Plan Assets

The tables in this section show pension plan asset fair values and fair value leveling information. The assets are categorized into one of the three levels of the fair value hierarchy or are not subject to leveling, in the case of investments that are valued using the net asset value per share (or its equivalent) practical expedient ("NAV").

15. PENSION PLANS (continued)

The following table summarizes the fair values and applicable fair value hierarchy levels of United States pension plan assets (in millions):

	December 31, 2022			
Asset Category	**Level 1**	**Level 2**	**Level 3**	**Total**
Equities:				
Domestic	$ 39	$—	$—	$ 39
Fixed income and cash equivalents:				
Corporate bonds	26	230	—	256
Government debt	—	58	—	58
Total United States plan assets subject to leveling	$ 65	$288	$—	353
Plan assets measured at NAV:				
Equities				95
Real assets				25
Fixed income and cash equivalents				87
Absolute return strategies				42
Total United States plan assets				$602

	December 31, 2021			
Asset Category	**Level 1**	**Level 2**	**Level 3**	**Total**
Equities:				
Domestic	$ 56	$—	$—	$ 56
Fixed income and cash equivalents:				
Corporate bonds	35	328	—	363
Government debt	—	78	—	78
Total United States plan assets subject to leveling	$ 91	$406	$—	497
Plan assets measured at NAV:				
Equities				144
Fixed income and cash equivalents				125
Absolute return strategies				50
Total United States plan assets				$816

15. PENSION PLANS (continued)

The following table summarizes the fair values and applicable fair value hierarchy levels of non-United States pension plan assets (in millions):

	December 31, 2022			
Asset Category	**Level 1**	**Level 2**	**Level 3**	**Total**
Equities	$—	$ 1		$ 1
Fixed income and cash equivalents:				
Cash and cash equivalents	—	56		56
Fixed income	—	11		11
Total non-United States plan assets subject to leveling	$—	$68	$—	68
Plan assets measured at NAV:				
Equities				22
Fixed income and cash equivalents				127
Absolute return strategies and other				85
Total non-United States plan assets				$302

	December 31, 2021			
Asset Category	**Level 1**	**Level 2**	**Level 3**	**Total**
Equities	$—	$ 2	$—	$ 2
Fixed income and cash equivalents:				
Cash and cash equivalents	—	72	—	72
Corporate bonds	—	10	—	10
Total non-United States plan assets subject to leveling	$—	$84	$—	84
Plan assets measured at NAV:				
Equities				61
Fixed income and cash equivalents				202
Absolute return strategies				96
Total non-United States plan assets				$443

Investment Strategy

The current targeted asset allocation for the United States pension plan is to have 21.5% of assets invested in equities, 68.5% in intermediate and long-term fixed income securities and 10% in other strategies. Assets are rebalanced at least quarterly to conform to policy tolerances. The Company actively evaluates the reasonableness of its asset mix given changes in the projected benefit obligation and market dynamics. Our investment policy and asset mix for the non-United States pension plans varies by location and is based on projected benefit obligation and market dynamics.

15. PENSION PLANS (continued)

Estimated Future Benefit Payments

The following table shows estimated future benefit payments from the Company's pension plans (in millions):

Year	Estimated Benefit Payments
2023	$ 77
2024	$ 75
2025	$ 72
2026	$ 74
2027	$ 71
2028-2032	$357

Contributions

The Company expects to contribute $25 million in cash to its defined benefit pension plans during 2023. Actual contributions to the plans may change as a result of a variety of factors, including changes in laws that impact funding requirements.

Defined Contribution Plans

The Company sponsors two defined contribution plans which are available to substantially all United States employees. The Company matches a percentage of employee contributions up to a maximum level and contributes up to 2% of an employee's wages regardless of employee contributions. The Company recognized expense of $57 million, $52 million and $48 million during the years ended December 31, 2022, 2021 and 2020, respectively, related to these plans.

16. POSTEMPLOYMENT AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

The Company maintains health care and life insurance benefit plans for certain retired employees and their dependents. The health care plans in the United States are non-funded and pay either (1) stated percentages of covered medically necessary expenses, after subtracting payments by Medicare or other providers and after stated deductibles have been met, or (2) fixed amounts of medical expense reimbursement.

Salaried employees hired on or before December 31, 2005 become eligible to participate in the United States health care plans upon retirement if they have accumulated 10 years of service after age 45, 48 or 50, depending on the category of employee. For employees hired after December 31, 2005, the Company does not provide subsidized retiree health care. Some of the plans are contributory, with some retiree contributions adjusted annually. The Company has reserved the right to change or eliminate these benefit plans subject to the terms of collective bargaining agreements.

