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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: 1-3247

CORNING INCORPORATED
(Exact name of registrant as specified in its charter)

New York	**16-0393470**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Riverfront Plaza, Corning, New York	**14831**
(Address of principal executive offices)	(Zip Code)

607-974-9000
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.50 par value per share	**GLW**	**New York Stock Exchange (NYSE)**

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange 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 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, 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	☐	Emerging growth company	☐
Smaller reporting company	☐		

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

Indicate by check mark whether the registrant 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. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

The aggregate market value of the common stock held by non-affiliates of the registrant as of June 30, 2022 was approximately $26 billion based on the New York Stock Exchange closing price on such date.

There were 846,563,422 shares of common stock outstanding as of January 31, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Registrant's definitive Proxy Statement for its April 27, 2023 Annual Meeting of Shareholders are incorporated by reference into Part III.

PART I

Corning Incorporated and its consolidated subsidiaries are hereinafter sometimes referred to as the "Company," the "Registrant," "Corning," "we," "our," or "us."

This report contains forward-looking statements that involve a number of risks and uncertainties. These statements relate to plans, objectives, expectations and estimates and may contain words such as "believes," "expects," "anticipates," "estimates," "forecasts," or similar expressions. Actual results could differ materially from what is expressed or forecasted in forward-looking statements. Some of the factors that could contribute to these differences include those discussed under "Forward-Looking Statements," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and elsewhere in this report.

Item 1. Business

General

Corning traces its origins to a glass business established in 1851. The present corporation was incorporated in the State of New York in December 1936. The Company's name was changed from Corning Glass Works to Corning Incorporated on April 28, 1989.

Corning is vital to progress – in the industries we help advance and in the world we share. For more than 170 years, Corning has combined its unparalleled expertise in glass science, ceramic science and optical physics with deep manufacturing and engineering capabilities to develop category-defining products that transform industries and enhance people's lives. Our materials science and manufacturing expertise, boundless curiosity and commitment to purposeful invention place us at the center of the way the world works, learns and lives. In addition, our sustained investment in research, development and engineering capabilities means we are always ready to solve the toughest challenges alongside our customers.

Our capabilities are versatile and synergistic, allowing Corning to evolve to meet changing market needs, while also helping customers capture new opportunities in dynamic industries. Today, Corning's markets include optical communications, mobile consumer electronics, display technology, automotive emissions control, laboratory products and other glass products. Corning's industry-leading products include damage-resistant cover glass for mobile devices; precision glass for advanced displays; optical fiber and cable, wireless technologies and connectivity solutions for state-of-the-art communications networks; trusted products to accelerate drug discovery and delivery; and clean-air technologies for cars and trucks.

Corning manufactures products at 124 plants in 15 countries and operates in five reportable segments: Optical Communications, Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences.

Optical Communications Segment

We invented the world's first low-loss optical fiber in 1970. Since that milestone, we have continued to pioneer optical fiber, cable and connectivity solutions. As global demand driven by video usage grows exponentially, telecommunications networks continue to migrate from copper to optical-based systems that can deliver the required cost-effective capacity. Our experience puts us in a unique position to design and deliver optical solutions that reach every edge of the communications network.

The Optical Communications segment is divided into two main product groupings – carrier network and enterprise network. The carrier network group consists primarily of products and solutions for optical-based communications infrastructure for services such as video, data and voice communications. The enterprise network group consists primarily of optical-based communication networks sold to businesses, governments and individuals for their own use.

Our carrier network product portfolio encompasses an array of optical fiber products, including Vascade® optical fibers for use in submarine networks; LEAF® optical fiber for long-haul, regional and metropolitan networks; SMF-28® ULL and TXF® fiber for more scalable long-haul and regional networks; SMF-28e+™ single-mode optical fiber providing additional transmission wavelengths in metropolitan and access networks and ClearCurve® ultra-bendable single-mode fiber for use in multiple-dwelling units and fiber-to-the-home applications. For high performance across the range of long-haul, metro, access and fiber-to-the-home network applications, SMF-28® Ultra and SMF-28® Contour fibers deliver industry-leading attenuation, compatibility and improved macrobend performance in one fiber. A portion of our optical fiber is sold directly to end users and third-party cablers globally. Our remaining fiber production is cabled internally and sold to end users as either bulk cable or as part of an integrated optical solution. Our cable products, including the RocketRibbon® and miniXtend® portfolios, support various outdoor, indoor/outdoor and indoor applications and include a broad range of loose tube, ribbon and drop cable designs with flame-retardant versions available for indoor and indoor/outdoor use including 5G networks.

In addition to optical fiber and cable, our carrier network product portfolio also includes hardware and equipment products, including cable assemblies, fiber-optic hardware, fiber-optic connectors, optical components and couplers, closures, network interface devices and other accessories. These products may be sold as individual components or as part of integrated optical connectivity solutions designed for various carrier network applications. Examples of these solutions include our Evolv™ platform, which provides pre-connectorized solutions for cost-effectively deploying fiber-to-the-home and 5G networks; and the Centrix platform, which provides a fiber management system with industry-leading density and innovative jumper routing that can be deployed in a wide variety of carrier switching centers.

In addition to our optical-based portfolio, our carrier network portfolio also contains select copper-based products including subscriber demarcation, connection and protection devices, xDSL (different variations of digital subscriber lines) passive solutions and outside plant enclosures.

Our enterprise network portfolio leverages optical fiber products, including ClearCurve® ultra-bendable multimode fiber for private and hyperscale data centers and other enterprise network applications.

Our hardware and equipment for enterprise network applications include cable assemblies, fiber-optic hardware, fiber-optic connectors, optical components and couplers, closures and other accessories. These products may be sold as individual components or as part of integrated optical connectivity solutions designed for various network applications, including hyperscale data centers. Examples of enterprise network solutions include the EDGE® platform, which provides high-density pre-connectorized cabling solutions for data center applications, supporting a path to speeds of 400G and beyond and Everon™ Network Solutions, which provide next-generation cellular connectivity products for interior spaces of all sizes.

Our optical fiber manufacturing facilities are in North Carolina, China, India and a new facility in Poland as of the third quarter of 2022. Cabling operations are in North Carolina, Poland and smaller regional locations. Our manufacturing operations for hardware and equipment products are in Texas, Mexico, Brazil, Germany, Poland and China.

Patent protection is important to the segment's operations. The segment has an extensive portfolio of patents relating to its products, technologies and manufacturing processes. The segment licenses certain of its patents to third parties and generates revenue from these licenses, although the royalty income is not currently material to this segment's operating results. We are licensed to use certain patents owned by others, which are considered important to the segment's operations. Refer to the material under the heading "Patents and Trademarks" for more information.

The Optical Communications segment represented 34% of Corning's total segment net sales in 2022.

Display Technologies Segment

The Display Technologies segment manufactures glass substrates for flat panel displays, including liquid crystal displays ("LCDs") and organic light-emitting diodes ("OLEDs") that are used primarily in televisions, notebook computers, desktop monitors, tablets and handheld devices. This segment develops, manufactures and supplies high quality glass substrates using technology expertise and a proprietary fusion manufacturing process, which we invented and is the cornerstone of our technology leadership in the display glass industry. Our highly automated process yields glass substrates with a pristine surface and excellent thermal stability and dimensional uniformity – essential attributes in the production of large, high-performance display panels. Our fusion process is scalable and we believe it is the most cost-effective process for producing large size substrates.

We are recognized as a world leader in precision glass innovations that enable our customers to produce larger, thinner, more flexible and higher-resolution displays. Some of the product innovations we have launched over the past ten years utilizing our world-class processes and capabilities include the following:

- Corning® EAGLE XG® Slim Glass, Corning's flagship display glass product enabling thinner televisions and monitors with larger-sized screens; it is trusted by the world's leading panel makers for LCD displays with more than 30 billion square feet sold;
- Corning® Astra® Glass, an innovative glass solution designed to meet the emerging needs for high-resolution displays. This glass has been optimized for oxide thin-film transistor ("TFT") backplanes, but enables a range of high-resolution applications from the top end of amorphous silicon ("s-Si") TFT backplanes through low temperature poly-silicon ("LTPS") backplanes, as well as other applications requiring precision glass;
- Corning® Lotus™ NXT Glass, a high-performance display glass designed to withstand the harshest panel manufacturing process enabling highest-resolution displays in smaller and flexible devices; and
- The world's first Gen 10 and Gen 10.5 glass substrate sizes in support of improved efficiency in manufacturing large-sized displays.

We have display glass manufacturing operations in China, South Korea, Japan and Taiwan, and service our glass customers in all regions, utilizing our manufacturing facilities throughout Asia.

Patent protection and proprietary trade secrets are important to the Display Technologies segment's operations. Refer to the material under the heading "Patents and Trademarks" for more information.

The Display Technologies segment represented 22% of Corning's total segment net sales in 2022.

Specialty Materials Segment

The Specialty Materials segment manufactures products that provide more than 150 material formulations for glass, glass ceramics and crystals, as well as precision metrology instruments and software to meet requirements for unique customer needs. Consequently, this segment operates in a wide variety of commercial and industrial markets including materials optimized for mobile consumer electronics, semiconductor equipment optics and consumables, aerospace and defense optics, radiation shielding products, sunglasses and telecommunications components.

Our highly durable glass, known as Corning® Gorilla® Glass, is a chemically strengthened thin glass designed specifically to function as a cover, or back-enclosure glass, for mobile consumer electronic devices such as mobile phones, tablets, laptops and smartwatches. Elegant and lightweight, Corning® Gorilla® Glass is durable enough to resist many real-world events that commonly cause wear or scratch damage and glass failure, while providing optical clarity, touch sensitivity and RF transparency, thus enabling exciting new applications in technology and design. In 2022, Corning unveiled its newest glass innovation, Corning® Gorilla® Glass Victus® 2, which delivers improved cover glass drop performance on rough surfaces like concrete, while preserving the scratch resistance of Corning® Gorilla® Glass Victus®. Corning® Gorilla® Glass is manufactured in the United States ("U.S."), South Korea and Taiwan.

We invented the world's first transparent, color-free glass-ceramic suitable for smartphone applications, which is featured as "Ceramic Shield" on the front cover of the latest iPhone models. We partnered with Apple to develop and scale the manufacturing of Ceramic Shield, which offers unparalleled durability and toughness.

Our semiconductor optics include high-performance optical materials including Corning® HPFS® Fused Silica and Corning® ULE® Ultra-Low Expansion Glass, optical-based metrology instruments and custom optical assemblies for applications in the global semiconductor industry. Our semiconductor optics products are manufactured in New York.

We also manufacture ultra-flat, ultra-thin glass wafers and substrates for a variety of applications including augmented reality, advanced semiconductor packaging, 3D sensing and more. These products are manufactured in New York, France and China.

Other specialty glass products include tinted sunglasses and radiation shielding products that are made in France.

Patent protection is important to the segment's operations. The segment has a growing portfolio of patents relating to its products, technologies and manufacturing processes. Brand recognition and loyalty, through well-known trademarks, are important to the segment. Refer to the material under the heading "Patents and Trademarks" for more information.

The Specialty Materials segment represented 14% of Corning's total segment net sales in 2022.

Environmental Technologies Segment

The Environmental Technologies segment manufactures ceramic substrates and filter products for emissions control in mobile applications around the world. In the early 1970s, we developed an economical, high-performance cellular ceramic substrate that is now the standard for catalytic converters in vehicles worldwide. As global emissions control regulations tighten, we have continued to develop more effective and durable ceramic substrate and filter products for gasoline and diesel applications, most recently launching low-mass Corning® FLORA® substrates and Corning® DuraTrap® GC gasoline particulate filters. We manufacture substrate and filter products in New York, Virginia, China and Germany. We sell our ceramic substrate and filter products worldwide to catalyzers and manufacturers of emission control systems who then sell to automotive and diesel vehicle or engine manufacturers. Although most sales are made to the emission control systems manufacturers, the use of our substrates and filters is generally required by the specifications of the automotive and diesel vehicle or engine manufacturers.

Patent protection is important to the segment's operations. The segment has an extensive portfolio of patents relating to its products, technologies and manufacturing processes. We are licensed to use certain patents owned by others, which are also considered important to the segment's operations. Refer to the material under the heading "Patents and Trademarks" for more information.

The Environmental Technologies segment represented 11% of Corning's total segment net sales in 2022.

Life Sciences Segment

As a leading developer, manufacturer and global supplier of laboratory products for over 105 years, the Life Sciences segment works with researchers and drug manufacturers seeking to drive innovation, increase efficiencies, reduce costs and compress timelines. Using unique expertise in the fields of materials science, polymer surface science, cell culture and cell biology, the segment provides innovative solutions that improve productivity and enable breakthrough research for traditional small molecule, or chemical, drugs, biologics, vaccines and emerging cell and gene therapies.

Life Sciences products include consumables, such as plastic vessels, liquid handling plastics, specialty surfaces, cell culture media and serum, as well as general labware, glassware and equipment. These products are used for drug discovery research and development, compound screening, diagnostics, advanced cell culture research, genomics applications and mass production of cells for clinical trials and bioproduction.

We sell life sciences products under the Corning®, Falcon®, PYREX® and Axygen® brands. The products are marketed globally, primarily through distributors, to pharmaceutical and biotechnology companies, contract manufacturing organizations, central testing labs, academic institutions, hospitals, government entities and other facilities. We manufacture these products in California, Illinois, Maine, Massachusetts, New York, North Carolina, Utah, Virginia, China, France, Mexico, Brazil and Poland.

Patent protection is important to the segment's operations. The segment has a growing portfolio of patents relating to its products, technologies and manufacturing processes. Brand recognition and loyalty, through well-known trademarks, are important to the segment. Refer to the material under the heading "Patents and Trademarks" for more information.

The Life Sciences segment represented 8% of Corning's total segment net sales in 2022.

Hemlock and Emerging Growth Businesses

All other businesses that do not meet the quantitative threshold for separate reporting have been grouped as Hemlock and Emerging Growth Businesses. This group is primarily comprised of the results of Hemlock Semiconductor Group ("HSG"), which we obtained a controlling interest in during the third quarter of 2020 and have consolidated its results beginning on September 9, 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the accompanying notes to the consolidated financial statements for additional information on this transaction.

HSG is a leading provider of high-purity polysilicon products for the solar power and electronics industries. HSG operates in the solar power market, as polysilicon is needed in the manufacturing process to produce sustainable solar power cell, panels and arrays, and the electronics markets, as polysilicon is used to create fabricated wafers and integrated circuit chips used by leading semiconductor manufacturers.

Hemlock and Emerging Growth Businesses also includes our pharmaceutical technologies business, which produces high-quality pharmaceutical glass tubing and vials to meet the rigorous needs of the pharmaceutical industry; our automotive glass solutions business, which enhances vehicle exteriors and interiors with innovations that enable lightweight, damage-resistant windows and displays; as well as other businesses and certain corporate investments.

Hemlock and Emerging Growth Businesses represented 11% of Corning's total segment net sales in 2022.

Additional explanation regarding Corning and its five reportable segments, as well as financial information about geographic areas, is presented in Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements.

Competition

We compete with many large and varied manufacturers, both domestic and foreign. Some of these competitors are larger than us, and some have broader product lines. We strive to maintain and improve our market position through technology and product innovation. For the foreseeable future, our competitive advantage lies in our commitment to research and development, deep customer relationships, reliability of supply, product quality, superior customer service and technical specification of our products. There is no assurance that we will be able to maintain or improve our market position or competitive advantage.

Optical Communications Segment

We maintain a leadership position in the segment's principal product groups, which include carrier and enterprise networks. The competitive landscape includes industry consolidation, pricing pressure and competition for the innovation of new products. These competitive conditions are likely to persist. Our large-scale manufacturing experience, fiber process, technology leadership and intellectual property provide cost advantages relative to several of our competitors. Our principal competitors include CommScope, Inc. and Prysmian Group S.p.A.

Display Technologies Segment

We are the largest worldwide producer of glass substrates for flat panel displays. The environment for high-performance display glass substrate products is very competitive and we have maintained our competitive advantages by investing in new products, continually improving our proprietary fusion manufacturing process and providing a consistent and reliable supply of high quality products. Our process allows us to deliver glass that is larger, thinner and lighter, with exceptional surface quality and without heavy metals. Our principal competitors include AGC Inc. and Nippon Electric Glass Co., Ltd.

Specialty Materials Segment

We have deep capabilities in materials science, optical design, shaping, coating, finishing, metrology and optical system assembly. Our products and capabilities in this segment position us to meet the needs of a broad array of markets, including semiconductor, aerospace, defense, industrial, commercial and telecommunications. Our principal competitors include Schott AG, AGC Inc., Nippon Electric Glass Co., Ltd. and Heraeus.

Environmental Technologies Segment

We maintain a strong position in the worldwide market for automotive ceramic substrate and filter products, as well as in the heavy-duty and light-duty diesel vehicle markets. Our competitive advantage in automotive ceramic substrate products for catalytic converters and filter products for particulate emissions in exhaust systems is based on an advantaged product portfolio, collaborative engineering design services, customer service and support, strategic global presence and continued product innovation. Our principal competitors include NGK Insulators, Ltd. and Ibiden Co., Ltd.

Life Sciences Segment

We seek to maintain a competitive advantage by emphasizing product quality, global distribution, supply chain efficiency, a broad product line, technical support and superior product attributes. Our principal competitors include Thermo Fisher Scientific, Inc., Avantor, Inc., Greiner AG, Eppendorf AG, Sarstedt AG and Danaher Corporation. Corning also faces competition from large distributors that have pursued backward integration or introduced private label products.

Raw Materials

Our manufacturing processes and products require access to uninterrupted power sources, significant quantities of industrial water, certain precious metals and various batch materials. Availability of resources, such as ores, minerals, polymers, lithium, helium and processed chemicals, required in our manufacturing operations appear to be adequate. From time to time, our suppliers may experience capacity limitations in their own operations or may eliminate certain product lines. We have adequate programs to ensure a reliable supply of raw and batch materials, as well as precious metals which are used in our production processes. For many of our materials, we have alternate suppliers that would allow operations to continue without interruption in the event of specific materials shortages.

Certain key materials and proprietary equipment used in the manufacturing of products are currently sole-sourced or available only from a limited number of suppliers. To minimize this risk, we closely monitor raw materials and equipment with limited availability or sole-sourced suppliers. However, any future difficulty in obtaining sufficient and timely delivery, or inflationary pricing, of components and/or raw materials could result in lost revenue due to delays or reductions in product shipments, or reductions in gross margin.

Patents and Trademarks

Inventions by members of our research and engineering staff continue to be important to our growth. Patents have been granted on many of these inventions in the U.S. and other countries. Some of these patents have been licensed to other manufacturers. Many of our earlier patents have now expired, but we continue to seek and obtain patents protecting our innovations. In 2022, we were granted about 470 patents in the U.S. and over 1,450 patents in countries outside the U.S.

Each business segment possesses a patent portfolio that provides certain competitive advantages in protecting our innovations. We have historically enforced, and will continue to enforce, our intellectual property rights. At the end of 2022, we owned about 12,465 unexpired patents in various countries, of which about 4,470 were U.S. patents. Between 2023 and 2025, approximately 650, or 5%, of these worldwide patents will expire, while at the same time we intend to seek patents protecting our newer innovations. Worldwide, we have about 8,480 patent applications in process, with about 2,170 in process in the U.S. Our patent portfolio will continue to provide a competitive advantage in protecting our innovation, although our competitors in each of our businesses are actively seeking patent protection as well.

While each of our reportable segments has numerous patents in various countries, no one patent is considered material to any segment. Important U.S.-issued patents in our reportable segments include the following:

- Optical Communications: patents relating to (i) multimode and single mode optical fiber products including low-loss optical fiber, large effective area optical fiber and other high data rate optical fiber, and processes and equipment for manufacturing optical fiber, including methods for making optical fiber preforms and methods for drawing, cooling and winding optical fiber; (ii) optical fiber ribbons and methods for making such ribbon, indoor and outdoor fiber optic cable products and methods for making and installing optical fiber cable; (iii) optical fiber connectors and factory-terminated assemblies, hardware, termination and storage and associated methods of manufacture; and (iv) optical fiber and hybrid fiber-coax wireless communication systems.
- Display Technologies: patents relating to glass compositions and methods for the use and manufacture of glass substrates for display applications.
- Specialty Materials: patents relating to protective cover glass materials and coatings, ophthalmic glasses and polarizing dyes and semiconductor/microlithography optics and blanks, metrology instrumentation and laser/precision optics, glass polarizers, specialty fiber and refractories.
- Environmental Technologies: patents relating to cellular ceramic honeycomb products, together with ceramic batch and binder system compositions, honeycomb extrusion and firing processes, and honeycomb extrusion dies and equipment for the high-volume, low-cost manufacture of such products.
- Life Sciences: patents relating to methods and apparatus for the manufacture and use of scientific laboratory equipment including multiwell plates and cell culture products, as well as equipment and processes for cell and gene therapy research.

The following table presents the approximate number of patents granted to our reportable segments:

	Number of patents worldwide	U.S. patents	Important U.S. patents expiring between 2023 and 2025
Optical Communications	4,584	2,135	27
Display Technologies	1,168	159	7
Specialty Materials	2,645	816	12
Environmental Technologies	965	359	11
Life Sciences	551	152	2

Many of our patents are used in operations or are licensed for use by others, and we are licensed to use patents owned by others. We have entered into cross-licensing arrangements with some major competitors, but the scope of such licenses has been limited to specific product areas or technologies.

Our principal trademarks include the following: Axygen, Celcor, ClearCurve, Corning, DuraTrap, Eagle XG, Edge8, Everon, Evolv, Falcon, Gorilla, Guardiant, HPFS, Leaf, PYREX, RocketRibbon, SMF-28e, Steuben, UniCam, Valor, Velocity, Victus and Viridian.

Protection of the Environment

We have an extensive program to ensure that our facilities comply with state, federal and foreign pollution-control regulations. This program has resulted in capital and operating expenditures each year. To maintain compliance with such regulations, capital expenditures for pollution control in operations were approximately $20.5 million in 2022 and are estimated to be $29.7 million in 2023.

Our 2022 consolidated operating results were charged with approximately $60.2 million for depreciation, maintenance, waste disposal and other operating expenses associated with pollution control.

Human Capital Management Overview

At Corning, we are proud of the life-changing innovations we bring to the world. Our unparalleled expertise in our core technologies along with deep manufacturing and engineering capabilities require a talent strategy focused on attracting and retaining exceptional people, fostering a culture that enables innovation and collaboration and supporting long and successful careers.

Each of our 57,500 full- and part-time employees in 44 countries make an important contribution, whether in one of our manufacturing or processing facilities, research labs, sales offices or other facilities. Approximately 65% of all employees are in production and maintenance roles and an estimated 58% of those employees are represented by a union or works council. Our global workforce is concentrated in North America, the Asia Pacific region and EMEA.

Values

Corning is guided by an enduring set of Values that defines our relationship with employees, customers and our communities: Quality, Integrity, Performance, Leadership, Innovation, Independence and the Individual. Our Values are the key to our business success, a source of pride and excitement for our employees and the factor that ultimately sets us apart from our competitors. In short, we believe that how we do things is as important as what we do. We measure how we live our Values through the annual Corporate Values Survey. We use the results to see what actions can be taken to improve living the Values. Corning employees all contribute to the success of the Company by Living our Values—all seven, all the time, all around the world.

Diversity, Equity and Inclusion

We are focused on leveraging globally diverse teams and creating an inclusive environment for all. Our global workforce is comprised of 62% men and 38% women. In all regions of the world, we are continuing to invest in building our pipeline of female and minority talent through targeted recruitment efforts, mentoring and coaching programs, networking opportunities, personalized development plans and proactive career management. As a result of these efforts, we have made significant diversity gains within our leadership teams. Since 2010, gender and ethnic diversity among members of the Corporate Management Group, which includes about 230 of the Company's top global leaders, increased from 28% to 51%; corporate officer diverse representation has increased from 21% to 42%.

In 2022, we continued to maintain 100% pay equity for all salaried men and women in our worldwide operations and pay equity across minority groups compared with white salaried employees in the U.S. We furthered our longstanding commitment to diversity, equity and inclusion ("DE&I") in 2020 by creating the Office of Racial Equality and Social Unity ("ORESU") to further our goal of a more equitable and inclusive culture at Corning and beyond. The efforts of this office have not only impacted policies, practices, communications and our corporate culture, but have championed diversity and inclusion in the communities in which our employees live and work. Since its creation, in addition to driving inclusive mindsets through the global deployment of a DE&I curriculum within Corning, ORESU's external efforts have focused on building equity in education and economic development through continuous professional development, DE&I programs for educators and continued collaboration with community partners.

Corning proudly sponsors 15 different Employee Resource Groups ("ERGs") with 51 chapters worldwide. They represent employees who are women, Black, Asian, Latino, Native American, people with disabilities, members of the LGBTQ+ community and veterans, among others. The ERGs are vital in raising awareness, recruiting and retaining diverse talent and inspiring corporate leadership to adopt new policies, practices and services.

Talent Management

Each year we formally evaluate the talent implications of our strategic business plans and align our actions and objectives accordingly. As businesses grow organically or through acquisition, we create human capital objectives to ensure we have the right people with the right skills in place to deliver that growth.