16. POSTEMPLOYMENT AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (continued)

The following table provides a reconciliation of the change in the projected benefit obligation and the net amount recognized in the Consolidated Balance Sheets for the years ended December 31, 2022 and 2021 (in millions):

	December 31, 2022			December 31, 2021		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Change in Projected Benefit Obligation						
Benefit obligation at beginning of period	$ 151	$ 13	$ 164	$ 163	$ 14	$ 177
Service cost	1	—	1	1	—	1
Interest cost	4	—	4	3	1	4
Actuarial gain	(30)	(2)	(32)	(4)	(1)	(5)
Currency gain		(1)	(1)	—	—	—
Benefits paid	(11)	—	(11)	(12)	(1)	(13)
Benefit obligation at end of period	$ 115	$ 10	$ 125	$ 151	$ 13	$ 164
Funded status	$(115)	$(10)	$(125)	$(151)	$(13)	$(164)

The following table presents the amount recorded and respective location in the Consolidated Balance sheet (in millions):

		December 31, 2022			December 31, 2021		
	Location	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Accrued benefit obligation – current	Other current liabilities	$ (11)	$ (1)	$ (12)	$ (13)	$ (1)	$ (14)
Accrued benefit obligation – non-current	Other Employee Benefits Liability	(104)	(9)	(113)	(138)	(12)	(150)
Net amount recorded		$(115)	$(10)	$(125)	$(151)	$(13)	$(164)
Amounts Recorded in AOCI							
Net actuarial gain		$ 60	$ 5	$ 65	$ 37	$ 3	$ 40
Net prior service credit		—	—	—	1	—	1
Total amount recorded		$ 60	$ 5	$ 65	$ 38	$ 3	$ 41

16. POSTEMPLOYMENT AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (continued)

Weighted-Average Assumptions Used to Determine Benefit Obligations

The following table presents weighted average assumptions used to determine benefit obligations at the measurement dates:

	December 31,	
	2022	2021
United States plans		
Discount rate	5.10%	2.70%
Rate of compensation increase	N/A	N/A
Non-United States plans		
Discount rate	5.93%	3.63%
Rate of compensation increase	3.00%	3.00%

Components of Net Periodic Postretirement Benefit Income

The following table presents the components of net periodic postretirement benefit income (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
United States plans			
Service cost	$ 1	$ 1	$ 1
Interest cost	4	4	6
Amortization of prior service credit	—	(1)	(4)
Amortization of actuarial gain	(7)	(8)	(8)
Net periodic postretirement benefit income	$ (2)	$(4)	$(5)

There was no significant net periodic postretirement income attributable to non-U.S. plans.

Weighted-Average Assumptions Used to Determine Net Periodic Postretirement Benefit Income

The following table presents the discount rates used to determine net periodic postretirement benefit income:

	Twelve Months Ended December 31,		
	2022	2021	2020
United States plans	2.70%	2.25%	3.10%
Non-United States plans	3.63%	3.04%	3.84%

16. POSTEMPLOYMENT AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (continued)

The following table presents health care cost trend rates used to determine net periodic postretirement benefit income, as well as information regarding the ultimate rate and the year in which the ultimate rate is reached:

	Twelve Months Ended December 31,		
	2022	2021	2020
United States plans:			
Initial rate at end of year	8.86%	8.10%	8.20%
Ultimate rate	4.50%	4.50%	4.50%
Year in which ultimate rate is reached	2031	2029	2029
Non-United States plans:			
Initial rate at end of year	4.65%	4.25%	4.10%
Ultimate rate	4.13%	3.87%	3.90%
Year in which ultimate rate is reached	2040	2040	2040

Estimated Future Benefit Payments

The following table shows estimated future benefit payments from the Company's postretirement benefit plans (in millions):

Year	Estimated Benefit Payments
2023	$13
2024	$12
2025	$12
2026	$12
2027	$11
2028-2032	$49

Postemployment Benefits

The Company may also provide benefits to former or inactive employees after employment but before retirement under certain conditions. These benefits include continuation of benefits such as health care and life insurance coverage. The accrued postemployment benefits liability at December 31, 2022 and 2021 was $5 million and $8 million, respectively. The net periodic postemployment benefit expense/(income) for the years ended December 31, 2022, 2021, and 2020 were less than $1 million, less than $(1) million, and $(1) million, respectively.