Corning strives to attract and recruit diverse qualified candidates to maintain our culture of innovation and to foster creativity. We have created a strategic talent pipeline through internships, co-ops, rotational leadership programs and partnerships with various universities, including Historically Black Colleges & Universities. In addition, we collaborate with organizations such as the Society of Women Engineers, The Association of Latino Professionals for America, National Society of Black Engineers and military veterans' groups to introduce us to qualified, diverse candidates.

We conduct a climate survey each year at the enterprise level, analyzing results by business and region. Businesses also conduct pulse surveys as needed, to measure engagement, satisfaction and alignment with our Values. It is important to Corning that employees continue to grow and develop, pursuing their careers at the Company over the long-term. We offer a variety of developmental programs and experiences targeted to all levels in the organization. We provide on-the-job learning experience, mentoring and career planning to ensure immediate application and lasting impact. Talent retention is an ongoing important focus area which aligns with our strategy of encouraging and supporting longer-term careers with Corning. Historically, our talent retention has been consistently higher than the markets in which we compete for talent. Like many other companies, 2022 yielded some recruitment and retention challenges primarily in specific locations within our US operations. However, our Human Resource teams mobilized quickly with plans in place to address those issues. In 2022, salaried talent retention remained strong at 94%.

At Corning, the health and safety of our workforce is always of paramount consideration. Our safety standards meet, and often exceed, local regulatory standards. Corning's Total Recordable Incident Rate ("TRIR") performance is at world class levels with a Company-wide TRIR of just 0.46 in 2022. Globally, we promote employee health and wellbeing through wellness programs which vary by region such as nutrition, mental health and fitness-related offerings, smoking cessation programs and smoke free campuses. With the continuation of the pandemic in 2022, we continued our Responsible Corning program initiated in 2020. In addition, we encouraged COVID vaccinations and boosters among our employees and in the communities in which we operate.

Executive Officers of the Registrant

Jaymin Amin *Senior Vice President and Chief Technology Officer*
Dr. Amin joined Corning in 1997 as a senior research scientist. He held numerous operational roles within Photonics before joining Corning Specialty Materials in 2004. He led product and process development, product engineering and commercial technology for Gorilla Glass and later for Mobile Consumer Electronics. In 2020, Dr. Amin was appointed vice president and general manager, Corning Gorilla Glass, Mobile Consumer Electronics, and in June 2022 he was appointed senior vice president and chief technology officer. Age 54.

John P. Bayne, Jr. *Senior Vice President and General Manager, Mobile Consumer Electronics*
Mr. Bayne joined Corning in 1995 as the Fallbrook plant controller, and in 1997 became an international business controller in the Optical Fiber division. From 1999 to 2003 he held a variety of management positions in Photonic Technologies. In 2003 he joined Display Technologies and in 2006, he was named president, Display Technologies, China. In 2009 he became director of strategy, Display Technologies. In 2012 he was appointed vice president and general manager for High Performance Displays and in 2014 he assumed responsibility for the Advanced Glass Innovations group. In 2015 Mr. Bayne was named vice president and general manager of the Gorilla Glass business. He was appointed senior vice president and general manager of Mobile Consumer Electronics in April 2020. Age 56.

Stefan Becker *Senior Vice President, Finance and Corporate Controller*
Mr. Becker joined Corning in 2000 through Corning's acquisition of Siemens Communication Cable Division. From 2001 to 2005, he held positions as manager, Planning and Analysis and later director of Finance, Corning Cable Systems. He joined the Display Technologies division in 2005 as U.S. Controller. In 2007 he was appointed CFO, Corning Display Technologies Taiwan. In 2009 he was named director of Finance, Corning Display Technologies ("CDT") and in 2010 was appointed division controller, CDT. Between 2012 and 2015, he served as international division vice president, Finance, Corning Glass Technologies. Mr. Becker was appointed Corning's operations controller in 2015 and senior vice president in 2019. In 2021 he was appointed senior vice president, Finance, and corporate controller and in February 2022 he was named principal accounting officer. Age 51.

Michael A. Bell *Senior Vice President and General Manager, Optical Communications*
Mr. Bell joined Corning in 1991 as a process engineer for the Telecommunications Cable Plant in Hickory, North Carolina. He has held a variety of positions in manufacturing and engineering. He was appointed to CCS Americas Cable Manufacturing Manager in 2004, which expanded to include hardware manufacturing in 2009. In 2012 he was appointed senior vice president and general manager, Optical Connectivity Solutions for Corning Optical Communications. He was appointed senior vice president and general manager, Optical Communications in 2020. Age 58.

Cheryl C. Capps *Senior Vice President and Chief Supply Chain Officer*
Ms. Capps joined Corning in 2011 as vice president, procurement and transportation and in 2018 she was appointed senior vice president, global supply chain. Since joining Corning, Ms. Capps has worked to develop the capabilities within the global supply management function and across the corporation to transform supply chain into a competitive advantage for enabling innovation, growth and financial success. She has many years of diverse leadership experience in business management, strategic planning, manufacturing, supply chain, quality, research and development. Ms. Capps was appointed senior vice president and chief supply chain officer in 2020. Age 61.

Martin J. Curran *Executive Vice President and Innovation Officer*
Mr. Curran joined Corning in 1984 and has held a variety of roles in finance, manufacturing and marketing. He has served as senior vice president, general manager for Corning Cable Systems Hardware and Equipment Operations in the Americas, responsible for operations in Hickory, North Carolina; Keller, Texas; Reynosa, Mexico; Shanghai, China; and the Dominican Republic. In 2007, he was appointed senior vice president and general manager of Corning Optical Fiber. Mr. Curran was appointed executive vice president and innovation officer in 2012. Age 64.

Jeffrey W. Evenson *Executive Vice President and Chief Strategy Officer*
Dr. Evenson joined Corning in 2011 as senior vice president and operations chief of staff. In 2015, he was named chief strategy officer. He was appointed executive vice president in 2018. He oversees corporate strategy, corporate communications and advanced analytics. Prior to joining Corning, Dr. Evenson was a senior vice president with Sanford C. Bernstein & Co., LLC, where he served as a senior analyst. Before that, Dr. Evenson was a partner at McKinsey & Company, where he led technology and market assessment for early-stage technologies. Age 57.

Li Fang *President and General Manager, International*
Mr. Fang joined Corning International in 1997 as business development manager, China. In 1999 he transferred to the Environmental Products Division and became production manager of Corning Environmental Technologies' (CET) China Plant - Corning (Shanghai) Company Ltd. In July 2004, he was appointed operations manager and in October 2004 he was appointed director of operations and plant manager of Corning (Shanghai) Company Ltd. In 2007, Mr. Fang was appointed vice president, Corning Display Technologies China, and director of commercial operations, government affairs and supply chain. In 2009 he was named president, Corning Display Technologies China. In 2012 Mr. Fang was appointed president and general manager of Corning Greater China. Age 60.

Robert P. France *Senior Vice President, Human Resources*
Mr. France joined Corning in 2000 as a commercial Human Resources manager for Optical Fiber. He moved to Display Technologies in 2004 as the division Human Resources manager. He was Human Resources director for Corning Glass Technologies and Asia from 2004 to 2016. From 2016 to 2018, Mr. France was Human Resources senior vice president for Corning Optical Communications, responsible for leading all aspects of the Human Resources function across several businesses and had HR Generalist responsibility for the Corning China organization. In 2018 he was appointed vice president, Human Resources and was appointed senior vice president, Human Resources in 2019. Age 57.

Lawrence D. McRae *Vice Chairman and Corporate Development Officer*
Mr. McRae joined Corning in 1985 and has held a broad range of leadership positions in finance, sales, marketing and general management across Corning's businesses. In 1995 he was appointed vice president of Corning Consumer Products Company and president of Revere Ware Corporation. He then moved to Telecommunications Products, where he served as division vice president, Global Development, from 1996 to 2000. He was appointed vice president Corporate Development in 2000 and progressed through a series of senior leadership positions. Mr. McRae has led strategy and corporate development since 2010. He was named vice chairman in 2015 and corporate development officer in 2020. Age 64.

Anne Mullins *Senior Vice President*
Ms. Mullins served as Corning's senior vice president & chief digital & information officer from 2019 to November 2022. In this role, she was responsible for leading the strategic direction of Corning's global information technology function and evolving the Company's digital footprint. Prior to joining Corning, Ms. Mullins served as chief information officer for Lockheed Martin and previously served as Lockheed Martin's chief information security officer. Age 60.

Eric S. Musser *President and Chief Operating Officer*
Mr. Musser joined Corning in 1986 and served in a variety of manufacturing and general management roles in Corning's Optical Communications businesses. In 2005, he was named vice president and general manager of Optical Fiber. Mr. Musser served as general manager, Corning Greater China from 2007 to 2012 and president of Corning International from 2012 to 2014. In 2014, he was appointed executive vice president, Corning Technologies and International. In 2020, he was appointed president & chief operating officer. Age 63.

Avery H. Nelson III *Senior Vice President and General Manager, Automotive*
Mr. Nelson joined Corning in 1991 as shift supervisor at the Harrodsburg, Kentucky plant and subsequently served in progressive roles in Corning Display Technologies. In 2007, he joined CET as general manager, Corning (Shanghai) Company Limited. In 2009, he became general manager and regional director of China and India, CET. In 2010 he returned to the U.S. as program director, CET. In 2011, he assumed the role of business director, AAA Corning® Gorilla® Glass, New Business Development. Later that year, he was appointed division vice president, Heavy Duty Diesel (HDD). In 2013, he was appointed division vice president and business director. In 2014, Mr. Nelson was appointed vice president and general manager for Environmental Technologies and in 2018 he was named senior vice president and general manager, CET. He was appointed senior vice president and general manager, Automotive in 2020. Age 54.

Edward A. Schlesinger *Executive Vice President and Chief Financial Officer*
Mr. Schlesinger joined Corning in 2013 as senior vice president and chief financial officer of Corning Optical Communications. He was appointed vice president and corporate controller in September 2015 and principal accounting officer in December 2015. He was named senior vice president in 2019. In February 2022, he was appointed executive vice president and chief financial officer. Prior to joining Corning, Mr. Schlesinger served as Vice President, Finance and Sector Chief Financial Officer for the Climate Solutions Sector for Ingersoll Rand. Mr. Schlesinger's financial career spans more than 20 years, with extensive expertise in accounting, technical financial management and reporting. Age 55.

Soumya Seetharam *Senior Vice President and Chief Digital & Information Officer*
Ms. Seetharam joined Corning in November 2022 as senior vice president and chief digital & information officer. Prior to joining Corning, she was vice president and general manager IT at Intel Corporation. She also served as chief systems officer at Anadarko Petroleum Corporation and senior director of Global Project Management Office and Business Intelligence at Baker Hughes. She spent 14 years in various divisions at General Electric (GE), including positions as Client CIO – GE Oil & Gas, IT Leader, IT program manager and Six Sigma Black Belt. She brings deep experience in information technology, digital and systems transformation and risk governance to Corning. Age 47.

Lewis A. Steverson *Executive Vice President and Chief Legal & Administrative Officer*
Mr. Steverson joined Corning in 2013 as senior vice president and general counsel. In 2018 he was named executive vice president and general counsel. He was appointed chief legal & administrative officer in 2020. Prior to joining Corning, Mr. Steverson served as senior vice president, general counsel, and corporate secretary of Motorola Solutions, Inc. During his 18 years with Motorola, he held a variety of law leadership roles across the company's numerous business units. Prior to Motorola, Mr. Steverson was in private practice at the law firm of Arnold & Porter. Age 59.

Ronald L. Verkleeren *Senior Vice President and General Manager, Life Sciences Technologies*
Mr. Verkleeren joined Corning in 2001 in the Optical Communications segment. He joined the Life Sciences segment in 2004 and has held a variety of progressive roles in that segment. In 2010, he was named division vice president and director of Advanced Life Sciences. In 2012 he was named division vice president and program director for Corning Pharmaceutical Technologies. In 2015, Mr. Verkleeren became vice president and general manager of the Pharmaceutical Technologies division. He was appointed senior vice president & general manager, Life Sciences Technologies in 2020. Age 52.

Wendell P. Weeks *Chairman and Chief Executive Officer*
Mr. Weeks joined Corning in 1983 in the finance group. He has held a variety of financial, business development, commercial and general management roles. He was named vice president and general manager of the Optical Fiber business in 1996 and president of Corning's Optical Communications division in 2001. He became Corning's president and chief operation officer in 2002. Mr. Weeks has been a member of Corning's Board of Directors since December 2000. He was named chief executive officer in 2005 and chairman of the board in 2007. Mr. Weeks is a director of Amazon.com, Inc. Age 63.

John Z. Zhang *Senior Vice President and General Manager, Display Technologies*
Mr. Zhang joined Corning in 2008 as director, corporate development. In 2009, he was appointed director, corporate development Asia Pacific. In 2010, he further expanded his role to lead the strategy & corporate development organization of Corning International. In 2014, he was named deputy general manager, Corning Display Technologies. In 2015, Mr. Zhang was elected senior vice president and general manager, Corning Display Technologies. Age 50.

Document Availability

A copy of Corning's 2022 Annual Report on Form 10-K filed with the United States Securities and Exchange Commission (the "SEC") is available upon written request to Corporate Secretary, Corning Incorporated, One Riverfront Plaza, Corning, NY 14831. The Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments pursuant to Section 13(a) or 15(d) of the Exchange Act of 1934 and other filings are available as soon as reasonably practicable after such material is electronically filed or furnished to the SEC, and can be accessed electronically free of charge at www.SEC.gov, or through the Investor Relations page on Corning's website at www.corning.com. The information contained on the Company's website is not included in, or incorporated by reference into, this Annual Report on Form 10-K.

Other

Additional information in response to Item 1 is found in Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements.

Item 1A. Risk Factors

We operate in rapidly changing economic, political and technological environments that present numerous risks. Our operations and financial results are subject to risks and uncertainties, including those described below, that could adversely affect our business, financial condition, results of operations, cash flows, our ability to successfully execute our strategy and the trading price of our common stock or debt. The following discussion identifies the most significant factors that may adversely affect the Company. This information should be read in conjunction with Management's Discussion and Analysis of Financial Conditions and Results of Operations ("MD&A") and the consolidated financial statements and related notes incorporated by reference into this report. The following discussion of risks is not all inclusive but is designed to highlight what we believe are important factors to consider, as these factors could cause our future results to differ from those in our forward-looking statements and from historical trends.

Risks Related to Our Business

The ongoing COVID-19 pandemic has adversely impacted, and may continue to impact, the global economy and disrupt our operations and supply chains, which may have an adverse effect on our results of operations

COVID-19 has impacted and may further impact the global economy and could have additional impacts on economic growth, the proper functioning of financial and capital markets, foreign currency exchange rates and interest rates. The pandemic has resulted in authorities around the world implementing numerous unprecedented measures such as travel restrictions, quarantines, shelter in place orders, vaccine mandates and facility shutdowns. These measures have impacted, and may continue to impact our workforce, operations and supply chains, and those of our customers, contract manufacturers and suppliers, particularly in the event of a significant global resurgence of the illness or similar global health crisis. There is considerable uncertainty regarding the duration, scope and severity of the pandemic and the impacts on our business and the global economy from the effects of the ongoing pandemic and response measures.

Inflationary price pressures and uncertain availability of commodities, raw materials, utilities, labor or other inputs used by us and our suppliers, or instability in logistics and related costs, among other factors, could negatively impact our profitability

Increases in the price of commodities, raw materials, utilities, labor or other inputs that we or our suppliers use in manufacturing and supplying products, components and parts, along with logistics and other related costs, may lead to higher production and shipping costs for our products, parts and components. Further, increasing global demand for, and uncertain supply of, such materials could disrupt our or our suppliers' ability to obtain such materials in a timely manner to meet our supply needs and/or could lead to increased costs. Any increase in the cost of inputs to our production could lead to higher costs for our products and could negatively impact our operating results, future profitability and ability to successfully deliver on our strategy. Increasing our prices to our customers may cause certain of our customers to push out, cancel or refrain from purchasing our products, which could materially adversely impact demand for our products, and thereby also negatively impact our operating results, future profitability and ability to successfully deliver on our strategy.

Factors such as supply chain disruptions, manufacturing interruptions or delays, or the failure to accurately forecast customer demand, could affect our ability to meet customer demand, lead to higher costs, or result in excess or obsolete inventory; if we are unable to obtain the necessary equipment, raw and batch materials, natural resources, utilities and other essentials required in our products or processes, our business will be negatively impacted

Corning's business relies on the timely supply of materials, equipment, services and related products to meet the changing technical and volume requirements of its customers, which depends in part on the timely delivery of materials, equipment and services, from suppliers and contract manufacturers. Significant or sudden increases in demand for such materials, equipment and services, as well as delays in and unpredictability of shipments due to transportation interruptions, have resulted in, and may continue to result in, a shortage of materials, equipment and services needed to manufacture Corning's products. Such shortages have adversely impacted, and may continue to adversely impact, our suppliers' ability to meet our demand requirements and Corning's manufacturing operations and its ability to meet customer demand. Some key materials, equipment and services are subject to long lead-times or are available only from a single supplier or limited group of suppliers and we may not be able to find alternate sources in a timely manner. Volatility of demand for manufacturing equipment can increase capital, technical, operational and other risks for Corning and for companies throughout our supply chain, and may cause some suppliers to exit businesses, scale back or cease operations, which could impact our ability to meet customer demand.

Our ability to meet customer demand depends, in part, on our ability to obtain timely and adequate delivery of equipment, raw and batch materials, natural resources or utilities, equipment, parts and components from our suppliers. We may experience shortages that could adversely affect our operations. A reduction, interruption or delay of supply, or a significant increase in the price for supplies, such as manufacturing equipment, precious metals, raw materials, utilities including energy and industrial water, could have a material adverse effect on our business.

Corning may also experience significant interruptions of its manufacturing operations, delays in its ability to deliver products or services, increased costs or customer order cancellations as a result of:

- The failure or inability to accurately forecast demand and obtain sufficient quantities of materials, equipment and services on a cost-effective basis;
- Volatility in the availability and cost of materials, equipment and services, including rising prices due to inflation or scarcity of availability;
- Difficulties or delays in obtaining required import or export approvals;
- Shipment delays due to transportation interruptions or capacity constraints;
- A worldwide shortage of semiconductor components or other issues;
- Information technology or infrastructure failures, including those of a third-party supplier or service provider; and
- Natural disasters, the impacts of climate change, or other events beyond Corning's control (such as earthquakes, utility interruptions, tsunamis, hurricanes, typhoons, floods, storms or extreme weather conditions, fires, regional economic downturns, regional or global health epidemics, including the ongoing COVID-19 pandemic, geopolitical turmoil, increased trade restrictions between the U.S. and China and other countries, social unrest, political instability, terrorism, or acts of war) in locations where it or its customers or suppliers have manufacturing, research, engineering or other operations.

Corning's Display Technologies segment generates a significant amount of the Company's profits and cash flow; any significant decrease in display glass pricing or market share could have a material and negative impact on our financial results

Corning's ability to generate profits and operating cash flow depends largely on the profitability of our display glass business, which is subject to continuous pricing pressure due to factors such as industry competition, potential over-capacity, and development of new technologies. If we are not able to achieve proportionate reductions in costs and/or increases in volume to offset ongoing pricing pressure, it could have a material adverse impact on our financial results.

Because we have a concentrated customer base, future sales and cash flows could be negatively impacted by the actions or loss of one or more key customers

A relatively small number of end customers account for a high percentage of our net sales. This concentration subjects us to a variety of risks including:

- The loss or insolvency of one or more of our key customers, could result in a substantial loss of sales and reduction in anticipated cash flows;
- Customers may possess substantial leverage in negotiating contractual obligations, including liability provisions; and
- Mergers and consolidations between customers could result in further concentration of the customer base.

The following table details the number of combined customers of our reportable segments that accounted for a large percentage of segment net sales:

	Number of combined end customers	% of total segment net sales in 2022
Optical Communications	2	26%
Display Technologies	2	37%
Specialty Materials	2	49%
Environmental Technologies	3	74%
Life Sciences	2	37%

Events outside of Corning's control, or those of our contract manufacturers, could cause a disruption to our manufacturing operations and our ability to serve our customers, resulting in a negative impact to Corning's net sales, net income, asset values and liquidity

Disruption to our manufacturing operations, or those of our contract manufacturers, could significantly impact Corning's ability to supply its customers and could produce a near-term severe impact on our individual business units and the Company. Given the geographical concentration of certain of the Company's and our contract manufacturers' plants in Asia Pacific, the highly engineered nature of the facilities and the globally dispersed talent required to run these facilities, any event that adversely affects or restricts movement into or out of a specific geographic area where we, our contract manufacturers, suppliers, or customers have a presence, could adversely impact our results. Due to the specialized nature of our products and single-site manufacturing locations, in the event such a location experiences disruption, it may not be possible to find replacement capacity or substitute production from other facilities.

We may experience difficulties in enforcing our intellectual property rights, which could result in loss of market share, and we may be subject to claims of infringement of the intellectual property rights of others

We rely on patent and trade secret laws, copyright, trademark, confidentiality procedures, controls and contractual commitments to protect our intellectual property rights. Despite our efforts, these protections may be limited and we may encounter difficulties in protecting our intellectual property rights or obtaining rights to additional intellectual property necessary to permit us to continue or expand our businesses. We cannot provide assurance that the patents that we hold or may obtain will provide meaningful protection against our competitors. Changes in or enforcement of laws concerning intellectual property may affect our ability to prevent or address the misappropriation of, or the unauthorized use of, our intellectual property, potentially resulting in loss of market share. Litigation may be necessary to enforce our intellectual property rights. Litigation is inherently uncertain and outcomes are unpredictable. If we cannot protect our intellectual property rights against unauthorized copying or use, or other misappropriation, we may not remain competitive.

The intellectual property rights of others could inhibit our ability to introduce new products. Other companies hold patents on technologies used in our industries and are aggressively seeking to expand, enforce and license their patent portfolios. We periodically receive notices from, or have lawsuits filed against us by third parties claiming infringement, misappropriation or other misuse of their intellectual property rights and/or breach of our agreements with them. These third parties often include entities that do not have the capabilities to design, manufacture, or distribute products or entities that acquire intellectual property, including patents, for the sole purpose of monetizing their acquired intellectual property through asserting claims of infringement and misuse. Such claims of infringement or misappropriation may result in loss of revenue, substantial costs, or lead to monetary damages or injunctive relief against us.

Information technology dependency and cybersecurity vulnerabilities could lead to reduced revenue, liability claims, competitive or reputational harm, and result in material adverse effects on our operations and financial results

The Company is dependent on information technology systems and infrastructure ("IT systems") owned and operated by the Company or managed by third-party service providers, suppliers and contract manufacturers. IT systems enable us to conduct, monitor and/or protect our business, operations, systems, data and other assets. In the ordinary course of our business, we and our providers collect, process, transmit and store sensitive data, including intellectual property, our proprietary information and that of our customers, suppliers and business partners, as well as personally identifiable information. Intrusion into a supplier or contract manufacturer system not integrated with a Corning IT system could result in service disruption and/or loss of financial control.

Our IT systems, and those of our providers, may be vulnerable to compromise or disruption due to human error or malfeasance, outdated applications, computer viruses or malware (e.g., ransomware), natural disasters, unauthorized access, cyber-attacks and other similar incidents and disruptions. Increased work-from-home, at both the Company and our providers, presents additional operational risk. Companies that provide utilities, water, transportation, natural gas and other resources and services across our supply chain, are critical to our manufacturing operations and are vulnerable to cyber-attacks. From time to time, both we and certain of our providers, have been subject to cyberattacks and security incidents. We may be unable to anticipate, detect, prevent or remediate future attacks, particularly as attackers are becoming more sophisticated in their ability to circumvent controls and remove forensic evidence.

Any significant disruption, breakdown, intrusion, interruption or corruption, data breach, or compromise to the accessibility, security or integrity of our or our providers' IT systems, or the misappropriation or disclosure of any confidential, proprietary or personally identifiable information, could result in the loss of data or intellectual property, equipment or systems damage, downtime, safety related issues and could have a material adverse effect on our business, including by harming our competitive position and reputation, disrupting our manufacturing, reducing the value of our investment in research and development and other strategic initiatives, impairing our ability to access suppliers, contract manufacturers, customers and cloud-based services, subjecting us to litigation or regulatory investigations or fines, increasing the costs of compliance and remediation, or otherwise adversely affecting our business. We may be required to invest significant additional resources to comply with evolving cybersecurity regulations and to modify and enhance our IT systems, information security and controls, and to investigate and remediate any security vulnerabilities. Any losses, costs or liabilities may not be covered by, or may exceed the coverage limits of, any, or all, of our applicable insurance policies.

We may not earn a positive return from our research, development and engineering investments

Developing our products through our innovation model of research and development is costly and often involves a long investment cycle. We make significant investments in research, development and engineering that may not earn an economic return. If our investments do not provide a pipeline of products or technologies that our customers demand or lower our manufacturing costs, or if our products or technologies become obsolete, it could negatively impact our revenue and operating margins for both near- and long-term.

Our innovation model depends on our ability to attract and retain specialized expertise

Our innovation model requires us to employ highly specialized experts in glass science, ceramic science and optical physics to conduct our research and development and engineer our products and design our manufacturing facilities. The loss of the services of any member of our key research and development or engineering team without adequate replacement, or the inability to attract new qualified personnel, could have a material adverse effect on our operations and financial performance.

We are subject to strict environmental regulations and regulatory changes that could result in fines or restrictions that interrupt our operations

Some of our manufacturing processes generate chemical waste, wastewater, other industrial waste or greenhouse gases, and we are subject to numerous laws and regulations relating to the use, storage, discharge and disposal of such substances. We have installed anti-pollution equipment for the treatment of chemical waste and wastewater at our facilities. We have taken steps to control and reduce the amount of greenhouse gases created by our manufacturing operations. However, we cannot provide assurance that environmental claims will not be brought against us or that government regulators will not take steps to adopt more stringent environmental standards.

Any failure on our part to comply with any present or future environmental regulations could result in the assessment of damages or imposition of fines against us, or the suspension/cessation of production or operations. In addition, environmental regulations could require us to acquire costly equipment, incur other significant compliance expenses or limit or restrict production or operations and thus materially and negatively affect our financial condition and results of operations.

Changes in regulations and the regulatory environment in the U.S. and the many other countries in which we operate, such as those resulting from the regulation and impact of climate change, CO_2 abatement and emission reduction targets, may affect our businesses and results in adverse ways by, among other things, substantially increasing manufacturing costs, limiting availability of scarce resources, especially energy, or requiring limitations on production or sales of our products or those of our customers.

General Risk Factors

We may have additional tax liabilities

We are subject to income taxes in the U.S. and many foreign jurisdictions and are commonly audited by various tax authorities. There are many transactions and calculations where the ultimate tax treatment is uncertain. Judgment is required in determining our worldwide provision for income taxes. Although we believe our tax estimates are reasonable, the final determination of tax, assessments, audits and any related litigation could be materially different from our historical income tax provisions and accruals, or result in the forfeiture of funds deposited with the relevant government authorities. The results of an audit or litigation could have a material effect on our financial statements in the period or periods for which such a determination is made.

The U.S., other countries and international organizations, such as Organisation for Economic Co-operation and Development, may change their laws or issue new international tax standards that may also impact our taxes.

As a global company, we face many risks which could adversely impact our operations and financial results

We are a global company and derive a substantial portion of our revenue from, and have significant operations, outside of the U.S. Our international operations include manufacturing, assembly, sales, research and development, customer support and shared administrative service centers. Additionally, we rely on a global supply chain for key components and capabilities that are central to our ability to invent, make and sell products.

Compliance with laws and regulations increases our costs. We are subject to both U.S. laws and the local laws where we operate which, among other things, include data privacy requirements, employment and labor laws, tax laws, anti-competition regulations, prohibitions on payments to governmental officials, import and trade restrictions and export requirements. Non-compliance or violations could result in fines, criminal sanctions against us, our officers or employees, and prohibitions on the conduct of our business. Such violations could result in prohibitions on our ability to offer our products and services in one or more countries and could also materially damage our reputation, our brand, our international expansion efforts, our ability to attract and retain employees, our businesses and operating results. Our success depends, in part, on our ability to anticipate and manage these risks.

Corning is exposed to risks associated with an uncertain, recessionary and inflationary global economy

Uncertain or adverse economic and business conditions, including uncertainties and volatility in the financial markets, national debt, fiscal or monetary concerns, availability of government incentives, inflation and rising interest rates in various regions, could materially adversely impact Corning's operating results. Markets for our products depend largely on business and consumer spending and demand for network capacity, electronics and automotive products. Uncertain or adverse economic and recessionary business conditions, among other factors, that could result in decreases in consumer spending and demand, or cause us to pass on increased costs to our customers, may cause certain of our customers to push out, cancel or refrain from purchasing our products, which could materially adversely impact demand for our products and our operating results.

Similarly, changes that result in sudden increases in consumer demand for electronic products have resulted in, and may continue to result in, a shortage of parts and materials needed to manufacture our products or the products in which our products are used. Such shortages, as well as shipment delays due to transportation interruptions, have adversely impacted, and may continue to adversely impact, our ability to meet our demand requirements.

Uncertain economic and industry conditions also make it more challenging for Corning to forecast its operating results, make business decisions and identify and prioritize the risks that may affect its businesses, sources and uses of cash, financial condition and results of operations. If Corning does not appropriately manage its business operations in response to changing economic and industry conditions, it could have a significant negative impact on its business performance and financial condition. Even during periods of economic uncertainty or lower revenues, Corning must continue to invest in research and development and maintain a global business infrastructure to compete effectively and support its customers, which can have a negative impact on its operating margins and earnings.

We are also subject to a variety of other risks in managing a global organization, including those related to:

- The economic and political conditions in each country or region and relationships among countries;
- Complex regulatory requirements affecting international trade and investment, including anti-dumping laws, export controls, the Foreign Corrupt Practices Act and local laws prohibiting improper payments. Our operations may be adversely affected by changes in the substance or enforcement of these regulatory requirements, and by actual or alleged violations of them;
- Fluctuations in currency exchange rates, convertibility of currencies and restrictions involving the movement of funds between jurisdictions and countries;
- Governmental protectionist policies and sovereign and political risks that may adversely affect Corning's profitability and assets;
- Tariffs, trade duties and other trade barriers including anti-dumping and countervailing duties;
- Geographical concentration of our factories and operations, and regional shifts in our customer base;
- Periodic health epidemic or pandemic concerns, such as COVID-19;
- Political unrest, geopolitical tensions, confiscation or expropriation of assets by foreign governments, terrorism and the potential for other hostilities;
- Difficulty in protecting intellectual property, sensitive commercial and operations data and information technology systems;
- Differing legal systems, including protection and treatment of intellectual property and patents;
- Complex, changing or competing tax regimes;
- Difficulty in collecting obligations owed to us;
- Natural disasters such as floods, earthquakes, tsunamis and windstorms; and
- Potential loss of utilities or other disruptions affecting manufacturing.

We have significant exposure to foreign currency movements

A large portion of our sales, profit and cash flows are transacted in non-U.S. dollar currencies. The Company expects to continue to experience fluctuations in the U.S. dollar value of these activities if it is not possible, cost-effective or should we not elect to hedge certain currency exposure. Additionally, gains or losses may be experienced if the underlying exposure which has been hedged increases or decreases significantly.

The ultimate realized gain or loss with respect to currency fluctuations will generally depend on the size and type of cross-currency exposure that we have, the changes in exchange rates associated with those exposures, whether we have entered into foreign currency contracts to offset these exposures and other factors.

These factors, which are variable and generally outside of our control, could materially impact our results of operations, anticipated future results, financial position and cash flows.

We may have significant exposure to counterparties of our related derivatives portfolio

We maintain a significant portfolio of over-the-counter derivatives to hedge our projected currency exposure. We are exposed to potential losses in the event of non-performance by our counterparties to these derivative contracts. Any failure of a counterparty to pay on such a contract when due could materially impact our results of operations, financial position and cash flows.

Current or future litigation or regulatory investigations may harm our financial condition or results of operations

As a global technology and manufacturing company, we are engaged in various litigations and regulatory matters. Litigation and regulatory proceedings may be uncertain, and adverse rulings could occur, resulting in significant liabilities, penalties or damages. Any such substantial legal liability or regulatory action could have a material adverse effect on our business, financial condition, cash flows and reputation.

Our business is subject to various governmental regulations, and compliance with these regulations may cause us to incur significant expense. If we fail to maintain compliance with applicable regulations, we may be forced to cease the manufacture and distribution of certain products, and we could be subject to administrative proceedings and civil or criminal penalties

Our products and operations are also subject to regulation by U.S. and non-U.S. regulatory agencies, such as the U.S. Federal Trade Commission. From time to time, we may also be involved or required to participate in regulatory investigations or inquiries, into certain of our contracting and business practices, which may evolve into legal or other administrative proceedings. Growing public concern over concentration of economic power in corporations is likely to result in increased anti-competition legislation, regulation, administrative rule making and enforcement activity. Involvement in regulatory investigations or inquiries, can be costly, lengthy, complex and time consuming, diverting the attention and energies of our management and technical personnel. If any pending or future governmental investigations result in an unfavorable resolution, we could be required to cease the manufacture and sale of the subject products or technology, pay fines or disgorge profits or other payments and/or cease certain conduct and/or modify our contracting or business practices, which could have a material adverse effect on our business, financial condition and results of operations. We may be obligated to indemnify our current or former directors or employees, or former directors or employees of companies that we have acquired, in connection with regulatory investigations. These liabilities could be substantial and may include, among other things, the cost of government, law enforcement or regulatory investigations and civil or criminal fines and penalties.

Our global operations are subject to extensive trade and anti-corruption laws and regulations

Due to the international scope of our operations, we are subject to a complex system of import- and export-related laws and regulations, including U.S. regulations issued by Customs and Border Protection, the Bureau of Industry and Security, the Office of Anti-boycott Compliance, the Directorate of Defense Trade Controls and the Office of Foreign Assets Control, as well as the counterparts of these agencies in other countries. Any alleged or actual violation by an employee or the Company may subject us to government scrutiny, investigation and civil and criminal penalties, and may limit our ability to import or export our products or to provide services outside the U.S. We cannot predict the nature, scope or effect of future regulatory requirements to which our operations might be subject to, based on the way existing laws might be administered or interpreted.

In addition, the U.S. Foreign Corrupt Practices Act and similar foreign anti-corruption laws generally prohibit companies and their intermediaries from making improper payments or providing anything of value to improperly influence foreign government officials to obtain or retain business or obtain an unfair advantage. Recent years have seen a substantial increase in the global enforcement of anti-corruption laws. Our continued operation and expansion outside the U.S., including in developing countries, could increase the risk of alleged violations. Violations of these laws may result in severe criminal or civil sanctions, could disrupt our business, and result in an adverse effect on our reputation, business and results of operations or financial condition.

Moreover, several of our key customers are domiciled in areas of the world with laws, rules and business practices that may notably differ from those in the U.S., and we face the reputational and legal risk that our related partners may violate applicable laws, rules and business practices.

International trade policies may negatively impact our ability to sell and manufacture our products outside of the U.S.

Government policies on international trade and investment such as import quotas, tariffs and capital controls, whether adopted by individual governments or addressed by regional trade blocs, can affect the demand for our products and services, impact the competitive position of our products or prevent us, our equity affiliates or joint ventures, from being able to sell and manufacture products in certain countries. The implementation of more restrictive trade policies, such as higher tariffs or new barriers to entry, together with anti-dumping claims, duties, slowed regulatory approvals and other restrictions, in countries in which we import raw materials and components or sell large quantities of products and services could negatively impact our business, results of operations and financial condition. For example, a country's adoption of nationalistic policies or retaliation by another government against such policies could have a negative impact on our results of operations. Further, these actions in conjunction with any trade tensions may restrict us from participating in a specific market or may prevent us from competing effectively.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We operate 124 manufacturing plants and processing facilities in 15 countries, of which approximately 32% are in the U.S. We own approximately 53% of our executive and corporate buildings, with 93% located in and around Corning, New York. We also own approximately 64% of our sales and administrative office square footage, 81% of our research and development square footage, 66% of our manufacturing square footage and 7% of our warehousing square footage.

Manufacturing, sales and administrative, research and development facilities and warehouse facilities have an aggregate floor space of approximately 65.8 million square feet. The following table presents the distribution of this total area:

(million square feet)	Total	Domestic	Foreign
Manufacturing	55.7	20.7	35.0
Sales and administrative	2.4	1.8	0.6
Research and development	3.9	1.9	2.0
Warehouse	3.8	3.0	0.8
Total	65.8	27.4	38.4

Total assets and capital expenditures by reportable segment are included in Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements. Information concerning lease commitments is included in Note 6 (Leases) in the accompanying notes to the consolidated financial statements.

Item 3. Legal Proceedings

Corning is a defendant in various lawsuits and is subject to various claims that arise in the normal course of business, the most significant of which are summarized in Note 13 (Commitments, Contingencies and Guarantees) in the accompanying notes to the consolidated financial statements. In the opinion of management, the likelihood that the ultimate disposition of these matters will have a material adverse effect on the Company's consolidated financial position, liquidity, or results of operations, is remote.

Environmental Litigation

Corning has been designated by federal or state governments under environmental laws, including Superfund, as a potentially responsible party that may be liable for cleanup costs associated with 19 hazardous waste sites. It is Corning's policy to accrue for its estimated liability related to such hazardous waste sites and other environmental liabilities related to property owned by Corning based on expert analysis and continual monitoring by both internal and external consultants. As of December 31, 2022 and 2021, Corning had accrued approximately $109 million and $55 million, respectively, for the estimated undiscounted liability for environmental cleanup and related litigation. Based upon the information developed to date, management believes that the accrued reserve is a reasonable estimate of the Company's liability.

Item 4. Mine Safety Disclosure

Not applicable.

PART II

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

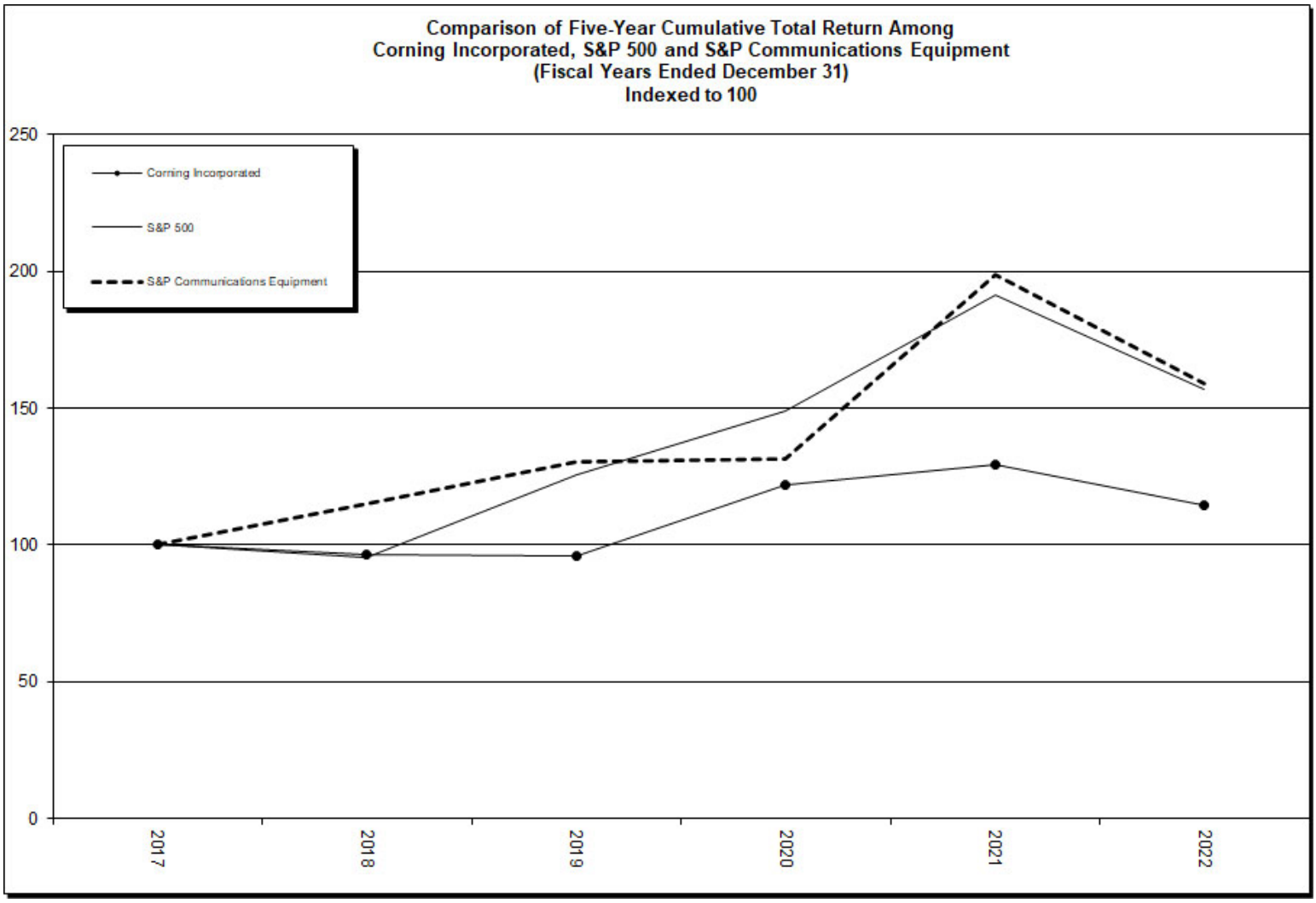
(a) Corning Incorporated common stock is listed on the New York Stock Exchange. In addition, it is traded on the Boston, Midwest and Philadelphia stock exchanges. Common stock options are traded on the Chicago Board Options Exchange. The NYSE ticker symbol for Corning Incorporated is "GLW".

As of December 31, 2022, there were approximately 11,500 registered holders of common stock and approximately 748,000 beneficial shareholders.

Information with respect to securities authorized for issuance under equity compensation plans is included herein under Item 12.

Performance Graph

The following graph illustrates the cumulative total shareholder return over the last five years of Corning's common stock, the S&P 500 and the S&P Communications Equipment Companies. The graph includes the capital-weighted-performance results of those companies in the communications equipment company classification that are also included in the S&P 500.



(b) Not applicable.

(c) The following table provides information about purchases of common stock during the fourth quarter of 2022:

Issuer Purchases of Equity Securities

Period	Total number of shares purchased (1)	Average price paid per share (2)	Number of shares purchased as part of publicly announced programs	Approximate dollar value of shares that may yet be purchased under the programs
October 1-31, 2022	91,941	$ 30.11	—	
November 1-30, 2022	38,800	$ 32.62	—	
December 1-31, 2022	14,832	$ 33.91	—	
Total	145,573	$ 31.16	—	$ 3,301,085,426

(1) This column reflects: (i) 86,443 shares of common stock related to the vesting of employee restricted stock; (ii) 58,007 shares of common stock related to the vesting of employee restricted stock units; (iii) 945 shares of common stock related to the vesting of employee performance stock units; and (iv) 178 shares of common stock related to the exercise of employee stock options and payment of the exercise price.
(2) Represents the stock price at the time of surrender.

Item 6. [Reserved]

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") was prepared to provide a historical and prospective narrative on our financial condition and results of operations through the eyes of management and should be read in conjunction with our consolidated financial statements and the accompanying notes to those financial statements. The discussion and analysis of the 2021 to 2020 year-over-year changes are not included herein and can be found in the "Management's Discussion and Analysis of Financial Conditions and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2021.

Our MD&A is organized as follows:

- Overview
- Results of Operations
- Segment Analysis
- Core Performance Measures
- Liquidity and Capital Resources
- Environment
- Critical Accounting Estimates
- New Accounting Standards
- Forward-Looking Statements

OVERVIEW

We introduced our 2020-to-2023 Strategy & Growth Framework with a focus on capturing opportunities to sell more Corning content through each of our Market-Access Platforms. Our goals included core sales growth at a compound annual growth rate of 6 to 8 percent. From 2019, when we first introduced the new framework, through 2022, we grew core sales at a greater than 8 percent CAGR, even in the face of ongoing external challenges. Over the past four years, we advanced significant strategic initiatives, including fiber-to-the-home and data center solutions in Optical Communications, delivering on our gasoline particulate filter content opportunity in Environmental Technologies, introducing Ceramic Shield with Apple in Specialty Materials and ramping our Gen 10.5 plants to extend our leadership in Display Technologies. In addition, we made major progress on our emerging innovations; we gained significant traction in our Automotive Glass Solutions business; and our pharmaceutical packaging portfolio played a central role in combatting the global pandemic and supported the delivery of more than 8 billion COVID-19 doses. These achievements have helped extend our leadership positions across our markets and pave the way for future growth.

Since 2020, the external environment has been characterized by the impact of the pandemic and its resulting effects including supply chain disruptions, depressed productivity, large swings in consumer spending and inflation. Our 2022 results are a prime example of our resilience in this complex operating environment. Building off a strong 2021, we outperformed our consumer-facing end markets, we captured growth in the solar market and we delivered record sales of $5 billion dollars in Optical Communications.

However, our profitability and cash flow have lagged sales growth as a number of pandemic-driven effects continue to ripple across the global economy. Our core priorities throughout this period were protecting our people and delivering for our customers, and as a result, we operated with elevated staffing and higher-than-normal inventory levels during this period. In addition, persistent inflation added to the cost of raw materials we purchased, the cost to produce and ship our products and the inventory we maintained.

In response, we took a series of actions to improve profitability and cash generation throughout 2022. In the fourth quarter of 2022, we took multiple additional actions, including raising prices across our businesses to more appropriately share inflationary costs with our customers; adjusting our productivity ratios closer to historical metrics without impacting our ability to supply and capture future growth; and normalizing inventory levels.

Overall, we will continue to focus on operating each of our businesses well and adjusting to meet the needs of the moment while simultaneously advancing growth initiatives and capabilities that will drive continued success as the global economy stabilizes. Our focused and cohesive portfolio provides strategic resilience that is evident in our results, even in the current environment. We remain confident in our ability to deliver durable multiyear growth with improved margins and cash generation.

2022 Results

Net sales for the year ended December 31, 2022 were $14.2 billion, a net increase of $107 million, or 1%, when compared to the year ended December 31, 2021. This is driven by 15% growth in segment net sales in Optical Communications of $674 million and 34% growth in Hemlock and Emerging Growth Businesses of $419 million, which helped offset a $394 million decrease in Display Technologies. In addition, movements in foreign exchange rates adversely impacted Corning's consolidated net sales by $616 million for the year ended December 31, 2022, when compared to the same period in 2021.

For the year ended December 31, 2022, we generated net income attributable to Corning Incorporated of $1,316 million, or $1.54 per diluted share, compared to net income attributable to Corning Incorporated of $1,906 million, or $1.28 per diluted share, for the year ended December 31, 2021. When compared to 2021, the $590 million decrease was primarily driven by a $238 million increase in severance, accelerated depreciation, asset write-offs and other related charges, a $50 million increase in litigation, regulatory and other legal matters and a $120 million adverse impact from foreign currency translation.

Diluted earnings per share for the year ended December 31, 2022 increased by $0.26 per diluted share, or 20%, when compared to the year ended December 31, 2021, primarily driven by the immediate repurchase and retirement of 35 million common shares which resulted in an $803 million one-time reduction to net income available to common shareholders in 2021, partially offset by the decrease in net income attributable to Corning Incorporated as described above. Refer to Note 16 (Shareholders' Equity) and Note 17 (Earnings per Common Share) in the accompanying notes to the consolidated financial statements for additional information.

2023 Corporate Outlook

For the first quarter 2023, we anticipate core sales in the range of $3.2 billion to $3.4 billion.

RESULTS OF OPERATIONS

The following table presents selected highlights from our operations (in millions):

	Year ended December 31,		% change
	2022	2021	22 vs. 21
Net sales	**$ 14,189**	$ 14,082	1%
Gross margin	**$ 4,506**	$ 5,063	(11%)
(gross margin %)	**32%**	36%	
Selling, general and administrative expenses	**$ 1,898**	$ 1,827	4%
(as a % of net sales)	**13%**	13%	
Research, development and engineering expenses	**$ 1,047**	$ 995	5%
(as a % of net sales)	**7%**	7%	
Translated earnings contract gain, net	**$ 351**	$ 354	(1%)
(as a % of net sales)	**2%**	3%	
Income before income taxes	**$ 1,797**	$ 2,426	(26%)
(as a % of net sales)	**13%**	17%	
Provision for income taxes	**$ (411)**	$ (491)	16%
Effective tax rate	**23%**	20%	
Net income attributable to Corning Incorporated	**$ 1,316**	$ 1,906	(31%)
(as a % of net sales)	**9%**	14%	
Comprehensive income attributable to Corning Incorporated	**$ 661**	$ 1,471	(55%)

Net Sales

Net sales for the year ended December 31, 2022 increased by $107 million, or 1%, when compared to the same period in 2021. The increase was primarily driven by sales growth in Optical Communications of $674 million and Hemlock and Emerging Growth Businesses of $419 million, offset by the adverse impact of volume declines in Display Technologies resulting in a decrease in segment net sales of $394 million. In addition, movements in foreign exchange rates adversely impacted Corning's consolidated net sales by $616 million for the year ended December 31, 2022, when compared to the same period in 2021. Refer to the "Segment Analysis" section of our MD&A below for a discussion of net sales by segment.

In 2022 and 2021, sales in international markets accounted for 65% and 68% of total net sales, respectively.

Cost of Sales / Gross Margin

The types of expenses included in cost of sales are: raw materials consumption, including direct and indirect materials; salaries, wages and benefits; depreciation and amortization; production utilities; production-related purchasing; warehousing (including receiving and inspection); repairs and maintenance; inter-location inventory transfer costs; production and warehousing facility property insurance; rent for production facilities; freight and logistics costs; and other production overhead.

Gross margin decreased by $557 million, or 11% and gross margin as a percentage of sales decreased by 4 percentage points when compared to 2021. The decrease in gross margin was primarily driven by higher production, material and freight costs as well as incremental severance, accelerated depreciation, asset write-offs and other related charges of $257 million. In addition, movements in foreign exchange rates had an adverse impact of $422 million on Corning's consolidated gross margin for the year ended December 31, 2022, when compared to the same period in 2021.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased by $71 million, or 4%, and were consistent as a percentage of sales when compared to 2021.

The types of expenses included in selling, general and administrative expenses are: salaries, wages and benefits; stock-based compensation expense; travel; sales commissions; professional fees; and depreciation and amortization, utilities and rent for administrative facilities.