17. CONTINGENT LIABILITIES AND OTHER MATTERS

The Company may be involved in various legal and regulatory proceedings relating to employment, antitrust, tax, product liability, environmental, contracts, intellectual property and other matters (collectively, "Proceedings"). The Company regularly reviews the status of such Proceedings along with legal counsel. Liabilities for such Proceedings are recorded when it is probable that the liability has been incurred and when the amount of the liability can be reasonably estimated. Liabilities are adjusted when additional information becomes available.

17. CONTINGENT LIABILITIES AND OTHER MATTERS (continued)

Management believes that the amount of any reasonably possible losses in excess of any amounts accrued, if any, with respect to such Proceedings or any other known claim, including the matters described below under the caption Environmental Matters (the "Environmental Matters"), are not material to the Company's financial statements. Management believes that the ultimate disposition of the Proceedings and the Environmental Matters will not have a material adverse effect on the Company's financial condition. While the likelihood is remote, the disposition of the Proceedings and Environmental Matters could have a material impact on the results of operations, cash flows or liquidity in any given reporting period.

Litigation and Regulatory Proceedings

The Company is involved in litigation and regulatory proceedings from time to time in the regular course of its business. The Company believes that adequate provisions for resolution of all contingencies, claims and pending matters have been made for probable losses that are reasonably estimable.

Environmental Matters

The Company has established policies and procedures designed to ensure that its operations are conducted in compliance with all relevant laws and regulations and that enable the Company to meet its high standards for corporate sustainability and environmental stewardship. Our manufacturing facilities are subject to numerous foreign, federal, state and local laws and regulations relating to the presence of hazardous materials, pollution and protection of the environment, including emissions to air, reductions of greenhouse gases, discharges to water, management of hazardous materials, handling and disposal of solid wastes, use of chemicals in our manufacturing processes, and remediation of contaminated sites. All Company manufacturing facilities are required to use an ISO 14001 or equivalent environmental management system. The Company's 2030 Sustainability Goals include significant global reductions in energy use, water consumption, waste to landfill, and emissions of greenhouse gases, fine particulate matter, and volatile organic air emissions, and protection of biodiversity.

Owens Corning is involved in remedial response activities and is responsible for environmental remediation at a number of sites, including certain of its currently owned or formerly owned plants. These responsibilities arise under a number of laws, including, but not limited to, the Federal Resource Conservation and Recovery Act, and similar state or local laws pertaining to the management and remediation of hazardous materials and petroleum. The Company has also been named a potentially responsible party under the U.S. Federal Superfund law, or state equivalents, at a number of disposal sites. The Company became involved in these sites as a result of government action or in connection with business acquisitions. As of December 31, 2022, the Company was involved with a total of 23 sites worldwide, including 10 Superfund and state equivalent sites and 13 owned or formerly owned sites. None of the liabilities for these sites are individually significant to the Company.

Remediation activities generally involve a potential range of activities and costs related to soil, groundwater, and sediment contamination. This can include pre-cleanup activities such as fact-finding and investigation, risk assessment, feasibility studies, remedial action design and implementation (where actions may range from monitoring to removal of contaminants, to installation of longer-term remediation systems). A number of factors affect the cost of environmental remediation, including the number of parties involved in a particular site, the determination of the extent of contamination, the length of time the remediation may require, the complexity of environmental regulations, variability in clean-up standards, the need for legal action, and changes in remediation technology. Taking these factors into account, Owens Corning has predicted the costs of remediation reasonably

17. CONTINGENT LIABILITIES AND OTHER MATTERS (continued)

estimated to be paid over a period of years. The Company accrues an amount on an undiscounted basis, consistent with the reasonable estimates of these costs when it is probable that a liability has been incurred. Actual cost may differ from these estimates for the reasons mentioned above. At December 31, 2022, the Company had an accrual totaling $5 million for these costs, of which the current portion is $1 million. Changes in required remediation procedures or timing of those procedures, or discovery of contamination at additional sites, could result in material increases to the Company's environmental obligations.

18. STOCK COMPENSATION

Description of the Plan

On April 18, 2019, the Company's stockholders approved the Owens Corning 2019 Stock Plan (the "2019 Stock Plan") which replaced the 2016 Stock Plan. The 2019 Stock Plan authorizes grants of stock options, stock appreciation rights, restricted stock awards, restricted stock units, bonus stock awards, performance stock awards and performance stock units. At December 31, 2022, the number of shares remaining available under the 2019 Stock Plan for all stock awards was 2.6 million.