Research, Development and Engineering Expenses

Research, development and engineering expenses increased by $52 million, or 5%, and were consistent as a percentage of sales when compared to 2021.

Translated earnings contract gain, net

Included in translated earnings contract gain, net, is the impact of foreign currency contracts which economically hedge the translation exposure arising from movements in the Japanese yen, South Korean won, new Taiwan dollar, euro, Chinese yuan and British pound and its impact on net income.

The following table provides detailed information on the impact of translated earnings contracts gain, net for the years ended December 31, 2022 and 2021 (in millions):

	Income before tax	Net income	Income before tax	Net income	Income before tax	Net income
	2022		2021		2022 vs. 2021	
Hedges related to translated earnings:						
Realized gain, net (1)	**$ 320**	**$ 245**	$ 47	$ 36	$ 273	$ 209
Unrealized gain, net (2)	**31**	**24**	307	237	(276)	(213)
Total translated earnings contract gain, net	**$ 351**	**$ 269**	$ 354	$ 273	$ (3)	$ (4)

(1) For the years ended December 31, 2022 and 2021, includes pre-tax realized gains of $20 million and pre-tax realized losses of $20 million, respectively, related to the expiration of option contracts. These amounts were reflected within operating activities in the consolidated statements of cash flows.
(2) The impact to income was primarily driven by Japanese yen, South Korean won and euro-denominated hedges of translated earnings.

Income Before Income Taxes

The translation impact of fluctuations in foreign currency exchange rates, including the impact of hedges realized in the current year, adversely impacted Corning's income before income taxes by $142 million for the year ended December 31, 2022, when compared to the same period in 2021.

Provision for Income Taxes

For the year ended December 31, 2022, the effective tax rate differed from the U.S. statutory rate of 21% primarily due to the following:
- A net provision of $67 million due to changes in tax reserves;
- A net provision of $40 million due to differences arising from foreign earnings; and
- A net provision of $38 million due to changes in valuation allowance assessments, offset by
- A net benefit of $60 million due to tax credits; and
- A net benefit of $49 million due to foreign derived intangible income.

For the year ended December 31, 2021, the effective tax rate differed from the U.S. statutory rate of 21% primarily due to the following:
- A net benefit of $62 million due to tax credits; and
- A net benefit of $37 million related to share-based compensation payments, offset by
- A net provision of $52 million due to differences arising from foreign earnings, including the impact of intercompany asset sales.

The U.S. enacted the Inflation Reduction Act of 2022 ("IRA") in August 2022, which, among other sections, creates a new book minimum tax of at least 15% of consolidated pre-tax income for corporations with average book income in excess of $1 billion. This provision of the IRA will first apply to the Company in 2024. We do not expect the IRA to have a material impact on our effective tax rate. In addition, we are currently evaluating the various credits available under IRA and its impact to Corning's financial position and results of operations, including the effective tax rate.

Refer to Note 7 (Income Taxes) in the accompanying notes to the consolidated financial statements for further details regarding income tax matters.

Net Income Attributable to Corning Incorporated

As a result of the items discussed above, net income attributable to Corning Incorporated and per share data were as follows (in millions, except per share amounts):

	Year ended December 31,	
	2022	2021
Net income attributable to Corning Incorporated	**$ 1,316**	$ 1,906
Series A convertible preferred stock dividend		(24)
Excess consideration paid for redemption of preferred stock (1)		(803)
Net income available to common shareholders used in basic and diluted earnings per common share calculation	**$ 1,316**	$ 1,079
Basic earnings per common share	**$ 1.56**	$ 1.30
Diluted earnings per common share	**$ 1.54**	$ 1.28
Weighted-average common shares outstanding - basic	**843**	828
Weighted-average common shares outstanding - diluted	**857**	844

(1) On January 16, 2021, the Preferred Stock became convertible into 115 million Common Shares, in whole or in part, at the option of the holder, Samsung Display Co., Ltd. ("SDC"). On April 5, 2021, Corning and SDC executed a Share Repurchase Agreement ("SRA"). Refer to Note 16 (Shareholders' Equity) in the accompanying notes to the consolidated financial statements for additional information.

Comprehensive Income attributable to Corning Incorporated

The $810 million decrease in comprehensive income attributable to Corning Incorporated was primarily due to the $549 million decrease in net income attributable to Corning Incorporated and a $175 million increase in net losses on foreign currency translation adjustments, driven by the Japanese yen, Chinese yuan and South Korean won.

Refer to Note 16 (Shareholders' Equity) in the accompanying notes to the consolidated financial statements for additional information.

SEGMENT ANALYSIS

Financial results for the reportable segments and Hemlock and Emerging Growth Businesses are prepared on a basis consistent with the internal disaggregation of financial information to assist the Chief Operating Decision Maker ("CODM") in making internal operating decisions, which is more fully discussed within Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements and includes a reconciliation of our segment information to the corresponding amounts in our consolidated statements of income.

Segment net income (loss) may not be consistent with measures used by other companies.

The following table presents segment net sales by reportable segment and Hemlock and Emerging Growth Businesses (in millions):

	Year ended December 31,		$ change	% change
	2022	2021	22 vs. 21	22 vs. 21
Optical Communications	**$ 5,023**	$ 4,349	$ 674	15%
Display Technologies	**3,306**	3,700	(394)	(11)%
Specialty Materials	**2,002**	2,008	(6)	0%
Environmental Technologies	**1,584**	1,586	(2)	0%
Life Sciences	**1,228**	1,234	(6)	0%
Net sales of reportable segments	**13,143**	12,877	266	2%
Hemlock and Emerging Growth Businesses	**1,662**	1,243	419	34%
Net sales of reportable segments and Hemlock and Emerging Growth Businesses (1)	**$ 14,805**	$ 14,120	$ 685	5%

(1) Refer to Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements for the reconciliation to consolidated net sales.

Optical Communications
The increase in segment net sales was primarily driven by higher sales volumes of carrier and enterprise products for 5G, broadband and the cloud.

Display Technologies
The decrease in segment net sales was due to lower volumes, primarily attributable to decreased panel maker utilization, while price remained consistent with the prior year.

Specialty Materials
Segment net sales remained relatively flat compared to prior year. Demand for advanced optics products grew, including next generation semiconductor equipment materials, and demand for premium glasses remained strong, helping offset lower demand in the smartphone, tablet and notebook markets.

Environmental Technologies
Segment net sales remained flat compared to prior year, due to constrained production as automotive producers experienced prolonged component shortages for semiconductor chips, as well as negative impacts from COVID-related shutdowns in China.

Life Sciences
Segment net sales remained relatively flat compared to prior year, primarily due to lower demand for COVID-related products, offset by growth in pharmaceutical research and bioproduction products.

Hemlock and Emerging Growth Businesses
The increase was primarily driven by HSG, as demand for semiconductor and solar-grade polysilicon remain strong in addition to higher solar prices as compared to the prior year. The increase is also attributable to year-over-year growth from Pharmaceutical Technologies and Auto Glass Solutions.

The following table presents segment net income (loss) by reportable segment and Hemlock and Emerging Growth Businesses (in millions):

	Year ended December 31,		$ change	% change
	2022	2021	22 vs. 21	22 vs. 21
Optical Communications	**$ 661**	$ 553	$ 108	20%
Display Technologies	**769**	960	(191)	(20)%
Specialty Materials	**340**	371	(31)	(8)%
Environmental Technologies	**292**	269	23	9%
Life Sciences	**153**	194	(41)	(21)%
Net income of reportable segments	**2,215**	2,347	(132)	(6)%
Hemlock and Emerging Growth Businesses	**39**	(51)	90	*
Net income of reportable segments and Hemlock and Emerging Growth Businesses (1)	**$ 2,254**	$ 2,296	$ (42)	(2)%

* Not meaningful
(1) Refer to Note 19 (Reportable Segments) in the accompanying notes to the consolidated financial statements for the reconciliation to consolidated net income.

Optical Communications
The increase in segment net income was primarily driven by the increases in sales, outlined above, partially offset by higher inflationary costs and manufacturing costs.

Display Technologies
The decrease in segment net income was primarily driven by the lower glass volume, impacting sales, as outlined above.

Specialty Materials
The decrease in segment net income was primarily driven by the relatively flat level of sales, as outlined above, and impacted by continued development spending related to next-generation products.

Environmental Technologies
The increase in segment net income was primarily due to improved operational efficiencies.

Life Sciences
The decrease in segment net income was primarily driven by the relatively flat level of sales, as outlined above, and impacted by inflationary costs and higher manufacturing costs that were not completely offset by pricing actions.

Hemlock and Emerging Growth Businesses
The increase was primarily driven by HSG due to higher solar prices.

CORE PERFORMANCE MEASURES

In managing the Company and assessing our financial performance, we adjust certain measures provided by our consolidated financial statements to exclude specific items to arrive at our core performance measures. These items include the impact of translating the Japanese yen-denominated debt, the impact of the translated earnings contracts, acquisition-related costs, certain discrete tax items and other tax-related adjustments, restructuring, impairment and other charges and credits, certain litigation, regulatory and other legal matters, pension mark-to-market adjustments and other items which do not reflect the ongoing operating results of the Company.

In addition, because a significant portion of our revenues and expenses are denominated in currencies other than the U.S. dollar, management believes it is important to understand the impact on sales and net income of translating these currencies into U.S. dollars. Therefore, management utilizes constant-currency reporting for Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences segments to exclude the impact from the Japanese yen, South Korean won, Chinese yuan, new Taiwan dollar and the euro, as applicable to the segment. The most significant constant-currency adjustment relates to the Japanese yen exposure within the Display Technologies segment. We establish constant-currency rates based on internally derived management estimates, which are closely aligned with the currencies we have hedged. For details of the rates used, please see the footnotes to the "Reconciliation of Non-GAAP Measures" section.

We believe that the use of constant-currency reporting allows management to understand our results without the volatility of currency fluctuation, analyze underlying trends in the businesses and establish operational goals and forecasts. Further, we believe it reflects the underlying economics of the translated earnings contracts used to mitigate the impact of changes in currency exchange rates on our earnings and cash flows.

Core performance measures are not prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"), but management believes that reporting core performance measures provides investors with greater transparency to the information used by our management team to make financial and operational decisions. We believe investors should consider these non-GAAP measures in evaluating our results as they are more indicative of our core operating performance and how management evaluates our operational results and trends. These measures are not, and should not be viewed as a substitute for, GAAP reporting measures. With respect to the outlook for future periods, it is not possible to provide reconciliations for these non-GAAP measures because management does not forecast the movement of foreign currencies against the U.S. dollar, or other items that do not reflect ongoing operations, nor does it forecast items that have not yet occurred or are out of management's control. As a result, management is unable to provide outlook information on a GAAP basis.

For a reconciliation of non-GAAP performance measures to their most directly comparable GAAP financial measure, please see "Reconciliation of Non-GAAP Measures".

RESULTS OF OPERATIONS – CORE PERFORMANCE MEASURES

The following table presents selected highlights from our operations, excluding certain items, (in millions):

	Year ended December 31,		% change
	2022	2021	22 vs. 21
Core net sales	**$ 14,805**	$ 14,120	5%
Core net income	**$ 1,794**	$ 1,811	(1)%

Core Net Sales

Core net sales are consistent with net sales by reportable segment and Hemlock and Emerging Growth Businesses. Segment and Hemlock and Emerging Growth Businesses net sales and variances are discussed in detail in the "Segment Analysis" section of our MD&A.

Core Net Income

For the year ended December 31, 2022, we generated core net income of $1.8 billion, or $2.09 per share, compared to core net income generated for the year ended December 31, 2021 of $1.8 billion, or $2.07 per share. The decrease in core net income of $17 million was driven by lower reportable segment net income of $132 million, as discussed in the "Segment Analysis" section of our MD&A, offset by an increase in $90 million in Hemlock and Emerging Growth Businesses, primarily driven by HSG.

Core Earnings per Common Share

Core earnings per share increased for the year ended December 31, 2022 to $2.09 per share, as result of a decrease in the weighted-average common shares outstanding offset by lower core net income.

The following table sets forth the computation of core basic and core diluted earnings per common share (in millions, except per share amounts):

	Year ended December 31,	
	2022	2021
Core net income attributable to Corning Incorporated	**$ 1,794**	$ 1,811
Less: Series A convertible preferred stock dividend		24
Core net income available to common shareholders - basic	**1,794**	1,787
Plus: Series A convertible preferred stock dividend		24
Core net income available to common shareholders - diluted	**$ 1,794**	$ 1,811
Weighted-average common shares outstanding - basic	**843**	828
Effect of dilutive securities:		
Stock options and other dilutive securities	**14**	16
Series A convertible preferred stock		31
Weighted-average common shares outstanding - diluted	**857**	875
Core basic earnings per common share	**$ 2.13**	$ 2.16
Core diluted earnings per common share	**$ 2.09**	$ 2.07

RECONCILIATION OF NON-GAAP MEASURES

We utilize certain financial measures and key performance indicators that are not calculated in accordance with GAAP to assess our financial and operating performance. A non-GAAP financial measure is defined as a numerical measure of a company's financial performance that (i) excludes amounts, or is subject to adjustments that have the effect of excluding amounts, that are included in the comparable measure calculated and presented in accordance with GAAP in the consolidated statements of income or statements of cash flows, or (ii) includes amounts, or is subject to adjustments that have the effect of including amounts, that are excluded from the comparable measure as calculated and presented in accordance with GAAP in the consolidated statements of income or statements of cash flows.

Core net sales, core net income and the related per share numbers are non-GAAP financial measures utilized by our management to analyze financial performance without the impact of items that are driven by general economic conditions and events that do not reflect the underlying fundamentals and trends in our operations.

See "Items Excluded from GAAP Measures" for the descriptions of the footnoted reconciling items.

The following tables reconcile our non-GAAP financial measures to their most directly comparable GAAP financial measure (amounts in millions except percentages and per share amounts):

	Year ended December 31, 2022				
	Net sales	Income before income taxes	Net income attributable to Corning Incorporated	Effective tax rate (a)(b)	Per share
As reported - GAAP	**$ 14,189**	**$ 1,797**	**$ 1,316**	**22.9%**	**$ 1.54**
Constant-currency adjustment (1)	616	480	369		0.43
Translation gain on Japanese yen-denominated debt (2)		(191)	(146)		(0.17)
Translated earnings contract gain, net (3)		(348)	(267)		(0.31)
Acquisition-related costs (4)		140	109		0.13
Discrete tax items and other tax-related adjustments (5)			84		0.10
Restructuring, impairment and other charges and credits (6)		414	316		0.37
Litigation, regulatory and other legal matters (7)		100	77		0.09
Pension mark-to-market adjustment (8)		11	10		0.01
Gain on investments (9)		(8)	(8)		(0.01)
Gain on sale of business (10)		(53)	(41)		(0.05)
Contingent consideration (11)		(32)	(25)		(0.03)
Core performance measures	$ 14,805	$ 2,310	$ 1,794	19.3%	$ 2.09

(a) Based upon statutory tax rates in the specific jurisdiction for each event.
(b) The calculation of the effective tax rate excludes net income attributable to non-controlling interest of $70 million.

	Year ended December 31, 2021				
	Net sales	Income before income taxes	Net income attributable to Corning Incorporated	Effective tax rate (a)(b)	Per share
As reported - GAAP	**$ 14,082**	**$ 2,426**	**$ 1,906**	**20.2%**	**$ 1.28**
Preferred stock redemption (c)					0.90
Subtotal	**14,082**	**2,426**	**1,906**	**20.2%**	**2.18**
Constant-currency adjustment (1)	38	87	76		0.09
Translation gain on Japanese yen-denominated debt (2)		(180)	(138)		(0.16)
Translated earnings contract gain, net (3)		(354)	(273)		(0.32)
Acquisition-related costs (4)		159	123		0.15
Discrete tax items and other tax-related adjustments (5)			(24)		(0.03)
Restructuring, impairment and other charges and credits (6)		110	78		0.09
Litigation, regulatory and other legal matters (7)		16	27		0.03
Pension mark-to-market adjustment (8)		32	25		0.03
Loss on investments (9)		23	17		0.02
Gain on sale of business (10)		(54)	(46)		(0.05)
Preferred stock conversion (12)		17	17		0.02
Bond redemption loss (13)		31	23		0.03
Core performance measures	$ 14,120	$ 2,313	$ 1,811	20.4%	$ 2.07

(a) Based upon statutory tax rates in the specific jurisdiction for each event.
(b) The calculation of the effective tax rate excludes net income attributable to non-controlling interest of $29 million.
(c) On January 16, 2021, the Preferred Stock became convertible into 115 million Common Shares, in whole or in part, at the option of the holder, Samsung Display Co., Ltd. (“SDC”). On April 5, 2021, Corning and SDC executed a Share Repurchase Agreement (“SRA”). Refer to Note 16 (Shareholders’ Equity) in the accompanying notes to the consolidated financial statements for additional information.

See “Items Excluded from GAAP Measures” for the descriptions of the footnoted reconciling items.

Items Excluded from GAAP Measures

Items we exclude from GAAP measures to arrive at core performance measures are as follows:

(1) Constant-currency adjustment: As a significant portion of revenues and expenses are denominated in currencies other than the U.S. dollar, management believes it is important to understand the impact on sales and net income of translating these currencies into U.S. dollars. The Company utilizes constant-currency reporting for Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences segments for the Japanese yen, Korean won, Chinese yuan, New Taiwan dollar and Euro, as applicable to the segment.

Constant-currency rates are as follows and are applied to all periods presented:

Currency	Japanese yen	Korean won	Chinese yuan	New Taiwan dollar	Euro
Rate	¥107	₩1,175	¥6.7	NT$31	€.81

(2) Translation of Japanese yen-denominated debt: Amount reflects the gain or loss on the translation of our yen-denominated debt to U.S. dollars.
(3) Translated earnings contract: Amount reflects the impact of the realized and unrealized gains and losses from the Japanese yen, South Korean won, Chinese yuan, euro and new Taiwan dollar-denominated foreign currency hedges related to translated earnings, as well as the unrealized gains and losses of our British pound-denominated foreign currency hedges related to translated earnings.
(4) Acquisition-related costs: Amount reflects intangible amortization, inventory valuation adjustments and external acquisition-related deal costs, as well as other transaction related costs.
(5) Discrete tax items and other tax-related adjustments: Amount reflects certain discrete period tax items such as changes in tax law, the impact of tax audits, changes in tax reserves and changes in deferred tax asset valuation allowances, as well as other tax-related adjustments.
(6) Restructuring, impairment and other charges and credits: Amount reflects certain restructuring, impairment losses and other charges and credits, as well as other expenses, primarily accelerated depreciation and asset write-offs, which are not related to ongoing operations. The activity during 2022 primarily relates to capacity optimization for Display Technologies, Specialty Materials and an emerging growth business and severance charges across all segments. The activity in 2021 primarily relates to asset write-offs and charges for facility repairs resulting from the impact of power outages; the Company is pursuing recoveries under its applicable property insurance policies.
(7) Litigation, regulatory and other legal matters: Amount reflects developments in commercial litigation, intellectual property disputes, adjustments to our estimated liability for environmental-related items and other legal matters.
(8) Pension mark-to-market adjustment: Amount primarily reflects defined benefit pension mark-to-market gains and losses, which arise from changes in actuarial assumptions and the difference between actual and expected returns on plan assets and discount rates.
(9) Gain (loss) on investments: Amount reflects the gain or loss recognized on investment due to mark-to-mark adjustments for the change in fair value or the disposition of the investment.
(10) Gain on sale of business: Amount reflects the gain recognized for the sale of a business.
(11) Contingent consideration: Amount reflects the fair value mark-to-market cost adjustment of contingent consideration resulting from the HSG transaction on September 9, 2020.
(12) Preferred stock conversion: Amount reflects the put option from the Share Repurchase Agreement with Samsung Display Co., Ltd.
(13) Bond redemption loss: Amount reflects premiums on redemption of debentures.

LIQUIDITY AND CAPITAL RESOURCES

Our financial condition and liquidity are strong. We are not aware of any known trends, demands, commitments, events or uncertainties that will result in or that are reasonably likely to result in a material decrease in our liquidity. In addition, other than items discussed, there are no known material trends, favorable or unfavorable, in our capital resources and no expected material changes in the mix of such resources.

Our major source of funding for 2023 and beyond will be our operating cash flow, our existing balances of cash and cash equivalents and proceeds from any issuances of debt. We believe we have sufficient liquidity to fund operations, acquisitions, capital expenditures, scheduled debt repayments, dividend payments and share repurchase programs through 2023. We will continue to generate cash from operations and maintain access to our revolving credit facilities and commercial paper programs as discussed in more detail below.

Key Balance Sheet Data

We fund our working capital with cash from operations and short-term borrowings, including commercial paper, when necessary. In addition, we receive upfront cash from customers relating to long-term supply agreements, as well as cash incentives from government entities generally for capital expansion and related expenses.

The following table presents balance sheet and working capital measures (in millions):

	December 31,	
	2022	2021
Working capital	**$ 2,278**	$ 2,853
Current ratio	**1.4:1**	1.6:1
Trade accounts receivable, net of doubtful accounts	**$ 1,721**	$ 2,004
Days sales outstanding	**45**	49
Inventories	**$ 2,904**	$ 2,481
Inventory turns	**3.4**	3.7
Days payable outstanding (1)	**52**	50
Long-term debt	**$ 6,687**	$ 6,989
Total debt	**$ 6,911**	$ 7,044
Total debt to total capital	**36%**	36%

(1) Includes trade payables only.

We perform comprehensive reviews of our significant customers and their creditworthiness by analyzing their financial strength at least annually or more frequently for customers where we have identified a measure of increased risk. We closely monitor payments and developments to identify potential customer credit issues. We are not aware of any customer credit issues that could have a material impact on our liquidity.

We participate in accounts receivable management programs, including factoring arrangements to sell certain accounts receivable to third-party financial institutions or accelerate collections through our customer's supply chain financing arrangements. Sales of accounts receivable are reflected as a reduction of accounts receivable in the consolidated balance sheets and the proceeds are included in cash flows from operating activities in the consolidated statements of cash flows. By utilizing these types of programs, we have accelerated the collection of $1.6 billion and $0.6 billion of accounts receivable cumulatively throughout the years ended December 31, 2022 and 2021, respectively. Of these amounts, we believe $1.2 billion and $0.4 billion would have been collected during the normal course of business within 2022 and 2021, respectively.

Cash Flows

The following table presents a summary of cash flow data (in millions):

	Year ended December 31,	
	2022	2021
Net cash provided by operating activities	**$ 2,615**	$ 3,412
Net cash used in investing activities	**$ (1,355)**	$ (1,419)
Net cash used in financing activities	**$ (1,649)**	$ (2,452)

Net cash provided by operating activities decreased by $797 million for the year ended December 31, 2022, when compared to the same period in the prior year, primarily driven by the decrease in net income.

Net cash used in investing activities decreased by $64 million for the year ended December 31, 2022, when compared to the same period last year, primarily driven by an increase in realized gains on translated earnings contracts of $233 million.

Net cash used in financing activities decreased by $803 million for the year ended December 31, 2022, when compared to the same period last year, primarily driven by lower repayments of short-term borrowings and long-term debt of $773 million.

Sources of Liquidity

We generate strong ongoing cash flows from operations, which is our principal source of liquidity. During the years ended December 31, 2022 and 2021, cash flows provided by operating activities were $2.6 billion and $3.4 billion, respectively.

As of December 31, 2022, our cash and cash equivalents and available credit capacity included (in millions):

	December 31, 2022
Cash and cash equivalents	$ 1,671
Available credit capacity:	
U.S. dollar revolving credit facility	$ 1,500
Japanese yen liquidity facility	$ 191
Chinese yuan facilities	$ 321

Cash and Cash Equivalents

We ended 2022 with $1.7 billion of cash and cash equivalents. Our cash and cash equivalents are held in various locations throughout the world and are generally unrestricted. We utilize a variety of strategies to ensure that our worldwide cash is available in the locations in which it is needed. As of December 31, 2022, approximately 56% of the consolidated cash and cash equivalents were held outside the U.S.

During the year ended December 31, 2022, we distributed approximately $534 million from foreign subsidiaries to their respective U.S. parent companies. As of December 31, 2022, Corning has approximately $1.3 billion of indefinitely reinvested foreign earnings. If we distribute our foreign cash balances to the U.S. or to other foreign subsidiaries, we could be required to accrue and pay withholding taxes. We do not foresee a need to repatriate any earnings for which we asserted permanent reinvestment. However, to help fund cash needs of the U.S. or other international subsidiaries as they arise, we repatriate available cash from certain foreign subsidiaries whose earnings are not permanently reinvested.

Debt Facilities and Other Sources of Liquidity

We have a commercial paper program pursuant to which we may issue short-term, unsecured commercial paper notes up to a maximum aggregate principal amount outstanding at any one time of $1.5 billion. Under this program, we may issue the paper from time to time and will use the proceeds for general corporate purposes. As of December 31, 2022, we did not have outstanding commercial paper.

Our $1.5 billion Revolving Credit Agreement is available to support obligations under the commercial paper program and for general corporate purposes, if needed. During 2022, we amended and restated our existing Revolving Credit Agreement, primarily to extend the term to 2027. Additionally, we amended and restated our 25 billion Japanese yen liquidity facility, equivalent to approximately $191 million, primarily to extend the term to 2025. As of December 31, 2022 and 2021, there were no outstanding amounts under either of these facilities.

Our Revolving Credit Agreement includes affirmative and negative covenants with which we must comply, including a leverage (debt to capital ratio) financial covenant. The required leverage ratio is a maximum of 60%. As of December 31, 2022, our leverage using this measure was approximately 36%. As of December 31, 2022, we were in compliance.

Our debt instruments contain customary event of default provisions, which allow the lenders the option of accelerating all obligations upon the occurrence of certain events. In addition, some of our debt instruments contain a cross default provision, whereby an uncured default exceeding a specified amount on one debt obligation, also would be considered a default under the terms of another debt instrument. As of December 31, 2022, we were in compliance with all such provisions.

We have access to certain unsecured variable rate loan facilities, with an aggregate capacity of 4,645 million Chinese yuan, equivalent to approximately $673 million, whose proceeds are used for capital investment and general corporate purposes. As of December 31, 2022 and 2021, these facilities had variable rates ranging from 3.3% to 4.3% and maturities ranging from 2023 to 2032. As of December 31, 2022 and 2021, borrowings totaled $352 million and $277 million, respectively.

As a well-known seasoned issuer, we filed an automatic shelf registration for an undetermined amount of debt and equity securities with the SEC on December 4, 2020. Under this shelf registration we may offer, from time to time, debt securities, common stock, preferred stock, depositary shares and warrants. We plan to file a new shelf registration statement in the fourth quarter of 2023, prior to the expiration of the shelf registration statement currently in effect.

Customer Deposits, Deferred Revenue and Government Incentives

We receive cash deposits or consideration, generally non-refundable, from customers under long-term supply agreements. In addition, we receive cash incentives from government entities primarily to offset capital expenditures or related expenses. For the year ended December 31, 2022, the amount received from these types of arrangements was $420 million.

Refer to Note 1 (Summary of Significant Accounting Policies) and Note 4 (Revenue) in the accompanying notes to the consolidated financial statements for additional information.

Uses of Cash

Fixed Rate Cumulative Convertible Preferred Stock, Series A

We had 2,300 outstanding shares of Fixed Rate Cumulative Convertible Preferred Stock, Series A (the “Preferred Stock”) as of December 31, 2020. On January 16, 2021, the Preferred Stock became convertible into 115 million common shares. On April 5, 2021 we executed the Share Repurchase Agreement (“SRA”) with Samsung Display Co., Ltd. (“SDC”) and the Preferred Stock was fully converted as of April 8, 2021. Immediately following the conversion, we repurchased and retired 35 million of the common shares held by SDC for an aggregate purchase price of approximately $1.5 billion, of which approximately $507 million was paid on both April 8, 2022 and 2021. The remaining payment of approximately $507 million will be paid on April 8, 2023.

Refer to Note 16 (Shareholders’ Equity) in the accompanying notes to the consolidated financial statements for additional information.

Stock Repurchases

In 2019, the Board authorized the repurchase of up to $5.0 billion of additional common stock upon the completion of the 2018 repurchase plan ("2019 Authorization").

In addition to the common shares repurchased under the SRA, as discussed above, we repurchased 6.0 million and 7.3 million shares of common stock under our 2019 Authorization for approximately $221 million and $274 million, respectively, during the years ended December 31, 2022 and 2021, respectively.

As of December 31, 2022, approximately $3.3 billion remains available under our 2019 Authorization, which does not have an expiration date and may be amended or terminated by the Board of Directors at any time without prior notice.

Common Stock Dividends

During the years ended December 31, 2022, 2021 and 2020, total dividends paid to common shareholders were $932 million, $871 million and $787 million, respectively. The Board's decision to declare and pay future dividends will depend on our income and liquidity position, among other factors. We expect to declare quarterly dividends and fund payments with cash from operations.

On February 8, 2023, our Board of Directors declared a quarterly dividend of $0.28 per share of common stock, beginning with the dividend paid in the first quarter of 2023. The dividend will be payable on March 30, 2023.

Capital Expenditures

Capital expenditures were $1.6 billion, $1.6 billion and $1.4 billion during the years ended December 31, 2022, 2021 and 2020, respectively. We continue to invest in capacity expansions and new product lines across our businesses. We expect our 2023 capital expenditures to be consistent with 2022.

Current Maturities of Short and Long-Term Debt

As of December 31, 2022, we had $224 million of short-term borrowings that mature in less than one year. The maturity schedule of our existing long-term debt does not require significant cash outflows, with approximately $1.1 billion due over the next five years.

Defined Benefit Pension Plans

Our global pension plans, including our unfunded and non-qualified plans, were 82% funded as of December 31, 2022. Our largest single pension plan is our U.S. qualified plan, which accounted for 77% of our consolidated defined benefit pension plans' projected benefit obligation, was 93% funded as of December 31, 2022.

The funded status of our pension plans is dependent upon multiple factors including actuarial assumptions, interest rates at year-end, prior investment returns and contributions made to the plans. In 2022, Corning made no voluntary contributions to our domestic defined benefit pension plan and cash contributions to our international pension plans were not material. During 2023, the Company anticipates making cash contributions of $49 million to the international pension plans.

Refer to Note 12 (Employee Retirement Plans) in the accompanying notes to the consolidated financial statements for additional information.

Commitments, Contingencies and Guarantees

A summary of our contractual obligations and other commercial commitments as of December 31, 2022 are detailed within Note 13 (Commitments, Contingencies and Guarantees) in the accompanying notes to the consolidated financial statements.

Translated Earnings Contracts

We have entered into option and average rate forward contracts to economically hedge our translation exposure resulting from movements in the Japanese yen and its impact on our net income. For the years ended December 31, 2022 and 2021, we recorded a pre-tax net gain of $415 million and $363 million, respectively, related to changes in the fair value of these instruments. Included in these amounts are realized gains of $360 million and $27 million, respectively. These instruments had a gross notional value outstanding as of December 31, 2022 and 2021 of $4.7 billion and $6.5 billion, respectively.

We have entered into average rate forward contracts to hedge our translation exposure resulting from movements in the South Korean won and its impact on our net income. For the years ended December 31, 2022 and 2021, we recorded a pre-tax net loss of $76 million and $33 million, respectively, related to changes in the fair value of these instruments. Included in these amounts are realized losses of $59 million and gains of $11 million, respectively. These instruments had a gross notional value outstanding as of December 31, 2022 and 2021 of $2.1 billion and $1.2 billion, respectively.

Off Balance Sheet Arrangements

Off balance sheet arrangements are transactions, agreements, or other contractual arrangements with an unconsolidated entity for which we have an obligation to the entity that is not recorded in our consolidated financial statements.

Our off balance sheet arrangements include guarantee and indemnity contracts. At the time a guarantee is issued, we are required to recognize a liability for the fair value or market value of the obligation it assumes. In the normal course of our business, we do not routinely provide significant third-party guarantees. Generally, third-party guarantees provided by us are limited to certain financial guarantees, including stand-by letters of credit and performance bonds. These guarantees have various terms and none of these guarantees are individually significant. We believe a significant majority of these guarantees and contingent liabilities will expire without being funded.

Refer to Note 13 (Commitments, Contingencies and Guarantees) in the accompanying notes to the consolidated financial statements for additional information.

ENVIRONMENT

Refer to Item 3. Legal Proceedings or Note 13 (Commitments, Contingencies and Guarantees) in the accompanying notes to the consolidated financial statements for information.

CRITICAL ACCOUNTING ESTIMATES

Our consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. This requires us to make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from those estimates. The following estimates are considered by management to be the most critical to the understanding of the consolidated financial statements as they require significant judgments that could materially impact our results of operations, financial position and cash flows.

Valuation of the Previously Held Equity Interest from the Consolidation of HSG

We account for the change in controlling interest using the acquisition method of accounting, which requires us to estimate the fair values of the assets and liabilities recorded. Assets would include intangible assets such as developed technologies and know-how, tradenames and customer-related intangibles, fixed assets and inventories. Liabilities would include contract liabilities such as customer deposits and deferred revenue, debt and other liabilities. These assets and liabilities recorded are assessed at the time of the change in control and require judgment in ascertaining the fair values. Any resulting gain or loss would be recognized in earnings. Additional information related to the fair value of the assets and liabilities recorded during the measurement period, not to exceed one year, may result in changes to the recorded values of the assets and liabilities, resulting in an offsetting adjustment to the goodwill associated with the business combination. Changes in assumptions and estimates after completing the allocation of the purchase price to the assets and liabilities acquired, as well as differences in actual and estimated results, could result in impacts our financial results.

In September 2020, HSG redeemed DuPont's entire ownership interest in HSG for $250 million (the "Redemption"). Upon completion of the Redemption, we recognized a pre-tax gain of $498 million on its previously held equity investment in HSG as a result of the consolidation resulting from the Redemption. The gain was calculated based on the difference between fair value and carrying value of the equity method investment immediately preceding the Redemption. Independent appraisals assisted management in the determination of the fair value of certain assets and liabilities. Such appraisals are based on acceptable valuation models as well as inputs and assumptions provided by management. The fair value of our equity interest in HSG was estimated by applying the income approach, which was based on significant assumptions such as projected revenue and discount rate. We used a discount rate of 16.5% and terminal growth rate of zero.

Impairment of assets held for use

We are required to assess the recoverability of the carrying value of long-lived assets when an indicator of impairment has been identified. We perform this review each quarter and exercises judgment in assessing whether impairment indicators are present.

Manufacturing equipment includes certain components of production equipment that are constructed of precious metals, primarily platinum and rhodium. These metals are not depreciated because they have very low physical losses and are repeatedly reclaimed and reused in our manufacturing process over a very long useful life. The physical loss of precious metals in the manufacturing and reclamation process is treated as depletion and these losses are accounted for as a period expense based on actual units lost. Precious metals are reviewed for impairment as part of our assessment of long-lived assets. This review considers all our precious metals that are either in place in the production process; in reclamation, fabrication, or refinement in anticipation of re-use; or awaiting use to support increased capacity. Precious metals are only acquired to support our operations and are not held for trading or other non-manufacturing related purposes.

Examples of events or circumstances that may be indicative of impairments include, but are not limited to:

- A significant decrease in the market price of an asset;
- A significant change in the use of a long-lived asset or its physical condition;
- A significant adverse change in legal factors or in the business climate that could affect the value of the asset, including an adverse action or assessment by a regulator;
- An accumulation of costs significantly more than the amount originally expected for the acquisition or construction of an asset;
- A current-period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the use of an asset; and
- A current expectation that, more likely than not, an asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life.

For purposes of recognition and measurement of an impairment loss, a long-lived asset or assets is grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. We must exercise judgment in assessing the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. Our assessment is performed at the operating segment level. For most of our operating segments, we concluded that locations or businesses within these segments which share production along the supply chain must be combined to appropriately identify cash flows that are largely independent of the cash flows of other assets and liabilities.

For long-lived assets, when impairment indicators are present, we compare estimated undiscounted future cash flows, including the eventual disposition of the asset group at market value, to the assets' carrying value to determine if the asset group is recoverable. This assessment requires the exercise of judgment in assessing the future use of and projected value to be derived from the assets to be held and used. Assessments also consider changes in asset utilization, including the temporary idling of capacity and the expected timing for placing this capacity back into production.

For an asset group that fails the test of recoverability, the estimated fair value of long-lived assets is determined using an "income approach" that starts with the forecast of all the expected future net cash flows, including the eventual disposition at market value of long-lived assets, and considers the fair market value of all precious metals, if applicable. If there is an impairment, a loss is recorded to reflect the difference between the assets' fair value and carrying value. Our estimates are based upon our historical experience, our commercial relationships and available external information about future trends. We believe fair value assessments are most sensitive to market growth and the corresponding impact on volume and selling prices and that these are also more subjective than manufacturing cost and other assumptions. We believe our current assumptions and estimates are reasonable and appropriate.

For the year ended December 31, 2020, we incurred a long-lived asset impairment and disposal loss for an asset group related to the reassessment and reprioritization of research and development programs relating to a business within Hemlock and Emerging Growth Businesses. Given the economic environment and market opportunities, we discontinued our investment in these research and development programs. The impairment analysis and disposition of certain assets resulted in a total pre-tax charge of $217 million, which was substantially all the carrying value, inclusive of an insignificant amount of goodwill. The fair value of the asset group for the impairment analysis was measured using unobservable (Level 3) inputs.

Refer to Note 2 (Restructuring, Impairment and Other Charges and Credits) in the accompanying notes to the consolidated financial statements for additional information.

Income taxes

We are required to exercise judgment about our future results in assessing the realizability of our deferred tax assets. Inherent in this estimation process is the requirement for us to estimate future book and taxable income and possible tax planning strategies. These estimates require us to exercise judgment about our future results, the prudence and feasibility of possible tax planning strategies and the economic environments in which we do business. It is possible that actual results will differ from assumptions and require adjustments to allowances.

We account for uncertain tax positions in accordance with ASC Topic 740, Income Taxes, which requires that companies only record tax benefits for technical positions that are believed to have a greater than 50% likelihood of being sustained on their technical merits and then only to the extent of the amount of tax benefit that is greater than 50% likely of being realized upon settlement. In estimating these amounts, we must exercise judgment around factors such as the weighting of the tax law in our favor, the willingness of a tax authority to aggressively pursue an opposing position, or alternatively, consider a negotiated compromise, and our willingness to dispute a tax authorities' assertion to the level of appeal we believe is required to sustain our position. As a result, it is possible that our estimate of the benefits we will realize for uncertain tax positions may change when we become aware of new information affecting these judgments and estimates.

Fair value measures

As required, we use two kinds of inputs to determine the fair value of assets and liabilities: observable and unobservable. Observable inputs are based on market data or independent sources, while unobservable inputs are based on our own market assumptions. Once inputs have been characterized, we prioritize the inputs used to measure fair value into one of three broad levels. Characterization of fair value inputs is required for those accounting pronouncements that prescribe or permit fair value measurement. In addition, observable market data must be used when available and the highest-and-best-use measure should be applied to non-financial assets. Our major categories of financial assets and liabilities required to be measured at fair value are short-term and long-term investments, certain pension asset investments and derivatives. These categories use observable inputs only and are measured using a market approach based on quoted prices in markets considered active or in markets in which there are few transactions.

Derivative assets and liabilities may include interest rate swaps and forward exchange contracts that are measured using observable quoted prices for similar assets and liabilities. Included in our forward exchange contracts are foreign currency hedges that hedge our cash flow and translation exposure resulting from movements in the Japanese yen, South Korean won, euro, new Taiwan dollar, Chinese yuan and British pound. Changes in the fair value of contracts designated as cash flow hedges are recorded in accumulated other comprehensive loss in shareholders' equity and reclassified into income when the underlying hedged item impacts earnings. For contracts that are not designated as accounting hedges, changes in fair value are recorded in earnings within translated earnings contract gain (loss), net in the consolidated statements of income. In arriving at the fair value of our derivative assets and liabilities, we have considered the appropriate valuation and risk criteria, including such factors as credit risk of the relevant party to the transaction. Amounts related to credit risk are not material.

Refer to Note 15 (Fair Value Measurements) in the accompanying notes to the consolidated financial statements for additional information.

Probability of litigation outcomes

We are required to make judgments about future events that are inherently uncertain. In making determinations of likely outcomes of litigation matters, we consider the evaluation of legal counsel knowledgeable about each matter, case law and other case-specific issues. Refer to Item 3. Legal Proceedings or Note 13 (Commitments, Contingencies and Guarantees) in the accompanying notes to the consolidated financial statements for a discussion of Corning's material litigation matters.

Pension and other postretirement employee benefits ("OPEB")

We offer employee retirement plans consisting of defined benefit pension plans covering certain domestic and international employees and postretirement plans that provide health care and life insurance benefits for eligible retirees and dependents. The costs and obligations related to these benefits reflect our assumptions related to general economic conditions (particularly interest rates), expected return on plan assets, rate of compensation increase for employees and health care trend rates. The cost of providing plan benefits depends on demographic assumptions including retirements, mortality, turnover and plan participation. While management believes that the assumptions used are appropriate, differences in actual experience or changes in assumptions may affect our employee pension and other postretirement obligations, and current and future expense.

Costs for our defined benefit pension plans consist of two elements: 1) on-going costs recognized quarterly, which are comprised of service and interest costs, expected return on plan assets and amortization of prior service costs; and 2) mark-to-market gains and losses outside of the corridor, where the corridor is equal to 10% of the greater of the benefit obligation or the market-related value of plan assets at the beginning of the year, which are recognized annually in the fourth quarter of each year. These gains and losses result from changes in actuarial assumptions and the differences between actual and expected return on plan assets. Any interim remeasurement, such as curtailments, settlements, significant plan changes, or adjustments to the annual valuation, is recognized as a mark-to-market adjustment in the quarter in which such an event occurs.

Costs for OPEB plans consist of on-going costs recognized quarterly, and are comprised of service and interest costs, amortization of prior service costs and amortization of actuarial gains and losses. We recognize the actuarial gains and losses resulting from changes in actuarial assumptions as a component of accumulated other comprehensive loss in shareholders' equity on an annual basis and amortize them into our operating results over the average remaining service period of employees expected to receive benefits under the plans, to the extent such gains and losses are outside of the corridor.

The following table presents our actual and expected (loss) return on assets, as well as the corresponding percentages (in millions, except percentages):

	December 31,		
	2022	2021	2020
Actual (loss) return on plan assets – Domestic plans	**$ (728)**	$ 208	$ 420
Expected return on plan assets – Domestic plans	**210**	209	186
Actual (loss) return on plan assets – International plans	**(139)**	(2)	49
Expected return on plan assets – International plans	**9**	7	9
Weighted-average actual and expected return on assets:			
Actual (loss) return on plan assets – Domestic plans	**(20.05)%**	6.17%	13.90%
Expected return on plan assets – Domestic plans	**6.00%**	6.00%	6.00%
Actual (loss) return on plan assets – International plans	**(26.26)%**	(0.33)%	10.00%
Expected return on plan assets – International plans	**1.64%**	1.26%	1.71%

As of December 31, 2022, the Projected Benefit Obligation ("PBO") for U.S. pension plans was $3.2 billion.

The following table presents the estimated increases (decreases) in future ongoing pension expense and projected benefit obligation assuming a 25 basis point change in the key assumptions for our U.S. pension plans (in millions):

	Change in ongoing pension expense	Change in projected benefit obligation
25 basis point decrease in each spot rate	$ (1)	$ 74
25 basis point increase in each spot rate	$ 1	$ (71)
25 basis point decrease in expected return on assets	$ 7	
25 basis point increase in expected return on assets	$ (7)	

The above sensitivities reflect the impact of changing one assumption at a time. Note that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear. These changes in assumptions would have no effect on our funding requirements.

The following table presents the estimated increases (decreases) in future ongoing pension expense and the Accumulated Postretirement Benefit obligation ("APBO") assuming a 25 basis point change in the key assumptions for our U.S. OPEB plans (in millions):

	Change in ongoing OPEB expense	Change in APBO
25 basis point decrease in each spot rate	$ 1	$ 12
25 basis point increase in each spot rate	$ (1)	$ (11)

The above sensitivities reflect the impact of changing one assumption at a time. Note that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear.

NEW ACCOUNTING STANDARDS

Refer to Note 1 (Summary of Significant Accounting Policies) in the accompanying notes to the consolidated financial statements.

FORWARD-LOOKING STATEMENTS

The statements in this Annual Report on Form 10-K, in reports subsequently filed by Corning with the Securities and Exchange Commission ("SEC") on Form 10-Q and Form 8-K and related comments by management that are not historical facts or information and contain words such as "will," "believe," "anticipate," "expect," "intend," "plan," "seek," "see," "would," and "target" and similar expressions are forward-looking statements. Such statements relate to future events that by their nature address matters that are, to different degrees, uncertain. These forward-looking statements relate to, among other things, the Company's future operating performance, the Company's share of new and existing markets, the Company's revenue and earnings growth rates, the Company's ability to innovate and commercialize new products, the Company's expected capital expenditure and the Company's implementation of cost-reduction initiatives and measures to improve pricing, including the optimization of the Company's manufacturing capacity.

Although the Company believes that these forward-looking statements are based upon reasonable assumptions regarding, among other things, current estimates and forecasts, general economic conditions, its knowledge of its business and key performance indicators that impact the Company, actual results could differ materially. Some of the risks, uncertainties and other factors that could cause actual results to differ materially from those expressed in or implied by the forward-looking statements include, but are not limited to:

- global economic trends, competition and geopolitical risks, or an escalation of sanctions, tariffs or other trade tensions between the U.S. and China or other countries, and related impacts on our businesses' global supply chains and strategies;
- changes in macroeconomic and market conditions and market volatility, including developments and volatility arising from the COVID-19 pandemic, inflation, interest rates, the value of securities and other financial assets, precious metals, oil, natural gas and other commodity prices and exchange rates (particularly between the U.S. dollar and the Japanese yen, new Taiwan dollar, euro, Chinese yuan and South Korean won), the availability of government incentives, decreases or sudden increases of consumer demand, and the impact of such changes and volatility on our financial position and businesses;
- the duration and severity of the COVID-19 pandemic and its impact across our businesses on demand, operations, our global supply chains and stock price;
- possible disruption in commercial activities or our supply chain due to terrorist activity, cyber-attack, armed conflict, political or financial instability, natural disasters, international trade disputes or major health concerns;
- loss of intellectual property due to theft, cyber-attack, or disruption to our information technology infrastructure;
- ability to enforce patents and protect intellectual property and trade secrets;
- unanticipated disruption to Corning's, our suppliers' and manufacturers' supply chain, equipment, facilities, IT systems or operations;
- product demand and industry capacity;
- competitive products and pricing;
- availability and costs of critical components, materials, equipment, natural resources and utilities;
- new product development and commercialization;
- order activity and demand from major customers;
- the amount and timing of our cash flows and earnings and other conditions, which may affect our ability to pay our quarterly dividend at the planned level or to repurchase shares at planned levels;
- the amount and timing of any future dividends;
- the effects of acquisitions, dispositions and other similar transactions;
- the effect of regulatory and legal developments;
- ability to pace capital spending to anticipated levels of customer demand;
- our ability to increase margins through implementation of operational changes, pricing actions and cost reduction measures;
- rate of technology change;
- adverse litigation;
- product and component performance issues;
- retention of key personnel;
- customer ability to maintain profitable operations and obtain financing to fund ongoing operations and manufacturing expansions and pay receivables when due;
- loss of significant customers;
- changes in tax laws, regulations and international tax standards;
- the impacts of audits by taxing authorities; and
- the potential impact of legislation, government regulations and other government action and investigations.

While the Company continually reviews trends and uncertainties affecting the Company's results of operations and financial condition, the Company does not assume any obligation to update or supplement any particular forward-looking statements contained in this document, unless required by law.

Item 7A. Quantitative and Qualitative Disclosures About Market Risks

We operate and conduct business in many foreign countries and as a result are exposed to movements in foreign currency exchange rates. Our exposure to exchange rates has the following effects:

- Exchange rate movements on financial instruments and transactions denominated in foreign currencies that impact earnings; and
- Exchange rate movements upon conversion of net assets and net income of foreign subsidiaries for which the functional currency is not the U.S. dollar.

Our most significant foreign currency exposure relates to the Japanese yen, South Korean won, new Taiwan dollar, Chinese yuan and the euro. We seek to mitigate the impact of exchange rate movements in our income statement by using over-the-counter ("OTC") derivative instruments including foreign exchange forward and option contracts. In general, these hedges expire coincident with the timing of the underlying foreign currency commitments and transactions.

We are exposed to potential losses in the event of non-performance by our counterparties to these derivative contracts. However, we minimize this risk by maintaining a diverse group of highly-rated major financial institutions as our counterparties. We do not expect to record any losses as a result of such counterparty default. Neither we nor our counterparties are required to post collateral for these financial instruments.

Our cash flow hedging activities utilize OTC foreign exchange forward contracts to reduce the risk that movements in exchange rates will adversely affect the net cash flows resulting from the sale of products to foreign customers and purchases from foreign suppliers. We also use OTC foreign exchange forward and option contracts that are not designated as hedged instruments. These contracts are used to offset economic currency risks. The undesignated hedges limit exposure to foreign functional currency fluctuations related to certain subsidiaries' monetary assets, monetary liabilities and net earnings in foreign currencies. A significant portion of our non-U.S. revenue is denominated in Japanese yen. When this revenue is translated back to U.S. dollars, we are exposed to foreign exchange rate movements in the Japanese yen. To protect translated earnings against movements in the Japanese yen, we have entered into a series of average rate forwards and other derivative instruments.

We use a sensitivity analysis to assess the market risk associated with foreign currency exposure. Market risk is defined as the potential change in fair value of assets and liabilities resulting from an adverse movement in foreign currency exchange rates. As of December 31, 2022, with respect to open foreign exchange forward and option contracts and foreign denominated debt with values exposed to exchange rate movements, a 10% adverse movement in quoted foreign currency exchange rates could result in a loss in fair value of these instruments of $0.8 billion compared to $0.7 billion as of December 31, 2021. Specific to the Japanese yen, a 10% adverse movement in quoted yen exchange rates could result in a loss in fair value of these instruments of $0.4 billion and $0.6 billion as of December 31, 2022 and 2021, respectively. Management expects that these hypothetical losses from a 10% adverse movement in quoted foreign currency exchange rates on the derivative financial instruments should largely offset gains on the assets, liabilities and future transactions being hedged.