Prior to 2019, employees were eligible to receive stock awards under the Owens Corning 2016 Stock Plan and the Owens Corning 2013 Stock Plan.

Total Stock-Based Compensation Expense

Stock-based compensation expense included in Marketing and administrative expenses in the accompanying Consolidated Statements of Earnings (Loss) is as follows (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Total stock-based compensation expense	$51	$50	$41
Income tax benefit recognized on stock-based compensation expense	$11	$14	$14

Stock Options

The Company has granted stock options under its stockholder approved stock plans. The Company calculates a weighted-average grant-date fair value using a Black-Scholes valuation model for options granted. Compensation expense for options is measured based on the fair market value of the option on the date of grant, and is recognized on a straight-line basis over a four year vesting period. In general, the exercise price of each option awarded was equal to the closing market price of the Company's common stock on the date of grant and an option's maximum term is 10 years. The volatility assumption was based on a benchmark study of our peers prior to 2014. Starting with the options granted in 2014, the volatility was based on the Company's historic volatility.

The Company has not granted stock options since the year ended December 31, 2014. As of December 31, 2022, there was no unrecognized compensation cost related to stock options and the exercise prices on outstanding stock options was $37.65.

18. STOCK COMPENSATION (continued)

The following table summarizes the Company's stock option activity in 2022:

	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Intrinsic Value (in millions)
Outstanding, December 31, 2021	55,900	$39.34	1.71	$3
Exercised	(28,900)	40.93		
Outstanding, December 31, 2022	27,000	$37.65	1.1	$1
Exercisable, December 31, 2022	27,000	$37.65	1.1	$1

The total cash received from the exercise of stock options and the resulting tax benefits received were as follows (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Cash received upon exercise of stock option awards	$ 1	$11	$ 2
Income tax benefit received for stock option awards exercised	$—	$ 4	$—

Restricted Stock Awards and Restricted Stock Units

The Company has granted restricted stock awards and restricted stock units (collectively referred to as "RSUs") under its stockholder approved stock plans. Compensation expense for restricted stock is measured based on the closing market price of the stock at date of grant and is recognized on a straight-line basis over the vesting period, which is typically three or four years. The Stock Plan allows alternate vesting schedules for death, disability, and retirement.

The weighted average grant date fair value of RSUs granted in 2022, 2021 and 2020 was $90.41, $84.03 and $63.96, respectively.

The following table shows a summary of the Company's RSU plans:

	Number of RSUs	Weighted-Average Fair Value
Balance at January 1, 2022	1,268,993	$62.25
Granted	393,834	90.41
Vested	(326,848)	65.87
Forfeited	(59,819)	75.41
Balance at December 31, 2022	1,276,160	$69.16

18. STOCK COMPENSATION (continued)

As of December 31, 2022, there was $33 million of total unrecognized compensation cost related to RSUs. That cost is expected to be recognized over a weighted-average period of 2.36 years. The total grant date fair value of shares vested during the years ended December 31, 2022, 2021 and 2020 was $22 million, $26 million and $27 million, respectively.

Performance Stock Awards and Performance Stock Units

The Company has granted performance stock awards and performance stock units (collectively referred to as "PSUs") as a part of its long-term incentive plan. All outstanding performance grants will fully settle in stock. The amount of stock ultimately distributed from the 2022, 2021 and 2020 grants is contingent on meeting internal company-based metrics or an external-based stock performance metric.

In 2022, 2021 and 2020, the Company granted both internal company-based and external-based metric PSUs.

Internal Company-based metrics

The internal company-based metrics vest after a three-year period and are based on various company-based metrics over a three-year period. The amount of stock distributed will vary from 0% to 300% of PSUs awarded depending on performance versus the company-based metrics.

The initial fair value for all internal company-based metric PSUs assumes that the performance goals will be achieved and is based on the grant date stock price. This assumption is monitored quarterly and if it becomes probable that such goals will not be achieved or will be exceeded, compensation expense recognized will be adjusted and previous surplus compensation expense recognized will be reversed or additional expense will be recognized. The expected term represents the period from the grant date to the end of the three-year performance period. Pro-rata vesting may be utilized in the case of death, disability or retirement, and awards, if earned, will be paid at the end of the three-year period.

External based metrics

The external-based metrics vest after a three-year period. Outstanding grants issued in or after 2018 were based on the Company's total stockholder return relative to the performance of the Dow Jones U.S. Construction & Materials Index. The amount of stock distributed will vary from 0% to 200% of PSUs awarded depending on the relative stockholder return performance. The fair value of external-based metric PSUs has been estimated at the grant date using a Monte Carlo simulation that uses various assumptions.

The following table provides a range of these assumptions:

	Twelve Months Ended December 31,		
	2022	**2021**	**2020**
Expected volatility	41.65%	42.74% — 43.67%	28.43% — 44.83%
Risk free interest rate	1.36%	0.18% — 0.24%	0.15% — 1.43%
Expected term (in years)	2.91	2.56 — 2.90	2.31 — 2.90
Grant date fair value of units granted	$122.69	$99.19 — $127.37	$68.60 — $76.58

18. STOCK COMPENSATION (continued)

The risk-free interest rate was based on zero coupon United States Treasury bills at the grant date. The expected term represents the period from the grant date to the end of the three-year performance period.

PSU Summary

As of December 31, 2022, there was $19 million total unrecognized compensation cost related to PSUs. That cost is expected to be recognized over a weighted-average period of 1.64 years. The total grant date fair value of shares vested during the years ended December 31, 2022, 2021 and 2020, was $9 million, $8 million and $9 million, respectively.

The following table shows a summary of the Company's PSU plans:

	Number of PSUs	Weighted-Average Grant Date Fair Value
Balance as of January 1, 2022	309,971	$74.78
Granted	146,784	98.94
Vested	(140,988)	63.48
Forfeited	(12,051)	80.07
Balance as of December 31, 2022	303,716	$91.47

Employee Stock Purchase Plan

The Owens Corning Employee Stock Purchase Plan (ESPP) is a tax qualified plan under Section 423 of the Internal Revenue Code. The purchase price of shares purchased under the ESPP is equal to 85% of the lower of the fair market value of shares of Owens Corning common stock at the beginning or ending of the offering period, which is a six month period ending on May 31 and November 30 of each year. On April 16, 2020, the Company's stockholders approved the Amended and Restated Owens Corning Employee Stock Purchase Plan which increased the number of shares available for issuance under the plan by 4.2 million shares. As of December 31, 2022, 3.5 million shares remain available for purchase.

Included in total stock-based compensation expense is $6 million, $6 million and $6 million of expense related to the Company's ESPP for the years ended December 31, 2022, 2021 and 2020, respectively. As of December 31, 2022, the Company had $3 million of total unrecognized compensation costs related to the ESPP. Under the outstanding ESPP as of February 14, 2023, employees have contributed $5 million to purchase shares for the current purchase period ending May 31, 2023.

The following table shows a summary of employee purchase activity under the ESPP:

	Twelve Months Ended December 31,		
	2022	2021	2020
Total shares purchased by employees	293,364	289,945	366,442
Average purchase price	$ 74.19	$ 66.68	$ 45.17

19. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE DEFICIT

The following table summarizes the changes in accumulated other comprehensive income (deficit) (in millions):

	Twelve Months Ended December 31,	
	2022	2021
Currency Translation Adjustment		
Beginning balance	$(279)	$(220)
Net investment hedge amounts classified into AOCI, net of tax	4	9
Loss on foreign currency translation	(105)	(68)
Other comprehensive loss, net of tax	(101)	(59)
Ending balance	$(380)	$(279)
Pension and Other Postretirement Adjustment		
Beginning balance	$(318)	$(372)
Amounts reclassified from AOCI to net earnings, net of tax (a)	5	5
Amounts classified into AOCI, net of tax (b)	12	49
Other comprehensive income, net of tax	17	54
Ending balance	$(301)	$(318)
Hedging Adjustment		
Beginning balance	$ 16	$ 4
Amounts reclassified from AOCI to net earnings, net of tax (c)	(44)	(11)
Amounts classified into AOCI, net of tax	28	23
Other comprehensive (loss) income, net of tax	(16)	12
Ending balance	$ —	$ 16
Total AOCI ending balance	$(681)	$(581)

(a) These AOCI components are included in the computation of total Pension and Other Postretirement cost and are recorded in Non-operating income. See Notes 15 and 16 for additional information.

(b) The 2021 amounts classified into AOCI, net of tax include the impact of a pension plan remeasurement that occurred in the third quarter of 2021 related to the purchase and sale agreement for the Company's Insulation site in Santa Clara, California. See Note 13 for additional information.

(c) Amounts reclassified from (loss) gain on cash flow hedges are reclassified from AOCI to income when the hedged item affects earnings and is recognized in Cost of sales or Interest expense, net depending on the hedged item. See Note 4 for additional information.