Item 8. Financial Statements and Supplementary Data

The response to this Item 8 is included in our audited consolidated financial statements and notes to consolidated financial statements, which are contained in Part IV, Item 15 of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

The Company's principal executive and principal financial officers, after evaluating the effectiveness of disclosure controls and procedures (as defined in the Securities Exchange Act of 1934 ("Exchange Act") Rules 13a-15(e) or 15d-15(e) as of the end of the period covered by this report, have concluded that based on the evaluation of these controls and procedures required by paragraph (b) of Exchange Act Rules 13a-15 or 15d-15, that Corning's disclosure controls and procedures were effective.

Disclosure controls and procedures mean controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported, within the time periods specified in the SEC's rules and forms. Corning's disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by Corning in the reports that it files or submits under the Exchange Act is accumulated and communicated to Corning's management, including Corning's principal executive and principal financial officers, or other persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Internal Control Over Financial Reporting

(a) Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for Corning.

Corning'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 accounting principles generally accepted in the U.S. Corning'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 Corning's assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the U.S., and that Corning's receipts and expenditures are being made only in accordance with authorizations of Corning's management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of Corning'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 and procedures may deteriorate.

Management conducted an evaluation of the effectiveness of the Company's internal control over financial reporting based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on this evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2022. The effectiveness of the Company's internal control over financial reporting as of December 31, 2022 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report which is included herein.

(b) Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting identified by the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that occurred during the most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

Item 9B. Other Information

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The sections titled "Proposal 1 Election of Directors," "Corporate Governance and the Board of Directors" and "Delinquent Section 16(a) Reports" in our Definitive Proxy Statement are incorporated by reference in this Annual Report on Form 10-K.

Executive Officers of the Registrant

Refer to Part I, Item 1. of this Annual Report on Form 10-K for a listing of executive officers.

Corning's Board of Directors

Donald W. Blair *Retired Executive Vice President and Chief Financial Officer, NIKE, Inc.*
Mr. Blair was the executive vice president and chief financial officer of NIKE, Inc. from 1999 to October 2015. Prior to joining NIKE, he served 15 years at PepsiCo, Inc. in a number of senior executive-level corporate and operating unit financial assignments, including chief financial officer roles for PepsiCo Japan (based in Tokyo) and Pepsi-Cola International's Asia Division (based in Hong Kong). He began his career in 1981 as an accountant with Deloitte Haskins & Sells. Mr. Blair joined Corning's Board in 2014. Age 64.

Leslie A. Brun *Chairman and Chief Executive Officer, Sarr Group LLC*
Mr. Brun is chairman and chief executive officer of Sarr Group, LLC, co-founder, chairman and chief executive officer of Ariel Alternatives, LLC, senior advisor of G100, Council Advisors, World 50 and a member of the Council on Foreign Relations. He is also the founder and former chief executive officer and chairman of Hamilton Lane, where he served as chief executive officer and chairman from 1991 until 2005, former lead director of Merck & Co., Inc., former director and chairman of the board of Automatic Data Processing, Inc. and a former director of Hewlett Packard Enterprise Company. In addition, Mr. Brun also served as a managing director and co-founder of the investment banking group of Fidelity Bank and as a past vice president in the corporate finance division of E.F. Hutton & Co. Mr. Brun joined Corning's Board in 2018. Age 70.

Stephanie A. Burns *Retired Chairman and Chief Executive Officer, Dow Corning Corporation*
Dr. Burns has nearly 38 years of global innovation and business leadership experience. Dr. Burns joined Dow Corning in 1983 as a researcher and specialist in organosilicon chemistry. In 1994, she became the company's first director of women's health. She was elected to the Dow Corning Board of Directors in 2001 and elected as president in 2003. She served as chief executive officer from 2004 until May 2011 and served as chair from 2006 until her retirement in December 2011. Dr. Burns joined Corning's Board in 2012. Age 67.

Richard T. Clark *Retired Chairman, Chief Executive Officer and President, Merck & Co., Inc. Lead Independent Director*
Mr. Clark retired from Merck in 2011. He joined Merck in 1972 and held a broad range of senior management positions. He became president and chief executive officer of Merck in May 2005 and chairman of the board in April 2007. He transitioned from the chief executive officer role in January 2011 and served as Merck board chairman through November 2011. He was president of the Merck Manufacturing Division (June 2003 to May 2005) of Merck Sharp & Dohme Corp. He is chairman emeritus of the board of Project Hope and a trustee of several charitable non-profit organizations. Mr. Clark joined Corning's Board in 2011. Age 76.

Pamela J. Craig *Retired Chief Financial Officer, Accenture plc.*
From 2006 through 2013, Ms. Craig served as chief financial officer of Accenture plc., a global management consulting, technology services and outsourcing company, following many other leadership roles in line management, consulting and operations during her 34 years with the company. She is also actively involved in charitable organizations focused on education and on the advancement of women in business, including The Women's Forum of New York, New York University Stern School of Business, Junior Achievement of New Jersey and is a member of the Board of Trustees of Smith College. Ms. Craig joined Corning's Board in 2021. Age 65.

Robert F. Cummings, Jr. *Retired Vice Chairman of Investment Banking, JPMorgan Chase & Co.*
Mr. Cummings retired as vice chairman of Investment Banking at JPMorgan Chase & Co. in 2016. He had served in that role since 2010, advising on client opportunities across sectors and industry groups. Mr. Cummings began his business career in the investment banking division of Goldman, Sachs & Co. in 1973 and was a partner of that firm from 1986 to 1998. He served as an advisory director at Goldman Sachs until 2002. Mr. Cummings joined Corning's Board in 2006. Age 73.

Roger W. Ferguson, Jr. *Retired President and Chief Executive Officer, TIAA*
Mr. Ferguson was the President and Chief Executive Officer of TIAA from April 2008 – April 2021. He is also the former Vice Chairman of the Board of Governors of the U.S. Federal Reserve System. Prior to joining TIAA in April 2008, Mr. Ferguson was head of financial services for Swiss Re and Chairman of Swiss Re America Holding Corporation. From 1984 to 1997, he was an Associate and Partner at McKinsey & Company. He began his career as an attorney at the New York City office of Davis Polk & Wardwell. Mr. Ferguson joined Corning's Board in 2021. Age 71.

Deborah A. Henretta *Retired Group President of Global E-Business, Procter & Gamble Company*
Ms. Henretta has over 37 years of business leadership experience across both developed and developing markets, as well as expertise in brand building, marketing, philanthropic program development and government relations. She joined Procter & Gamble (P&G) in 1985. In 2005, she was appointed President of P&G's business in ASEAN, Australia and India. She was appointed group president, P&G Asia in 2007, group president of P&G Global Beauty Sector in 2013 and group president of P&G E-Business in 2015. She retired from P&G in 2015. Ms. Henretta joined Corning's Board in 2013. Age 61.

Daniel P. Huttenlocher *Dean, MIT Stephen A. Schwarzman College of Computing*
Dr. Huttenlocher is the Dean of the MIT Schwarzman College of Computing. Prior to joining MIT, Dr. Huttenlocher served as dean and vice provost of Cornell Tech from 2012 – 2019 and worked for Cornell University from 1988 to 2012 in various positions. Before Cornell, Dr. Huttenlocher worked at Xerox Palo Alto Research Center and was Chief Technology Officer at Intelligent Markets, Inc. He has also served as the Chair of the John D. and Catherine T. MacArthur Foundation, an independent foundation that makes grants and impact investments to support non-profit organizations addressing global social challenges. Dr. Huttenlocher holds a Ph.D. in computer science and a Master of Science degree in Electrical Engineering, both from the Massachusetts Institute of Technology. Dr. Huttenlocher joined Corning's Board in 2015. Age 64.

Kurt M. Landgraf *Retired President, Washington College*
From July 2017 to July 2020, Mr. Landgraf was president of Washington College. He previously served as president and chief executive officer of Educational Testing Service (ETS), a private non-profit educational testing and measurement organization, from 2000 until his retirement in December 2013. Prior to that, he was executive vice president and chief operating officer of E.I. Du Pont de Nemours and Company (DuPont), where he previously held a number of senior leadership positions, including chief financial officer. Mr. Landgraf joined Corning's Board in 2007. Age 76.

Kevin J. Martin *Vice President, US Public Policy, Meta Platforms, Inc.*
Mr. Martin is Vice President, US Public Policy at Meta Platforms, Inc. Prior to joining Meta, he was a partner and co-chair of the telecommunications practice at Squire Patton Boggs, an international law firm (2009 to 2015). From March 2005 to January 2009, he was chairman of the Federal Communications Commission (FCC). Mr. Martin joined Corning's Board in 2013. Age 56.

Deborah D. Rieman *Retired Executive Chairman, Metamarkets Group*
Dr. Rieman has more than 33 years of experience in the software and information technology industries. In 2016, she retired as executive chairman of Metamarkets Group. Previously, she was managing director of Equus Management Company, a private investment fund. From 1995 to 1999, she served as president and chief executive officer of Check Point Software Technologies, Incorporated. Dr. Rieman joined Corning's Board in 1999. Age 73.

Hansel E. Tookes II *Retired Chairman and Chief Executive Officer, Raytheon Aircraft Company*
Mr. Tookes retired from Raytheon Company in December 2002. He joined Raytheon in 1999 and served as president of Raytheon International, chairman and chief executive officer of Raytheon Aircraft and executive vice president of Raytheon Company. From 1980 to 1999, Mr. Tookes served United Technologies Corporation as president of Pratt and Whitney's Large Military Engines Group and in a variety of other leadership positions. He was a Lieutenant Commander and military pilot in the United States Navy and commercial pilot with United Airlines. He is also a former member of the National Academies Aeronautics and Space Engineering Board. Mr. Tookes joined Corning's Board in 2001. Age 75.

Wendell P. Weeks *Chairman and Chief Executive Officer*
Mr. Weeks has been the Chief Executive Officer of Corning Incorporated since April 2005 and Chairman of the Board of Directors since April 2007. He has also held a variety of financial, commercial, business development and general management positions across Corning's Market-Access Platforms and technologies since he joined the company in 1983. Mr. Weeks joined Corning's Board in 2000. Age 63.

Mark S. Wrighton *President, George Washington University*
Dr. Wrighton has nearly 30 years of leadership experience overseeing large research universities. He currently serves as president of George Washington University, on sabbatical from his position as a professor and chancellor emeritus of Washington University in St. Louis where he served 24 years as its chief executive officer and 14 years as chancellor. Before joining Washington University in St. Louis, he was a researcher and professor at the Massachusetts Institute of Technology, where he was head of the Department of Chemistry from 1987 to 1990, and then provost from 1990 to 1995. Dr. Wrighton served as a presidential appointee to the National Science Board from 2000 to 2006. He is also a past chair of the Association of American Universities, the Business Higher Education Forum and the Consortium on Financing Higher Education. He was elected to membership in the American Academy of Arts and Sciences and the American Philosophical Society and he is a Fellow of the American Association for the Advancement of Science. Dr. Wrighton joined Corning's Board in 2009. Age 73.

Code of Ethics

Our Board of Directors adopted the Code of Ethics ("Code") for the Chief Executive Officer and Financial Executives. This Code has been in existence for more than ten years. The Code applies to our Chief Executive Officer, Chief Financial Officer, Controller and other financial executives. During 2022, no amendments to or waivers of the provisions of the Code were made with respect to any of our directors or executive officers. A copy of the Code of Ethics is available on our website at http://www.corning.com/worldwide/en/about-us/investor-relations/codes-of-conduct-ethics.html. We will also provide a copy of the Code of Ethics to shareholders without charge upon written request to Corporate Secretary, Corning Incorporated, One Riverfront Plaza, Corning, NY 14831. We will disclose future amendments to, or waivers from, the Code of Ethics on our website within four business days following the date of such amendment or waiver.

Item 11. Executive Compensation

The sections titled "Compensation Discussion and Analysis," "Director Compensation" and "Compensation and Talent Management Committee Interlocks and Insider Participation" in our Definitive Proxy Statement are incorporated by reference in this Annual Report on Form 10-K.

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

The section titled "Beneficial Ownership Table" in our Definitive Proxy Statement are incorporated by reference in this Annual Report on Form 10-K.

Equity Compensation Plan Information

The following table provides information about the Company's equity compensation plans as of December 31, 2022:

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (1)
Equity compensation plans approved by security holders (2)	9,664,672	$ 22.92	32,332,203
Equity compensation plans not approved by security holders			
Total	9,664,672	$ 22.92	32,332,203

(1) Excludes 9.6 million of securities to be issued upon exercise of outstanding options, warrants and rights.
(2) Shares indicated are total grants under the most recent shareholder approved plans.

Item 13. Certain Relationships and Related Transactions and Director Independence

The sections titled “Policy on Transactions with Related Persons,” “Director Independence” and “Corporate Governance and the Board of Directors-Committees” in our Definitive Proxy Statement are incorporated by reference into this Annual Report on Form 10-K.

Item 14. Principal Accounting Fees and Services

The sections titled “Fees Paid to Independent Registered Public Accounting Firm” and “Policy Regarding Audit Committee Pre-Approval of Audit and Permitted Non-Audit Services of Independent Registered Public Accounting Firm” in our Definitive Proxy Statement are incorporated by reference in this Annual Report on Form 10-K.

PricewaterhouseCoopers LLP (“PwC”) issued its annual Public Company Accounting Oversight Board Rule 3526 independence letter to the Audit Committee of our Board of Directors and therein reported that it is independent under applicable standards in connection with its audit opinion for the financial statements contained in this report. The Audit Committee has discussed with PwC its independence from Corning and concurred with PwC.

PART IV

Item 15. Exhibits

(a) Documents filed as part of this report:

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	See separate index to financial statements	

(b) Exhibits filed as part of this report:

2.1	Framework Agreement, dated as of October 22, 2013, by and among Samsung Display Co., Ltd.; Corning Incorporated and the other parties thereto. (Incorporated by reference to Exhibit 10.65 to Corning's Form 10-K filed on February 10, 2014, as amended by its Form 10-K/A filed on March 21, 2014). The Company has omitted certain schedules, exhibits and similar attachments to the Framework Agreement pursuant to Item 601(b)(2) of Regulation S-K.
2.2	Transaction Agreement, dated December 10, 2015, by and between Corning Incorporated, The Dow Chemical Company, Dow Corning Corporation and HS Upstate Inc. (Incorporated by reference to Exhibit 1.1 of Corning's Form 8-K filed on December 11, 2015).
2.3	Assignment Agreement, dated as of December 29, 2015, between Samsung Display Co., Ltd., Corning Incorporated, Corning Precision Materials Co., Ltd., and Corning Luxembourg S.àr.l., Corning Hungary Data Services Limited Liability Company, Corning Japan K.K., and Samsung Corning Advanced Glass LLC (Incorporated by reference to Exhibit 2.1 of Corning's Form 8-K filed on December 29, 2015).
3.1	Restated Certificate of Incorporation dated April 27, 2012, filed with the Secretary of State of the State of New York on April 27, 2012 (Incorporated by reference to Exhibit 3(i) 1 of Corning's Form 8-K filed on May 1, 2012).
3.2	Certificate of Amendment to the Restated Certificate of Incorporation dated January 14, 2014, filed with the Secretary of State of the State of New York on January 14, 2014 (Incorporated by reference to Exhibit 3.1 of Corning's Form 8-K filed on January 15, 2014).
3.3	Amended and Restated By-Laws of Corning Incorporated, effective as of February 2, 2022 (Incorporated by reference to Exhibit 3.1 of Corning's Form 8-K filed February 3, 2022).
4.1	Indenture, dated November 8, 2000, by and between the Company and of The Bank of New York Mellon Trust Company, N.A. (successor to J. P. Morgan Chase & Co., formerly The Chase Manhattan Bank), as trustee (Incorporated by reference to Exhibit 4.01 to Corning's Registration Statement on Form S-3, Registration Statement No. 333-251135). The Company agrees to furnish to the Commission on request copies of other instruments with respect to long-term debt.
4.2	Form of certificate for shares of the common stock (Incorporated by reference to Exhibit 4.4 to Corning's registration statement on Form S-8 dated May 7, 2010 (Registration Statement No. 333-166642)).
4.3	Shareholder Agreement, dated as of October 22, 2013, by and between Samsung Display Co., Ltd. and Corning Incorporated (Incorporated by reference to Exhibit 10.66 to Corning's Form 10-K filed on February 10, 2014, as amended by its Form 10-K/A filed on March 21, 2014 and further amended by the First Amendment to Shareholder Agreement, dated April 5, 2021, incorporated by reference to Exhibit 10.2 to Corning's Form 8-K filed on April 5, 2021).
4.4	Standstill Agreement, dated as of October 22, 2013, by and among Samsung Electronics Co., Ltd., Samsung Display Co., Ltd. and Corning Incorporated (Incorporated by reference to Exhibit 10.67 to Corning's Form 10-K filed on February 10, 2014, as amended by its Form 10-K/A filed on March 21, 2014).
4.5	Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934. (Incorporated by reference to Exhibit 4.5 to Corning's Form 10-K filed on February 12, 2021.)
10.1	2003 Equity Plan for Non-Employee Directors (Incorporated by reference to Exhibit 3 of Corning Proxy Statement, Definitive 14A filed March 10, 2003 for April 24, 2003 Annual Meeting of Shareholders).
10.2	Form of Officer Severance Agreement dated as of February 1, 2004 between Corning Incorporated and Lawrence D. McRae (Incorporated by reference to Exhibit 10.1 of Corning's Form 10-Q filed May 4, 2004).
10.3	Form of Amendment dated as of February 1, 2004 to Change In Control Agreement dated as of October 4, 2000 between Corning Incorporated and Lawrence D. McRae (Incorporated by reference to Exhibit 10.4 of Corning's Form 10-Q filed May 4, 2004).
10.4	Form of Change In Control Amendment dated as of October 4, 2000 between Corning Incorporated and Lawrence D. McRae (Incorporated by reference to Exhibit 10.5 of Corning's Form 10-Q filed May 4, 2004).

10.5	Amendment dated as of February 1, 2004 to Change In Control Agreement dated as of April 23, 2002 between Corning Incorporated and Wendell P. Weeks (Incorporated by reference to Exhibit 10.8 of Corning's Form 10-Q filed May 4, 2004).
10.6	Change In Control Agreement dated as of April 23, 2002 between Corning Incorporated and Wendell P. Weeks (Incorporated by reference to Exhibit 10.9 of Corning's Form 10-Q filed May 4, 2004).
10.7	Amended 2003 Equity Plan for Non-Employee Directors (Incorporated by reference to Appendix K of Corning Proxy Statement, Definitive 14A filed March 8, 2006 for April 27, 2006 Annual Meeting of Shareholders).
10.8	Amended Corning Incorporated 2003 Equity Plan for Non-Employee Directors effective October 4, 2006 (Incorporated by reference to Exhibit 10.28 of Corning's Form 10-K filed February 27, 2007).
10.9	Executive Supplemental Pension Plan effective February 7, 2007 and signed February 12, 2007 (Incorporated by reference to Exhibit 10.31 of Corning's Form 10-K filed February 27, 2007).
10.10	Executive Supplemental Pension Plan as restated and signed April 10, 2007 (Incorporated by reference to Exhibit 10 of Corning's Form 10-Q filed April 27, 2007).
10.11	Corning Incorporated Performance Incentive Plan dated October 3, 2007 (Incorporated by reference to Exhibit 10.36 of Corning's Form 10-K filed February 15, 2008).
10.12	Corning Incorporated Supplemental Pension Plan dated October 3, 2007 (Incorporated by reference to Exhibit 10.38 of Corning's Form 10-K filed February 15, 2008).
10.13	Corning Incorporated Supplemental Investment Plan dated October 3, 2007 (Incorporated by reference to Exhibit 10.39 of Corning's Form 10-K filed February 15, 2008).
10.14	Amendment No. 2 dated February 13, 2008 and Amendment dated as of February 1, 2004 to Letter of Understanding between Corning Incorporated and Wendell P. Weeks, and Letter of Understanding dated April 23, 2002 between Corning Incorporated and Wendell P. Weeks (Incorporated by reference to Exhibit 10.42 of Corning's Form 10-K filed February 15, 2008).
10.15	Form of Change in Control Agreement Amendment No. 2, effective December 5, 2007 (Incorporated by reference to Exhibit 10.43 of Corning's Form 10-K filed February 15, 2008).
10.16	Form of Officer Severance Agreement Amendment, effective December 5, 2007 (Incorporated by reference to Exhibit 10.44 of Corning's Form 10-K filed February 15, 2008).
10.17	Amendment No. 1 to Corning Incorporated Supplemental Investment Plan, approved December 17, 2007 (Incorporated by reference to Exhibit 10.45 of Corning's Form 10-K filed February 15, 2008).
10.18	Amendment No. 1 to Corning Incorporated Supplemental Pension Plan, approved December 17, 2007 (Incorporated by reference to Exhibit 10.46 of Corning's Form 10-K filed February 15, 2008).
10.19	Amendment No. 1 to Corning Incorporated Executive Supplemental Pension Plan, approved December 17, 2007 (Incorporated by reference to Exhibit 10.47 of Corning's Form 10-K filed February 15, 2008).
10.20	Amendment No. 2 to Executive Supplemental Pension Plan effective July 16, 2008 (Incorporated by reference to Exhibit 10 of Corning's Form 10-Q filed July 30, 2008).
10.21	Form of Change of Control Agreement Amendment No. 3 effective December 19, 2008 (Incorporated by reference to Exhibit 10.53 of Corning's Form 10-K filed February 24, 2009).
10.22	Form of Officer Severance Agreement Amendment No. 2 effective December 19, 2008 (Incorporated by reference to Exhibit 10.54 of Corning's Form 10-K filed February 24, 2009).
10.23	Amendment No. 3 dated December 19, 2008 to Letter of Understanding dated April 23, 2002 between Corning Incorporated and Wendell P. Weeks (Incorporated by reference to Exhibit 10.55 of Corning's Form 10-K filed February 24, 2009).
10.24	Amendment No. 2 to Corning Incorporated Supplemental Investment Plan approved April 29, 2009 (Incorporated by reference to Exhibit 10.1 of Corning's Form 10-Q filed July 29, 2009).
10.25	2010 Equity Plan for Non-Employee Directors (Incorporated by reference to Appendix B of Corning Proxy Statement, Definitive 14A filed March 15, 2010 for April 29, 2010 Annual Meeting of Shareholders).
10.26	Amendment No. 2 to Corning Incorporated Supplemental Pension Plan dated December 18, 2008 (Incorporated by reference to Exhibit 10.66 of Corning's Form 10-K filed February 10, 2011).
10.27	Amendment No. 3 to Corning Incorporated Executive Supplemental Pension Plan effective December 31, 2008 (Incorporated by reference to Exhibit 10.59 of Corning's Form 10-K filed February 13, 2013).
10.28	2021 Long-Term Incentive Plan (Incorporated by reference to Appendix B of Corning Proxy Statement, Definitive 14A filed March 18, 2021, for April 29, 2021 Annual Meeting of Shareholders).
10.29	Amendment No. 4 to Corning Incorporated Executive Supplemental Pension Plan effective December 31, 2012 (Incorporated by reference to Exhibit 10.62 of Corning's Form 10-K filed February 13, 2013).

10.30	Form of Officer Severance Agreement dated as of January 1, 2015 between Corning Incorporated and each of the following individuals: Eric S. Musser; Lewis A. Steverson and Edward A. Schlesinger (Incorporated by reference to Exhibit 10.1 of Corning's Form 10-Q filed July 30, 2015).
10.31	Form of Change in Control Agreement dated as of January 1, 2015 between Corning Incorporated and each of the following individuals: Eric S. Musser; Lewis A. Steverson and Edward A. Schlesinger (Incorporated by reference to Exhibit 10.2 of Corning's Form 10-Q filed July 30, 2015).
10.32	Tax Matters Agreement, dated December 10, 2015, by and between Corning Incorporated, The Dow Chemical Company, Dow Corning Corporation and HS Upstate Inc. (Incorporated by reference to Exhibit 1.2 of Corning's Form 8-K filed on December 11, 2015).
10.33	Form of Corning Incorporated Restricted Stock Unit Grant Notice and Agreement for Non-Employee Directors (for grants made under the 2012 Equity Plan for Non-Employee Directors), effective January 1, 2017 (Incorporated by reference to Exhibit 10.74 of Corning's Form 10-K filed February 6, 2017).
10.34	Credit Agreement dated as of June 6, 2022, among Corning Incorporated, JPMorgan Chase Bank, N.A., Citibank, N.A., Bank of America, N.A., Goldman Sachs Bank USA, HSBC Bank USA, National Association, Morgan Stanley Bank, N.A., MUFG Bank, Ltd., Standard Chartered Bank, Sumitomo Mitsui Banking Corporation, Wells Fargo Bank, National Association, Bank of China New York Branch, and The Bank of New York Mellon (Incorporated by reference to Exhibit 10.1 to Corning's Form 8-K filed on June 7, 2022).
10.35	Corning Incorporated Deferred Compensation Plan for Non-Employee Directors as Amended and Restated on January 1, 2018 (Incorporated by reference to Exhibit 10.77 of Corning's Form 10-K filed February 14, 2020).
10.36	2019 Equity Plan for Non-Employee Directors (Incorporated by reference to Appendix B of Corning Proxy Statement, Definitive 14A filed March 22, 2019 for May 2, 2019 Annual Meeting of Shareholders).
10.37	Form of Corning Incorporated Restricted Stock Unit Grant Notice and Agreement for Non-Employee Directors (for grants made under the 2019 Equity Plan for Non-Employee Directors), effective January 1, 2020 (Incorporated by reference to Exhibit 10.79 of Corning's Form 10-K filed February 14, 2020).
10.38	Form of Corning Incorporated Performance Share Unit Agreement, effective January 1, 2020 (Incorporated by reference to Exhibit 10.80 of Corning's Form 10-K filed February 14, 2020).
10.39	Share Repurchase Agreement, dated April 5, 2021, between Samsung Display Co., Ltd. and Corning Incorporated (Incorporated by reference to Exhibit 10.1 to Corning's Form 8-K filed on April 5, 2021).
10.40	Corning Incorporated Supplemental Investment Plan as Amended and Restated, effective January 1, 2023.
10.41	Corning Incorporated Executive Supplemental Pension Plan as Amended and Restated, effective January 1, 2023.
10.42	Corning Incorporated Supplemental Pension Plan as Amended and Restated, effective January 1, 2023.
14	Corning Incorporated Code of Ethics for Chief Executive Officer and Financial Executives, and Code of Conduct for Directors and Executive Officers (Incorporated by reference to Appendix G of Corning Proxy Statement, Definitive 14A filed March 13, 2012 for April 26, 2012 Annual Meeting of Shareholders).
21	Subsidiaries of the Registrant at December 31, 2021.
23	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.
24	Powers of Attorney (included on the Signatures page of this Annual Report on Form 10-K).
31.1	Certification Pursuant to Rule 13a-15(e) and 15d-15(e), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification Pursuant to Rule 13a-15(e) and 15d-15(e), As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Calculation Linkbase Document
101.LAB	Inline XBRL Taxonomy Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Presentation Linkbase Document
101.DEF	Inline XBRL Taxonomy Definition Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

Item 16. Form 10-K Summary.