20. EARNINGS PER SHARE

The following table is a reconciliation of weighted-average shares for calculating basic and diluted earnings (loss) per-share (in millions, except per share amounts):

	Twelve Months Ended December 31,		
	2022	2021	2020
Net earnings (loss) attributable to Owens Corning	$1,241	$ 995	$ (383)
Weighted-average number of shares outstanding used for basic earnings (loss) per share	96.6	103.5	108.6
Non-vested restricted and performance shares	1.1	0.8	—
Weighted-average number of shares outstanding and common equivalent shares used for diluted earnings (loss) per share	97.7	104.3	108.6
Earnings (loss) per common share attributable to Owens Corning common stockholders:			
Basic	$12.85	$ 9.61	$ (3.53)
Diluted	$12.70	$ 9.54	$ (3.53)

Basic earnings (loss) per share is calculated by dividing earnings (loss) attributable to Owens Corning by the weighted-average number of shares of the Company's common stock outstanding during the period. Outstanding shares consist of issued shares less treasury stock.

On February 14, 2022, the Board of Directors approved a share buy-back program under which the Company is authorized to repurchase up to 10 million shares of the Company's outstanding common stock (the "February 2022 Repurchase Authorization"). The February 2022 Repurchase Authorization is in addition to the 2020 Repurchase Authorization (the 2020 Repurchase Authorization and collectively with the 2022 Repurchase Authorization, the "Repurchase Authorization"). The Company repurchased 9.0 million shares of its common stock for $779 million during the year ended December 31, 2022 under the Repurchase Authorization.

On December 1, 2022, the Board of Directors approved a new share buy-back program under which the Company is authorized to repurchase up to 10 million shares of the Company's outstanding common stock (the "December 2022 Repurchase Authorization"). The December 2022 Repurchase Authorization is in addition to the February 2022 Repurchase Authorization (together, the "Repurchase Authorization"). The Repurchase Authorization enables the Company to repurchase shares through the open market, privately negotiated, or other transactions. The actual number of shares repurchased will depend on timing, market conditions and other factors and will be at the Company's discretion. As of December 31, 2022, 14.4 million shares remained available for repurchase under the Repurchase Authorization.

For the year ended December 31, 2022, the Company did not have any non-vested restricted shares or non-vested performance shares that had an anti-dilutive effect on earnings per share. For the year ended December 31, 2021, the number of shares used in the calculation of diluted earnings per share did not include 0.1 million non-vested performance shares due to their anti-dilutive effect. For the year ended December 31, 2020, diluted earnings per share was equal to basic earnings per share due to the net loss attributable to Owens Corning.

21. INCOME TAXES

The following table summarizes our Earnings (loss) before taxes and Income tax expense (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Earnings (loss) before taxes:			
United States	$1,286	$ 868	$ 8
Foreign	328	445	(264)
Total	$1,614	$1,313	$(256)
Income tax expense:			
Current			
United States	$ 180	$ 139	$ 4
State and local	38	27	16
Foreign	125	90	30
Total current	343	256	50
Deferred			
United States	50	53	64
State and local	(6)	(3)	(1)
Foreign	(14)	13	16
Total deferred	30	63	79
Total income tax expense	$ 373	$ 319	$ 129

The reconciliation between the United States federal statutory rate and the Company's effective income tax rate from continuing operations is:

	Twelve Months Ended December 31,		
	2022	2021	2020
United States federal statutory rate	21%	21%	21%
State and local income taxes, net of federal tax benefit	2	3	(9)
U.S. tax expense on foreign earnings	—	—	(5)
Legislative tax rate changes	—	—	7
Foreign tax credits	—	(1)	2
Valuation allowance	—	—	(15)
R&D Credits	(1)	—	—
Intercompany restructuring—intellectual property transfer	—	—	14
Goodwill impairment charge	—	—	(75)
Uncertain tax positions and settlements	—	—	2
Excess tax benefits related to stock compensation	—	—	2
Other, net	1	1	6
Effective tax rate	23%	24%	(50)%

21. INCOME TAXES (continued)

In the first quarter of 2020, the company recorded a non-cash charge related to the impairment of goodwill which was largely non-deductible resulting in a substantial negative impact to our effective tax rate.

In addition, non-cash charges were recorded in 2020 related to valuation allowance adjustments against certain deferred tax assets recorded in our French, Indian and Other foreign legal entities due to volatility in the markets we serve from the COVID-19 pandemic.

In December 2020, the company completed an intercompany restructuring that resulted in the transfer of certain intellectual property rights, held by wholly owned foreign subsidiaries, to the U.S. The intellectual property rights transferred to the U.S. resulted in a step-up in the tax basis for U.S. tax purposes which resulted in the company recognizing a deferred tax asset of $37 million and tax expense of $5 million. The recognized tax benefit of $37 million is amortizable for U.S. tax purposes over a fifteen-year period.

On July 20, 2020 the Internal Revenue Service (IRS) issued final regulations under IRC Section 951A permitting a taxpayer to elect to exclude, from its inclusion of global intangible low-taxed income (GILTI), income subject to a high foreign effective tax rate. As a result of the final regulations, the company recorded a net non-cash income tax benefit of $13 million in the third quarter of 2020 relating to the 2018 and 2019 tax years.

The Company continues to assert indefinite reinvestment in accordance with ASC 740 based on the laws as of enactment of the Tax Act. As of December 31, 2022, the Company has not provided for withholding or income taxes on approximately $1.8 billion of undistributed reserves of its foreign subsidiaries and affiliates as they are considered by management to be permanently reinvested. Quantification of the deferred tax liability associated with these undistributed reserves is not practicable.

The cumulative temporary differences giving rise to the deferred tax assets and liabilities are as follows (in millions):

	December 31, 2022		December 31, 2021	
	Deferred Tax Assets	Deferred Tax Liabilities	Deferred Tax Assets	Deferred Tax Liabilities
Other employee benefits	$ 59	$ —	$ 66	$ —
Pension plans	16	—	16	—
Operating loss and tax credit carryforwards	108	—	132	—
Depreciation	—	334	—	300
Leases – right of use assets	—	70	—	34
Leases – liabilities	56	—	36	—
Amortization	—	298	—	322
Foreign tax credit carryforwards	52	—	54	—
Other	168	—	139	—
Subtotal	459	702	443	656
Valuation allowances	(129)	—	(132)	—
Total deferred taxes	$ 330	$702	$ 311	$656

21. INCOME TAXES (continued)

The following table summarizes the amount and expiration dates of our deferred tax assets related to operating loss and tax credit carryforwards and foreign tax credit carryforwards at December 31, 2022 (in millions) (a):

	Expiration Dates	Amounts
Domestic loss and tax credit carryforwards	2023-2036	$ 91
Foreign loss and tax credit carryforwards (b)	2023 – Indefinite	69
Total operating loss and tax credit carryforwards		$160

(a) The use of certain of the Company's losses and credits is limited pursuant to sections 382 and 383 of the Internal Revenue Code which are triggered when a change in control occurs and are computed based upon several variable factors including the share price of the Company's common stock on the date of the change in control. A change in control is generally defined as a cumulative change of more than 50% in the ownership positions of certain stockholders during a rolling three-year period. The Company believes that these limitations will not result in a forfeiture of the carryforwards.

(b) The foreign net operating losses are related to various jurisdictions that provide for both indefinite carryforward periods and others with carryforward periods that range from the tax years 2023 to 2036.

Deferred income taxes are provided for temporary differences between amounts of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities as measured under enacted tax laws and regulations, as well as NOLs, tax credits and other carryforwards. A valuation allowance will be recorded to reduce deferred tax assets if, based on all available evidence, it is considered more likely than not that some portion or all of the recorded deferred tax assets will not be realized in future periods. To the extent the reversal of deferred tax liabilities is relied upon in our assessment of the realizability of deferred tax assets, they will reverse in the same period and jurisdiction as the temporary differences giving rise to the deferred tax assets. As of December 31, 2022, the Company had net deferred tax liabilities before valuation allowances of $243 million.

The valuation allowance of $129 million as of December 31, 2022 is related to U.S. federal foreign tax credits (FTCs) and certain state and foreign jurisdictions. The realization of deferred tax assets depends on achieving a certain minimum level of future taxable income. Management currently believes that it is at least reasonably possible that the minimum level of taxable income will be met within the next 12 months to reduce the valuation allowance of certain foreign jurisdictions by a range of zero to $3 million. The valuation allowance of $132 million as of December 31, 2021 is related to U.S. federal FTC's and certain state and foreign jurisdictions.

The Company, or one of its subsidiaries, files income tax returns in the United States and other foreign jurisdictions. The Company is no longer subject to U.S. federal tax examinations for years before 2019 or state and foreign examinations for years before 2016. Due to the potential for resolution of federal, state and foreign examinations, and the expiration of various statutes of limitation, it is reasonably possible that the gross unrecognized tax benefits balance may change within the next 12 months by a range of zero to $5 million.