None.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities and Exchange Act of 1934, the Registrant has duly caused his report to be signed on its behalf by the undersigned, thereunto duly authorized.

Corning Incorporated

Date: February 13, 2023

By: /s/ Wendell P. Weeks
Wendell P. Weeks
Chairman of the Board of Directors,
Chief Executive Officer

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Edward A. Schlesinger, Lewis A. Steverson and Stefan Becker, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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 as indicated and on the 13th day of February, 2023.

Signature	Capacity
/s/ Wendell P. Weeks Wendell P. Weeks	Chairman of the Board of Directors, Chief Executive Officer, and Director (Principal Executive Officer)
/s/ Edward A. Schlesinger Edward A. Schlesinger	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
/s/ Stefan Becker Stefan Becker	Senior Vice President, Finance and Corporate Controller (Principal Accounting Officer)
/s/ Donald W. Blair Donald W. Blair	Director
/s/ Leslie A. Brun Leslie A. Brun	Director
/s/ Stephanie A. Burns Stephanie A. Burns	Director
/s/ Richard T. Clark Richard T. Clark	Director
/s/ Pamela J. Craig Pamela J. Craig	Director

Signature	Capacity
/s/ Robert F. Cummings, Jr. Robert F. Cummings, Jr.	Director
/s/ Roger W. Ferguson Jr. Roger W. Ferguson Jr.	Director
/s/ Deborah A. Henretta Deborah A. Henretta	Director
/s/Daniel P. Huttenlocher Daniel P. Huttenlocher	Director
/s/ Kurt M. Landgraf Kurt M. Landgraf	Director
/s/ Kevin J. Martin Kevin J. Martin	Director
/s/ Deborah D. Rieman Deborah D. Rieman	Director
/s/ Hansel E. Tookes II Hansel E. Tookes II	Director
/s/ Mark S. Wrighton Mark S. Wrighton	Director

Corning Incorporated
2022 Annual Report
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Corning Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Corning Incorporated and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, including the related notes (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 Management's Annual Report on Internal Control Over Financial Reporting appearing under Item 9A. 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 Matter

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.

Income Taxes - Receivables for South Korean Tax Disputes

As described in Notes 1, 7, and 10 to the consolidated financial statements, in evaluating the tax benefits associated with the Company's various tax filing positions, management records a tax benefit for uncertain tax positions using the highest cumulative tax benefit that is more likely than not to be realized. Adjustments are made to the asset or liability for unrecognized tax benefits in the period in which the Company files the return containing the tax position or when new information becomes available. The Company is currently appealing certain South Korean tax assessments and tax refund claims for tax years 2010 through 2018. The Company is required to deposit the disputed tax amounts with the South Korean government as a condition of its appeal of any tax assessment. The Company believes that it is more likely than not that the Company will prevail in the appeals process and as a result, management recorded a non-current receivable of $349 million as of December 31, 2022.

The principal considerations for our determination that performing procedures relating to the receivables for South Korean tax disputes is a critical audit matter are (i) the significant judgment by management when applying the more-likely-than-not recognition criteria to the Company's uncertain tax positions based on the application of the tax law; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence relating to management's assumption that the Company will prevail in the appeal of any tax assessment; 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 controls relating to uncertain tax positions, including management's assessment of the South Korean tax disputes. These procedures also included, among others, obtaining management's assessment and evidence supporting the more-likely-than-not tax position on the South Korean tax disputes and evaluating the reasonableness of the likelihood that the tax positions will ultimately be sustained upon examination by the South Korean tax authorities and through the appeals process. Professionals with specialized skill and knowledge were used to assist in evaluating management's assessment and supporting evidence related to the application of the tax law.

/s/ PricewaterhouseCoopers LLP
New York, New York
February 13, 2023

We have served as the Company's auditor since 1944.

Consolidated Statements of Income **Corning Incorporated and Subsidiary Companies**

(in millions, except per share amounts)	Year ended December 31, 2022	2021	2020
Net sales	**$ 14,189**	$ 14,082	$ 11,303
Cost of sales	**9,683**	9,019	7,772
Gross margin	**4,506**	5,063	3,531
Operating expenses:			
Selling, general and administrative expenses	**1,898**	1,827	1,747
Research, development and engineering expenses	**1,047**	995	1,154
Amortization of purchased intangibles	**123**	129	121
Operating income	**1,438**	2,112	509
Interest income	**15**	11	15
Interest expense	**(292)**	(300)	(276)
Translated earnings contract gain (loss), net (Note 14)	**351**	354	(38)
Transaction-related gain, net (Note 3)			498
Other income (expense), net	**285**	249	(74)
Income before income taxes	**1,797**	2,426	634
Provision for income taxes (Note 7)	**(411)**	(491)	(111)
Net income	**1,386**	1,935	523
Net income attributable to non-controlling interest	**(70)**	(29)	(11)
Net income attributable to Corning Incorporated	**$ 1,316**	$ 1,906	$ 512
Earnings per common share available to common shareholders:			
Basic (Note 17)	**$ 1.56**	$ 1.30	$ 0.54
Diluted (Note 17)	**$ 1.54**	$ 1.28	$ 0.54
Reconciliation of net income attributable to Corning Incorporated versus net income available to common shareholders:			
Net income attributable to Corning Incorporated	**$ 1,316**	$ 1,906	$ 512
Series A convertible preferred stock dividend		(24)	(98)
Excess consideration paid for redemption of preferred stock (1)		(803)	
Net income available to common shareholders	**$ 1,316**	$ 1,079	$ 414

(1) Refer to Note 16 (Shareholders' Equity) in the accompanying notes to the consolidated financial statements for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Comprehensive Income **Corning Incorporated and Subsidiary Companies**

(in millions)	Year ended December 31, 2022	2021	2020
Net income	**$ 1,386**	$ 1,935	$ 523
Foreign currency translation adjustments and other (Note 16)	**(779)**	(604)	528
Unamortized gains (losses) and prior service credits (costs) for postretirement benefit plans	**154**	178	(88)
Realized and unrealized losses on derivatives	**(30)**	(9)	(9)
Other comprehensive (loss) income, net of tax	**(655)**	(435)	431
Comprehensive income	**731**	1,500	954
Comprehensive income attributable to non-controlling interest	**(70)**	(29)	(11)
Comprehensive income attributable to Corning Incorporated	**$ 661**	$ 1,471	$ 943

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Balance Sheets **Corning Incorporated and Subsidiary Companies**

(in millions, except share and per share amounts)	December 31, 2022	2021
Assets		
Current assets:		
Cash and cash equivalents	**$ 1,671**	$ 2,148
Trade accounts receivable, net of doubtful accounts - $40 and $42	**1,721**	2,004
Inventories (Note 5)	**2,904**	2,481
Other current assets (Notes 10 and 14)	**1,157**	1,026
Total current assets	**7,453**	7,659
Property, plant and equipment, net of accumulated depreciation - $14,147 and $13,969 (Note 8)	**15,371**	15,804
Goodwill, net (Note 9)	**2,394**	2,421
Other intangible assets, net (Note 9)	**1,029**	1,148
Deferred income taxes (Note 7)	**1,073**	1,066
Other assets (Notes 10 and 14)	**2,179**	2,056
Total Assets	**$ 29,499**	$ 30,154
Liabilities and Equity		
Current liabilities:		
Current portion of long-term debt and short-term borrowings (Note 11)	**$ 224**	$ 55
Accounts payable	**1,804**	1,612
Other accrued liabilities (Notes 10 and 13)	**3,147**	3,139
Total current liabilities	**5,175**	4,806
Long-term debt (Note 11)	**6,687**	6,989
Postretirement benefits other than pensions (Note 12)	**407**	622
Other liabilities (Notes 10 and 13)	**4,955**	5,192
Total liabilities	**17,224**	17,609
Commitments and contingencies (Note 13)		
Shareholders' equity (Note 16):		
Common stock – Par value $0.50 per share; Shares authorized 3.8 billion; Shares issued: 1.8 billion and 1.8 billion	**910**	907
Additional paid-in capital – common stock	**16,682**	16,475
Retained earnings	**16,778**	16,389
Treasury stock, at cost; Shares held: 977 million and 970 million	**(20,532)**	(20,263)
Accumulated other comprehensive loss	**(1,830)**	(1,175)
Total Corning Incorporated shareholders' equity	**12,008**	12,333
Non-controlling interest	**267**	212
Total equity	**12,275**	12,545
Total Liabilities and Equity	**$ 29,499**	$ 30,154

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows **Corning Incorporated and Subsidiary Companies**

(in millions)	Year ended December 31, 2022	2021	2020
Cash Flows from Operating Activities:			
Net income	**$ 1,386**	$ 1,935	$ 523
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	**1,329**	1,352	1,399
Amortization of purchased intangibles	**123**	129	121
Loss on disposal of assets	**189**	57	138
Severance charges (reversals)	**70**	(13)	148
Severance payments	**(11)**	(26)	(147)
Share-based compensation expense	**175**	190	207
Translation (gain) loss on Japanese yen-denominated debt	**(191)**	(180)	86
Deferred tax (benefit) provision	**(46)**	16	(20)
Pension plan contributions		(24)	(221)
Translated earnings contract (gain) loss	**(351)**	(354)	38
Unrealized translation loss (gain) on transactions	**68**	77	(133)
(Gain) loss on investment	**(8)**	23	(107)
Asbestos claim payments			(130)
Tax assessment refunds			101
Asset impairment			217
Transaction-related gain, net			(498)
Changes in assets and liabilities:			
Trade accounts receivable	**113**	(54)	(274)
Inventories	**(522)**	(103)	423
Other current assets	**(139)**	(224)	(25)
Accounts payable and other current liabilities	**349**	772	190
Customer deposits and government incentives	**110**	28	104
Deferred income	**(49)**	(116)	(46)
Other, net	**20**	(73)	86
Net cash provided by operating activities	**2,615**	3,412	2,180
Cash Flows from Investing Activities:			
Capital expenditures	**(1,604)**	(1,637)	(1,377)
Proceeds from sale or disposal of assets		17	37
Proceeds from sale of business	**76**	103	
Investments in and proceeds from unconsolidated entities, net	**(38)**	84	(28)
Realized gains on translated earnings contracts	**300**	67	12
Premiums paid on hedging contracts	**(75)**	(48)	(9)
Other, net	**(14)**	(5)	55
Net cash used in investing activities	**(1,355)**	(1,419)	(1,310)
Cash Flows from Financing Activities:			
Repayments of short-term borrowings	**(87)**	(144)	(100)
Repayments of long-term debt		(716)	(121)
Proceeds from issuance of short-term debt	**70**		
Proceeds from issuance of long-term debt	**57**	22	243
Payment for redemption of preferred stock	**(507)**	(507)	
Payments of employee withholding tax on stock awards	**(47)**	(61)	(11)
Proceeds from exercise of stock options	**40**	97	124
Purchases of common stock for treasury	**(221)**	(274)	(105)
Dividends paid	**(932)**	(871)	(787)
Other, net	**(22)**	2	28
Net cash used in financing activities	**(1,649)**	(2,452)	(729)
Effect of exchange rates on cash	**(88)**	(65)	97
Net (decrease) increase in cash and cash equivalents	**(477)**	(524)	238
Cash and cash equivalents at beginning of year	**2,148**	2,672	2,434
Cash and cash equivalents at end of year	**$ 1,671**	$ 2,148	$ 2,672

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Changes in Shareholders' Equity **Corning Incorporated and Subsidiary Companies**

(in millions)	Convertible preferred stock	Common stock	Additional paid-in capital common	Retained earnings	Treasury stock	Accumulated other comprehensive loss	Total Corning Incorporated shareholders' equity	Non-controlling interest	Total
Balance as of December 31, 2019	$ 2,300	$ 859	$ 14,323	$ 16,408	$ (19,812)	$ (1,171)	$ 12,907	$ 90	$ 12,997
Net income				512			512	11	523
Other comprehensive income						431	431	1	432
Purchase of common stock for treasury					(105)		(105)		(105)
Shares issued to benefit plans and for option exercises		4	319				323		323
Common dividends ($0.88 per share)				(681)			(681)		(681)
Preferred dividends ($42,500 per share)				(98)			(98)		(98)
Non-controlling interest in HSG (1)								102	102
Other, net (2)				(21)	(11)		(32)	(13)	(45)
Balance as of December 31, 2020	$ 2,300	$ 863	$ 14,642	$ 16,120	$ (19,928)	$ (740)	$ 13,257	$ 191	$ 13,448
Net income				1,906			1,906	29	1,935
Other comprehensive loss						(435)	(435)	(1)	(436)
Redemption of preferred stock (3)	(700)			(803)			(1,503)		(1,503)
Conversion of preferred stock to common stock (3)	(1,600)	40	1,560						
Purchase of common stock for treasury					(274)		(274)		(274)
Shares issued to benefit plans and for option exercises		4	273				277		277
Common dividends ($0.96 per share)				(812)			(812)		(812)
Preferred dividends ($10,625 per share)				(24)			(24)		(24)
Other, net (2)				2	(61)		(59)	(7)	(66)
Balance as of December 31, 2021	$ -	$ 907	$ 16,475	$ 16,389	$ (20,263)	$ (1,175)	$ 12,333	$ 212	$ 12,545
Net income				1,316			1,316	70	1,386
Other comprehensive loss						(655)	(655)	(2)	(657)
Purchase of common stock for treasury					(221)		(221)		(221)
Shares issued to benefit plans and for option exercises		3	207				210		210
Common dividends ($1.08 per share)				(926)			(926)		(926)
Other, net (2)				(1)	(48)		(49)	(13)	(62)
Balance as of December 31, 2022	**$ -**	**$ 910**	**$ 16,682**	**$ 16,778**	**$ (20,532)**	**$ (1,830)**	**$ 12,008**	**$ 267**	**$ 12,275**

(1) Refer to Note 3 (HSG Transactions and Acquisitions) in the accompanying notes to the consolidated financial statements for additional information.
(2) Treasury stock includes the deemed surrender to the Company of common stock to satisfy employee tax withholding obligations.
(3) Refer to Note 16 (Shareholders' Equity) in the accompanying notes to the consolidated financial statements for additional information.

The accompanying notes are an integral part of these consolidated financial statements.

Corning Incorporated and Subsidiary Companies
Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies

Organization

Corning Incorporated is a provider of high-performance glass for notebook computers, flat panel desktop monitors, display televisions and other information display applications; carrier network and enterprise network products for the telecommunications industry; ceramic substrates for gasoline and diesel engines in automotive and heavy-duty vehicle markets; laboratory products for the scientific community and specialized polymer products for biotechnology applications; advanced optical materials for the semiconductor industry and the scientific community; polycrystalline silicon products and other technologies. In these notes, the terms "Corning," "Company," "we," "us," or "our" mean Corning Incorporated and subsidiary companies.

Basis of Presentation and Principles of Consolidation

The consolidated financial statements include the consolidated accounts of Corning Incorporated and its subsidiaries that are consolidated in conformity with accounting principles generally accepted in the United States of America ("GAAP"). All intercompany accounts, transactions and profits have been eliminated. Investments in partially-owned affiliates are accounted for by the equity method when the Company exercises significant influence, which typically occurs when its ownership interest exceeds 20% and the Company does not have a controlling interest. The Company's share of earnings or losses of these affiliated companies is included in the consolidated operating results.

The Company consolidates variable interest entities ("VIEs") when it has the power to direct the significant activities of the entity and the obligation to absorb losses or receive benefits from the entity that may be significant. The Company did not have any material consolidated or nonconsolidated VIEs in its operations for the presented reporting periods.

On September 9, 2020, Hemlock Semiconductor Group ("HSG") redeemed the entire ownership interest of DuPont in HSG with a value of $250 million (the "Redemption"). Upon completion of the Redemption, Corning obtained a 100% interest in HS LLC and an 80.5% interest in HSO LLC, which are affiliated entities within HSG. Since September 9, 2020, HSG's results have been consolidated in Corning's consolidated financial statements and included within Hemlock and Emerging Growth Businesses. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.

Certain prior year amounts have been reclassified to conform to the current year's presentation. These reclassifications had no impact on the results of operations, financial position, or changes in shareholders' equity.

Use of Estimates

The preparation of financial statements, in conformity with GAAP, requires management to make estimates and assumptions affecting reported amounts of assets, liabilities, revenue, expenses and the disclosure of contingent assets and liabilities in the consolidated financial statements and related notes. Significant estimates and assumptions in these consolidated financial statements include estimates associated with revenue recognition, restructuring charges, goodwill and long-lived asset impairment tests, estimates of fair value of acquired assets and liabilities, estimates of fair value of investments, equity interests, environmental and legal liabilities, income taxes and deferred tax valuation allowances, assumptions used in calculating pension and other postretirement employee benefit expenses and the fair value of share-based compensation. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be different from these estimates.

1. Summary of Significant Accounting Policies (Continued)

Revenue Recognition

Most of the Company's revenue is generated by delivery of products to customers and recognized at a point in time based on evaluation of when the customer obtains control of the products. Revenue is recognized when all performance obligations under the terms of a contract are satisfied and control of the product has been transferred to the customer. If customer acceptance clauses are present and it cannot be objectively determined that control has been transferred, revenue is only recorded when customer acceptance is received and all performance obligations have been satisfied. Sales of goods typically do not include multiple product and/or service elements. Shipping and handling fees are treated as fulfillment costs and not as separate performance obligations under the terms of revenue contracts due to the perfunctory nature of the shipping and handling obligations.

Revenue is measured as the amount of consideration expected in exchange for transferring goods or providing services. Sales tax, value-added tax and other taxes are collected concurrently with revenue-producing activities and excluded from revenue. Incidental contract costs that are not material in the context of the delivery of goods and services are recognized as an expense.

At the time revenue is recognized, allowances are recorded with the related reduction to revenue for estimated product returns, allowances and price discounts based upon historical experience and related terms of customer arrangements. Where product warranties are offered, liabilities are established for estimated warranty costs based upon historical experience and specific warranty provisions. Warranty liabilities are adjusted when experience indicates the expected outcome will differ from initial estimates of the liability. Product warranty liabilities were not material as of December 31, 2022 and 2021.

In addition, the Company has contractual arrangements with certain customers, mainly related to Telecommunications products and comprised of design, installation, training and software maintenance services, in which revenue is recognized over time. The performance obligations under these contracts generally require services to be performed over time, resulting in either a straight-line amortization method or an input method using incurred and forecasted expense to predict revenue recognition patterns which follows satisfaction of the performance obligation. Corning's other revenue was not material for the years ended December 31, 2022, 2021 and 2020.

Contract Assets and Liabilities

Contract assets, such as incremental costs to obtain or fulfill contracts, are an insignificant component of Corning's revenue recognition process. Most of Corning's fulfillment costs as a manufacturer of products are classified as inventory, fixed assets and intangible assets, which are accounted for under the respective guidance for those asset types. Other fulfillment costs are immaterial due to the nature of the products and their respective manufacturing processes.

Contract liabilities include customer deposits, deferred revenue and other advanced payments. Customer deposits are primarily related to Display products and deferred revenue is primarily related to HSG. Other advanced payments are not significant to operations and are recorded within other accrued liabilities on the consolidated balance sheets.

Research and Development Costs

Research and development costs are charged to expense as incurred. Research and development costs totaled $0.9 billion, $0.8 billion and $1.0 billion for the years ended December 31, 2022, 2021 and 2020, respectively.

Foreign Currency Translation and Transactions

The determination of the functional currency for Corning's foreign subsidiaries is made based on the appropriate economic factors. For most foreign operations, the local currencies are generally considered to be the functional currencies. Corning's most significant exception is a Taiwanese subsidiary, which uses the Japanese yen as its functional currency. For all transactions denominated in a currency other than a subsidiary's functional currency, foreign currency remeasurement gains and losses are included in income for the period in which the exchange rates changed. A net foreign currency remeasurement gain of $130 million, gain of $126 million and loss of $37 million was recorded for the years ended December 31, 2022, 2021 and 2020, respectively.

1. Summary of Significant Accounting Policies (Continued)

Foreign subsidiary functional currency balance sheet accounts have been translated at period-end exchange rates, and statement of operations accounts have been translated using average exchange rates for the period. Translation gains and losses are recorded as a separate component of accumulated other comprehensive loss in shareholders' equity. The effects of remeasuring non-functional currency assets and liabilities into the functional currency are included in current earnings, except for those related to intra-entity foreign currency transactions of a long-term investment nature which are recorded together with translation gains and losses in accumulated other comprehensive loss in shareholders' equity. Upon sale or substantially complete liquidation of an investment in a foreign entity, the amount of net translation gains or losses that have been accumulated in other comprehensive loss attributable to that investment are reported as a gain or loss for the period in which the sale or liquidation occurs.

Share-Based Compensation

Corning maintains long-term incentive plans (the "Plans") for key employees and non-employee members of its Board of Directors. The Plans are established to grant equity-based compensation awards, including time-based restricted stock and restricted stock units, performance-based restricted stock units, stock options, stock appreciation rights or a combination of awards (collectively, "share-based awards").

Share-based compensation cost is allocated to cost of sales, selling, general and administrative expenses and research, development and engineering expenses in the consolidated statements of income.

The cost of share-based compensation awards is equal to the fair value of the award at the grant date and compensation expense is recognized for awards expected to ultimately vest. The number of awards expected to vest equals the total awards granted less an estimation of the number of forfeitures expected to occur prior to vesting. The Company reassesses the probability of vesting at each reporting period and adjusts share-based compensation expense based on its probability assessment.

The forfeiture rate is calculated based on over 15 years of historical data and is adjusted if actual forfeitures differ significantly from the original estimates. The effect of any change in estimated forfeitures would be recognized through a cumulative adjustment that would be included in compensation cost in the period of the change in estimate. For awards containing retirement provisions that are granted to retirement eligible employees, share-based compensation expense is recognized over the period in which the required performance is expected to be met.

During the requisite service period, the Company also recognizes a deferred income tax benefit for the expense recognized. At the time of subsequent vesting, exercise, forfeiture, or expiration of an award, the difference between the Company's actual income tax deduction, if any, and the previously accrued income tax benefit is recognized in income tax expense/benefit during the current period.

Time-Based Restricted Stock and Restricted Stock Units

Time-based restricted stock and restricted stock units are issued by the Company on a discretionary basis, and are payable in shares of the Company's common stock upon vesting. The fair value is based on the closing market price of the Company's stock on the grant date. For awards granted to non-employee members of the Company's Board of Directors, as there are no vesting terms, the Company recognizes the compensation expense immediately.

Performance-Based Restricted Stock Units

Performance-based restricted stock units are earned upon the achievement of certain targets and are payable in shares of the Company's common stock upon vesting, typically over a three year period. The fair value is based on the closing market price of the Company's common stock on the grant date and assumes that the target payout level will be achieved.

1. Summary of Significant Accounting Policies (Continued)

Stock Options

Corning's stock option plans provide non-qualified and incentive stock options to purchase authorized but unissued common shares, or treasury shares, at the closing market price on the grant date and generally become exercisable in tranches from one year to five years from the grant date. The maximum term of non-qualified and incentive stock options is 10 years from the grant date. An award is considered vested when the employee's retention of the award is no longer contingent on providing subsequent service (the "non-substantive vesting period approach").