21. INCOME TAXES (continued)

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows (in millions):

	Twelve Months Ended December 31,		
	2022	2021	2020
Balance at beginning of period	$74	$76	$79
Tax positions related to the current year			
Gross additions	—	—	—
Tax positions related to prior years			
Gross additions	2	1	2
Gross reductions	—	(1)	(1)
Settlements	(1)	(1)	(1)
Expiration of statute of limitations	(3)	(1)	(3)
Impact of currency changes	(1)	—	—
Balance at end of period	$71	$74	$76

If these unrecognized tax benefits were to be recognized as of December 31, 2022, the Company's income tax expense would decrease by about $52 million.

The Company classifies all interest and penalties as income tax expense. As of December 31, 2022, 2021 and 2020, and for the periods then ended, the Company recognized $7 million, $7 million and $7 million, respectively, in liabilities for tax related interest and penalties on its Consolidated Balance Sheets and $1 million, $2 million and less than $1 million, respectively, of interest and penalty expense on its Consolidated Statements of Earnings (Loss).

OWENS CORNING AND SUBSIDIARIES

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OWENS CORNING AND SUBSIDIARIES
SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS AND RESERVES FOR THE YEARS ENDED DECEMBER 31, 2022, 2021 AND 2020
(in millions)

	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
FOR THE YEAR ENDED DECEMBER 31, 2022					
Allowance for doubtful accounts	$ 9	$ 3	$—	$ (1)(a)	$ 11
Tax valuation allowance	$132	$ 5	$ (2)	$ (6)	$129
FOR THE YEAR ENDED DECEMBER 31, 2021					
Allowance for doubtful accounts	$ 10	$ 1	$—	$ (2)(a)	$ 9
Tax valuation allowance	$133	$11	$ 8	$(20)	$132
FOR THE YEAR ENDED DECEMBER 31, 2020					
Allowance for doubtful accounts	$ 11	$ 1	$—	$ (2)(a)	$ 10
Tax valuation allowance	$ 92	$39	$ 2	$ —	$133

(a) Uncollectible accounts written off, net of recoveries.

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DIRECTORS OF OWENS CORNING
AS OF MARCH 9, 2023

Brian D. Chambers
Board Chair, President and Chief Executive Officer

Eduardo E. Cordeiro
Formerly Executive Vice President, Chief Financial Officer at Cabot Corporation, a global specialty chemicals and performance materials company

Adrienne D. Elsner
Formerly President, Chief Executive Officer and Director of Charlotte's Web Holdings, Inc., a leader in hemp-derived CBD extract products

Alfred E. Festa
Operating Advisor for Clayton, Dubilier & Rice, a global private equity firm

Edward F. Lonergan
Executive Chairman of Zep Inc., an international provider of maintenance and cleaning solutions

Maryann T. Mannen
Executive Vice President and Chief Financial Officer of Marathon Petroleum Corporation, a leading, integrated, downstream energy company

Paul E. Martin
Formerly Senior Vice President and Chief Information Officer for Baxter International, Inc., a multinational health care company

W. Howard Morris
President and Chief Investment Officer of The Prairie & Tireman Group, an investment partnership

Suzanne P. Nimocks
Formerly Director (Senior Partner) with McKinsey & Company, a global management consulting firm

John D. Williams
President and Chief Executive Officer of Domtar Corporation, a manufacturer of fiber-based products

Directors' Code of Conduct

The members of our Board of Directors are required to comply with a Directors' Code of Conduct, which is intended to focus the Board and the individual directors on areas of ethical risk, help directors recognize and deal with ethical issues, provide mechanisms to report unethical conduct, and foster a culture of honesty and accountability. This code covers all areas of professional conduct relating to service on the Owens Corning Board, including conflicts of interest, unfair or unethical use of corporate opportunities, strict protection of confidential information, compliance with all applicable laws and regulations, sustainability and oversight of ethics and compliance by employees of the Company. The full texts of our Code of Business Conduct Policy, Ethics Policy for Chief Executive and Senior Financial Officers, and Directors' Code of Conduct are published on our website at www.owenscorning.com and will be made available in print upon request by any stockholder to the Secretary of the Company. To the extent required by applicable SEC rules or New York Stock Exchange listing standards, we intend to post any amendments to or waivers from the Ethics Policy for Chief Executive and Senior Financial Officers to our website in the section titled "Corporate Governance."

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