Corning uses a multiple-point Black-Scholes valuation model to estimate the fair value of stock options, which incorporates assumptions including expected volatility, dividend yield, risk-free rate, expected term and forfeiture rates. Corning utilizes a blended approach for calculating the volatility assumption, which is based on the weighted average of the short-term implied volatility, the most recent volatility for the period equal to the expected term and the most recent 15-year historical volatility. The risk-free rate used is the implied rate for a zero-coupon U.S. Treasury bond with a term equal to the option's expected term. The expected term is the period the options are expected to be outstanding and is calculated using a combination of historical exercise experience adjusted to reflect the current vesting period of options being valued and partial life cycles of outstanding options.

Cash and Cash Equivalents

Cash equivalents consist of highly liquid investments that are readily convertible into cash. Securities with contractual maturities of three months or less, when purchased, are considered cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

The following table presents supplemental disclosures of cash flow information (in millions):

	Year ended December 31,		
	2022	2021	2020
Non-cash transactions:			
Accruals for capital expenditures	**$ 414**	$ 357	$ 231
Cash paid for interest and income taxes:			
Interest [1]	**$ 275**	$ 287	$ 298
Income taxes, net of refunds received	**$ 426**	$ 377	$ 220

(1) Includes approximately $48 million, $36 million and $58 million of interest costs that were capitalized as part of property, plant and equipment during the year ended December 31, 2022, 2021 and 2020, respectively.

Trade Accounts Receivable, net of Doubtful Accounts

The allowance for doubtful accounts is based on the best estimate of the amount of probable lifetime credit losses in existing accounts receivable. The Company determines the allowance based on historical write-off experience and expected future default rate by industry. In addition, in circumstances where the Company is made aware of a specific customer's inability to meet its financial obligations, a specific allowance is established. The Company does not have any significant off-balance-sheet credit exposure related to its customers.

Inventories

Inventories are stated at the lower of cost or net realizable value using the first-in, first-out method.

Property, Plant and Equipment, Net of Accumulated Depreciation

Land, buildings and equipment, including precious metals, are recorded at cost. Depreciation is based on the estimated useful lives of the respective assets using the straight-line method. The estimated useful lives generally range from 10 to 40 years for buildings and improvements and 2 to 20 years for equipment, excluding precious metals as discussed below. Interest on borrowings is capitalized during the active construction period of major capital projects, added to the cost of the underlying assets and amortized over the useful lives of the assets.

1. Summary of Significant Accounting Policies (Continued)

Included in the subcategory of equipment are the following types of assets (excluding precious metals):

Asset type	Range of useful life (in years)
Computer hardware and software	3 to 7
Manufacturing equipment	2 to 15
Furniture and fixtures	5 to 10
Transportation equipment	3 to 20

Manufacturing equipment includes certain components of production equipment that are constructed of precious metals. These assets are not depreciated because they have very low physical losses and are repeatedly reclaimed and reused in the Company's manufacturing processes over a very long useful life. The physical loss of precious metals in the manufacturing and reclamation process is treated as depletion and these losses are accounted for as a period expense based on actual units lost. Precious metals are integral to many glass production processes and are only acquired to support operations. These metals are not held for trading or other purposes.

Leases

Corning leases certain real estate, vehicles and equipment from third parties, which are classified as operating or finance leases. Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Right-of-use assets and the corresponding lease liabilities are recognized at the commencement date based on the present value of lease payments for all leases with terms longer than twelve months. To determine the present value of lease payments, the Company uses its incremental borrowing rate based on information available on the lease commencement date or the implicit rate if it is readily determinable. The Company has elected to combine lease and non-lease components of a contract for its leases.

Renewal and termination options are included in the calculation of the right-of-use assets and lease liabilities when considered to be reasonably certain to be exercised.

Lease expense is recognized on a straight-line basis over the lease term for operating leases. Interest expense and amortization of the right-of-use assets relating to finance leases are calculated and recognized using the effective interest and straight-line methods, respectively.

Corning does not have any significant agreements as a lessor.

Impairment of Long-Lived Assets

The recoverability of long-lived assets, such as property, plant and equipment and intangible assets, is reviewed when events or changes in circumstances occur that indicate the carrying value of the asset or asset group may not be recoverable. When impairment indicators are present, the estimated undiscounted future cash flows, including the eventual disposition of the asset group at market value, is compared to the assets' carrying value to determine if the asset group is recoverable. For an asset group that fails the test of recoverability, the estimated fair value of long-lived assets is determined using an income approach that starts with the forecast of all the expected future net cash flows, including the eventual disposition at market value of long-lived assets, and considers the fair market value of all precious metals, if applicable. The recoverability of the carrying value of long-lived assets is assessed at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. If there is an impairment, a loss is recorded to reflect the difference between the assets' fair value and carrying value.

The Company is required to assess the recoverability of the carrying value of long-lived assets when an indicator of impairment has been identified. The Company performs this review each quarter and exercises judgment in assessing whether impairment indicators are present. For the year ended December 31, 2020, Corning incurred a long-lived asset impairment and disposal loss for an asset group related to the reassessment and reprioritization of research and development programs relating to a business within Hemlock and Emerging Growth Businesses. Refer to Note 2 (Restructuring, Impairment and Other Charges and Credits) in the notes to the consolidated financial statements for additional information.

1. Summary of Significant Accounting Policies (Continued)

Goodwill

Goodwill is the excess of cost of an acquired entity over the amounts assigned to assets acquired and liabilities assumed in a business combination. Goodwill relates, and is assigned directly, to a specific reporting unit. Reporting units are either operating segments or one level below the operating segment. Impairment testing for goodwill is done at a reporting unit level. Goodwill is reviewed for indicators of impairment quarterly, or if an event occurs or circumstances change that indicate that the carrying amount may be impaired. Corning also performs a detailed quantitative impairment test every three years, even if there are no impairment indicators present. This calculation is used as a quantitative validation of the qualitative process; this process does not represent an election to perform the quantitative impairment test in place of the qualitative review.

The qualitative process includes an extensive review of expectations for the long-term growth of the businesses and forecasted future cash flows. If required to perform the quantitative impairment analysis, the valuation method is an income approach using a discounted cash flow model in which cash flows anticipated over several periods, plus a terminal value at the end of that time horizon, are discounted to their present value using an appropriate rate of return. Estimates are based upon historical experience, current knowledge from commercial relationships and available external information about future trends. If the fair value is less than the carrying value, a loss is recorded to reflect the difference between the fair value and carrying value. The most recent quantitative test was performed in 2020 and the fair value of the Company's reporting units significantly exceeded the respective carrying values.

Government Assistance

The Company receives government assistance, typically in the form of cash incentives primarily for capital expansion projects. Cash incentives received are classified as a liability and recognized when it is probable that the Company will comply with any contractual conditions. Cash incentives relating to the purchase of property, plant and equipment are deducted from the cost of the relevant asset. Cash incentives relating to project costs or other expenses are recognized in the statements of income as a deduction to the related expense.

During the year ended December 31, 2022, cash incentives recognized as a reduction of property, plant and equipment or in net income were not material. As of December 31, 2022, the Company had $92 million classified within other accrued liabilities and $74 million classified within other liabilities in the consolidated balance sheet for cash incentives received, which primarily relate to capital expansion projects within Display Technologies and Pharmaceutical Technologies and are expected to be realized over the next 1-2 years.

Environmental Liabilities

The Company accrues for its environmental investigation, remediation, operating and maintenance costs when it is probable that a liability has been incurred and the amount can be reasonably estimated. For environmental matters, the most likely cost to be incurred is accrued based on an evaluation of currently available facts with respect to each individual site, current laws and regulations and prior remediation experience. For sites with multiple potentially responsible parties, the Company considers its likely proportionate share of the anticipated remediation costs and the ability of the other parties to fulfill obligations in establishing a provision for those costs. Where no amount within a range of estimates is more likely to occur than another, the minimum undiscounted amount is accrued. When future liabilities are determined to be reimbursable by insurance coverage, an accrual is recorded for the potential liability and a receivable is recorded related to the insurance reimbursement when reimbursement is virtually certain.

The uncertain nature inherent in such remediation and the possibility that initial estimates may not reflect the outcome could result in additional costs being recognized by the Company in future periods.

Equity Method Investments

As of December 31, 2022 and 2021, Corning had investments in affiliated companies accounted for by the equity method totaling $261 million and $264 million, respectively. During the years ended December 31, 2022, 2021 and 2020 Corning had sales to affiliated companies of $228 million, $312 million and $253 million, respectively.

1. Summary of Significant Accounting Policies (Continued)

Equity method investments are reviewed for impairment on a periodic basis, or if an event occurs or circumstances change that indicate the carrying amount may be impaired. This assessment is based on a review of the equity investments' performance and a review of indicators of impairment to determine whether there is evidence of a loss in value. For an equity investment with impairment indicators, the fair value is measured based on discounted cash flows, or other appropriate valuation methods, depending on the nature of the company involved. If it is probable that the carrying amount of the investment cannot be recovered, the impairment is considered other-than-temporary and recorded in earnings, and the equity investment balance is reduced to its fair value.

All equity investments that do not result in consolidation and are not accounted for under the equity method are measured at fair value with changes therein reflected in net income. The Company utilizes the measurement alternative for equity investments that do not have readily determinable fair values and measures these investments at cost less impairment, plus or minus observable price changes in orderly transactions. These investments were not material as of December 31, 2022 and 2021.

Employee Retirement Plans

Corning offers employee retirement plans consisting of defined benefit pension plans covering certain domestic and international employees and postretirement plans that provide health care and life insurance benefits for eligible retirees and dependents. The costs and obligations related to these benefits reflect the Company's assumptions related to general economic conditions, particularly interest rates, expected return on plan assets, rate of compensation increase for employees and health care cost trend rates. The cost of providing plan benefits depends on demographic assumptions including retirements, mortality, turnover and plan participation.

Costs for defined benefit pension plans consist of two elements: (1) on-going costs recognized quarterly, which are comprised of service and interest costs, expected return on plan assets and amortization of prior service costs; and (2) mark-to-market gains and losses outside of the corridor, where the corridor is equal to 10% of the greater of the benefit obligation or the market-related value of plan assets at the beginning of the year, which are recognized annually in the fourth quarter of each year. These gains and losses result from changes in actuarial assumptions and the differences between actual and expected return on plan assets. Any interim remeasurement, triggered by a curtailment, settlement or significant plan change, as well as any true-up to the annual valuation, is recognized as a mark-to-market adjustment in the quarter in which such event occurs.

Costs for postretirement benefit plans consist of on-going costs recognized quarterly, and are comprised of service and interest costs, amortization of prior service costs and amortization of actuarial gains and losses. Actuarial gains and losses resulting from changes in actuarial assumptions are recognized as a component of accumulated other comprehensive loss in shareholders' equity on an annual basis and amortized into operating results over the average remaining service period of employees expected to receive benefits under the plans, to the extent such gains and losses are outside the corridor.

Income Taxes

The Company accounts for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to operating loss and tax credit carryforwards and for differences between the carrying amounts of existing assets and liabilities and their respective tax bases. Valuation allowances are established when management is unable to conclude that it is more likely than not that some portion, or all, of the deferred tax asset will ultimately be realized based upon the available evidence, including consideration of tax planning strategies.

The effective tax rate reflects the assessment of the ultimate outcome of tax audits. In evaluating the tax benefits associated with the Company's various tax filing positions, a tax benefit for uncertain tax positions is recorded using the highest cumulative tax benefit that is more likely than not to be realized. Adjustments are made to the asset or liability for unrecognized tax benefits in the period in which the return containing the tax position is filed or when new information becomes available. The liability for unrecognized tax benefits, including accrued penalties and interest, is included in other accrued liabilities and other long-term liabilities on the consolidated balance sheets and within income tax expense in the consolidated statements of income.

Discrete events such as audit settlements or changes in tax laws are recognized in the period in which they occur.

Generally, Corning will indefinitely reinvest the foreign earnings of: (1) any subsidiary that lacks sufficient local statutory earnings from which to make a distribution or otherwise lacks the ability to repatriate its earnings, (2) any subsidiary where Corning's intention is to reinvest those earnings in operations, (3) legal entities for which Corning holds a non-controlling interest, (4) any subsidiary with an accumulated deficit in earnings and profits, or (5) any subsidiary where a future distribution would trigger a significant net cost.

1. Summary of Significant Accounting Policies (Continued)

Fair Value Measurements

Major categories of financial assets and liabilities, including short-term investments, other assets and derivatives, are measured at fair value on a recurring basis. Certain assets and liabilities are measured at fair value on a nonrecurring basis when impaired, which include long-lived assets, goodwill, equity method investments, other investments and asset retirement obligations.

Fair value is the price that would be received from selling an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the principal, or most advantageous, market in which Corning would transact is analyzed. Assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions and risk of non-performance, are considered.

A three-level valuation hierarchy, based upon the observable and unobservable inputs, is used for fair value measurements. Observable inputs are based on market data or independent sources while unobservable inputs are based on the Company's own market assumptions. Once inputs have been characterized, the inputs are prioritized into one of three broad levels used to measure fair value: Level 1, quoted market prices in active markets for identical instruments, Level 2, significant other observable inputs and Level 3, significant unobservable inputs.

Derivative Instruments

The Company enters into a variety of foreign exchange forward contracts and foreign exchange option contracts to manage the exposure to fluctuations in foreign exchange rates. Financial exposure is managed in accordance with corporate policies and procedures. The Company also utilizes derivatives that are bifurcated from its precious metals lease contracts to manage the exposure of its separate accounting pool of leased precious metals to changes in market prices.

All derivatives are recorded at fair value on the consolidated balance sheets. Changes in the fair value of derivatives designated as cash flow hedges are not recognized in current operating results but are recorded in accumulated other comprehensive loss. Amounts related to cash flow hedges are reclassified from accumulated other comprehensive loss when the underlying hedged item impacts earnings. This reclassification is recorded within the same line item of the consolidated statements of income where the underlying hedged transaction was recorded, typically sales, cost of sales or other income (expense), net. Changes in the fair value, excluding the time value component, of derivatives designated as fair value hedges are recognized in current operating results within other income (expense), net in the consolidated statements of income. Changes in the fair value of derivatives not designated as hedging instruments are recognized within translated earnings contract gain (loss), net and other income (expense), net in the consolidated statements of income.

New Accounting Standards

In November 2021, the FASB issued Accounting Standards Update 2021-10 Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance ("ASU 2021-10"). ASU 2021-10 requires business entities to disclose information in the notes to the financial statements about certain types of government assistance. The annual disclosure requirements apply to transactions with a government that are accounted for by analogizing either a grant or a contribution model. The adoption of ASU 2020-10 did not have a material impact on the Company's financial position or results of operations.

Recently issued accounting standards are not expected to have a material impact on the Company's consolidated financial statements.

2. Restructuring, Impairment and Other Charges and Credits

The following table presents the restructuring, impairment and other charges and credits (in millions):

	Year ended December 31,		
	2022	2021	2020
Severance	**$ 70**	$ (13)	$ 148
Asset impairment			217
Capacity optimization	**219**	46	304
Other charges and credits	**125**	77	158
Total restructuring, impairment and other charges and credits	**$ 414**	$ 110	$ 827

Corning periodically assesses the operating efficiency and cost structure of the Company's asset base and global workforce and takes appropriate actions to align corporate resources with the business environment.

2022

Corning recorded $414 million in severance, accelerated depreciation, asset write-offs and other related charges for the year ended December 31, 2022. Capacity optimization charges include accelerated depreciation and asset write-offs associated with the exit of certain facilities, product lines and other exit activities primarily within Display Technologies, Specialty Materials and an emerging growth business. Severance charges were recorded across all segments and as of December 31, 2022, the severance accrual is not material and is expected to be settled within the next twelve months.

2020

In 2020 and in response to uncertain global economic conditions, Corning undertook actions to transform the Company's cost structure and improve operational efficiency. These actions included a corporate-wide workforce reduction program, write-offs of certain assets and accelerated depreciation associated with the capacity optimization of certain manufacturing facilities as well as other exit charges and credits.

Severance

During the second quarter of 2020, Corning implemented a corporate-wide workforce reduction program. Severance charges were primarily incurred to facilitate realignment of capacity in the Asia regions for the Display Technologies segment, optimize the Optical Communications segment and contain corporate costs.

Asset Impairment

During the year ended December 31, 2020, Corning incurred a long-lived asset impairment and disposal loss for an asset group related to the reassessment of research and development programs relating to a business within Hemlock and Emerging Growth Businesses. Given the economic environment and market opportunities, Corning discontinued its investment in these research and development programs. The impairment analysis and disposition of certain assets resulted in a total pre-tax charge of $217 million, which was substantially all the carrying value, inclusive of an insignificant amount of goodwill. The fair value of the asset group for the impairment analysis was measured using unobservable (Level 3) inputs.

Capacity Optimization

Capacity optimization for the year ended December 31, 2020 primarily includes accelerated depreciation and asset write-offs associated with the exit of certain facilities and other exit activities in the Display Technologies and Specialty Materials business segments.

2. Restructuring, Impairment and Other Charges and Credits (Continued)

The following tables present the impact and respective location of total restructuring, impairment and other charges and credits in the consolidated statements of income (in millions):

	Year ended December 31, 2022				
	Gross margin (1)	Selling, general and administrative expenses	Research, development and engineering expenses	Other	Total
Severance	**$ 25**	**$ 32**	**$ 13**		**$ 70**
Capacity optimization	**215**	**4**			**219**
Other charges and credits	**97**	**15**	**3**	**$ 10**	**125**
Total restructuring, impairment and other charges and credits	**$ 337**	**$ 51**	**$ 16**	**$ 10**	**$ 414**

	Year ended December 31, 2021				
	Gross margin (1)	Selling, general and administrative expenses	Research, development and engineering expenses	Other	Total
Severance	$ (6)	$ (5)	$ (2)		$ (13)
Capacity optimization	36	7	3		46
Other charges and credits	50	(5)		$ 32	77
Total restructuring, impairment and other charges and credits	$ 80	$ (3)	$ 1	$ 32	$ 110

	Year ended December 31, 2020				
	Gross margin (1)	Selling, general and administrative expenses	Research, development and engineering expenses	Other	Total
Severance	$ 83	$ 34	$ 31		$ 148
Asset impairment		6	211		217
Capacity optimization	288	16			304
Other charges and credits	72	60	5	$ 21	158
Total restructuring, impairment and other charges and credits	$ 443	$ 116	$ 247	$ 21	$ 827

(1) Activity reflected in cost of sales.

3. HSG Transactions and Acquisitions

During 2020, HSG entered into a series of agreements with DuPont resulting in a change in control of HSG and its consolidation into Corning. Through the agreements, HSG acquired DuPont's TCS manufacturing assets, which was determined to be a business and recorded as a business combination. The fair value of the purchase price was $255 million. In conjunction with this acquisition, HSG settled the pre-existing TCS relationship ("TCS Settlement") for a contractual amount of $175 million, which was determined to have a fair value of $200 million. Corning's share of the pre-tax loss related to the TCS Settlement was $81 million and was recorded in other income (expense), net in the consolidated statements of income for the year ended December 31, 2020.

In addition, on September 9, 2020, HSG redeemed DuPont's entire ownership of HSG with a value of $250 million. Upon completion of the Redemption, Corning obtained a 100% interest in HS LLC and 80.5% interest in HSO LLC. Corning accounted for the Redemption under the acquisition method of accounting in accordance with business combinations without the transfer of net cash consideration. The Redemption price of $250 million approximated the fair value of Corning's equity interest in HSG immediately preceding the Redemption. The fair value of Corning's equity interest in HSG was estimated by applying the income approach, which was based on significant assumptions such as projected revenue and discount rate. The Company used a discount rate of 16.5% and terminal growth rate of zero. As no net-cash consideration was transferred, the fair value of Corning's previously held equity interest in HSG was used to measure the goodwill resulting from the Redemption and the Company's controlling interest after the Redemption.

Corning recognized a pre-tax gain of $498 million on its previously held equity investment in HSG as a result of the consolidation resulting from the Redemption. The gain was calculated based on the difference between the fair value and carrying value of the equity method investment immediately preceding the Redemption and included within the transaction-related gain, net in the consolidated statements of income for the year ended December 31, 2020.

The following table presents the calculation of the gain on previously owned equity (in millions):

Fair value of previously held equity investment	$	250
Equity investment liability balance as of acquisition date		(248)
Corning's gain on previously held equity investment	$	498

Since September 9, 2020, HSG's results have been consolidated in Corning's consolidated financial statements and included within Hemlock and Emerging Growth Businesses. The amount of HSG's net income is not material to Corning's consolidated financial statements for the year ended December 31, 2020.

4. Revenue

Revenue Disaggregation Table

The following table shows revenue by major product categories, similar to the Company's reportable segment disclosure. Within each product category, contract terms, conditions and economic factors affecting the nature, amount, timing and uncertainty around revenue recognition and cash flows are substantially similar. The commercial markets and selling channels are also similar. Except for an insignificant number of Telecommunications products, product category revenues are recognized at the point in time when control transfers to the customer.

The following table presents revenues by product category (in millions):

	Year ended December 31,		
	2022	2021	2020
Telecommunication products	**$ 5,023**	$ 4,349	$ 3,563
Display products	**2,829**	3,666	3,077
Specialty glass products	**1,996**	2,008	1,884
Environmental substrate and filter products	**1,492**	1,584	1,333
Life science products	**1,187**	1,232	981
Polycrystalline silicon products (1)	**1,191**	892	194
All other products (1)	**471**	351	271
Total Revenue	**$ 14,189**	$ 14,082	$ 11,303

(1) Corning obtained a controlling interest in HSG during the third quarter of 2020 and has consolidated results in Hemlock and Emerging Growth Businesses beginning on September 9, 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.

Customer Deposits

As of December 31, 2022 and 2021, Corning had customer deposits of approximately $1.3 billion. Most of these customer deposits were non-refundable and allowed customers to secure rights to products produced by Corning under long-term supply agreements. The duration of these long-term supply agreements ranges up to 10 years. As products are shipped to customers, Corning will recognize revenue and reduce the amount of the customer deposit liability.

For the years ended December 31, 2022 and 2021, customer deposits recognized were $198 million and $216 million, respectively. As of December 31, 2022 and 2021, $1.1 billion was recorded in other long-term liabilities. The remaining $132 million and $223 million, respectively, were recorded in other accrued liabilities.

Deferred Revenue

As of December 31, 2022 and 2021, Corning had deferred revenue of approximately $869 million and $912 million, respectively. Deferred revenue was primarily related to the performance obligations of non-refundable consideration previously received by HSG from its customers under long term supply agreements.

Deferred revenue is tracked on a per-customer contract-unit basis. As customers take delivery of the committed volumes under the terms of the contract, a per-unit amount of deferred revenue is recognized when control of the promised goods is transferred to the customer based upon the units shipped compared to the remaining contractual units. During the years ended December 31, 2022 and 2021, the amount of deferred revenue recognized in the consolidated statements of income was not material.

As of December 31, 2022 and 2021, $725 million and $764 million, respectively, were recorded in other liabilities and $144 million and $148 million, respectively, were recorded in other accrued liabilities.

The value of unsatisfied performance obligations is not disclosed for (i) contracts with an original expected length of one year or less and (ii) contracts for which revenue has been recognized at an amount for which the right exists to invoice for services performed.

Significant Customers

For 2022, 2021 and 2020, no customer met or exceeded 10% of Corning's consolidated net sales.

5. Inventories

Inventories consisted of the following (in millions):

	December 31,	
	2022	2021
Finished goods	**$ 1,315**	$ 1,215
Work in process	**571**	358
Raw materials and accessories	**537**	427
Supplies and packing materials	**481**	481
Inventories	**$ 2,904**	$ 2,481

6. Leases

The following table presents the components of lease cost (in millions) (1):

	Year ended December 31,		
	2022	2021	2020
Operating lease cost	**$ 147**	$ 139	$ 133
Variable lease cost	**51**	59	41
Short-term lease cost	**2**	2	4
Total lease cost	**$ 200**	$ 200	$ 178

(1) Finance lease costs were not material for the years ended December 31, 2022, 2021 and 2020.

The following table presents the components of cash paid for amounts included in the measurement of lease liabilities (in millions) (1):

	December 31,		
	2022	2021	2020
Operating cash outflows from operating leases	**$ 116**	$ 134	$ 121

(1) Cash payments for operating leases have been classified as operating activities on the consolidated statements of cash flows. Principal and interest payments for finance leases have been classified as financing activities and operating activities, respectively, on the consolidated statements of cash flows, and were not material for the years ended December 31, 2022, 2021 and 2020.

The following table presents supplemental consolidated balance sheet information (in millions, except lease term and discount rate) (1):

		December 31,	
	Location of lease balances	**2022**	2021
Operating lease right-of-use assets	Other assets	**$ 842**	$ 741
Operating lease liabilities - current	Other current liabilities	**$ 111**	$ 94
Operating lease liabilities - noncurrent	Other liabilities	**$ 795**	$ 691
Weighted-average remaining lease term (in years)		**14.3**	12.9
Weighted-average discount rate		**4.2%**	4.0%

(1) Finance leases were not material as of December 31, 2022 and 2021.

6. Leases (Continued)

As of December 31, 2022, maturities of operating lease liabilities are as follows (in millions) (1):

	December 31, 2022
2023	$ **136**
2024	$ **106**
2025	$ **92**
2026	$ **83**
2027	$ **71**
After 2027	$ **756**
Total operating payments	$ **1,244**
Less: imputed discount	$ **338**
Present value of lease payments	$ **906**

(1) Finance leases were not material as of December 31, 2022.

As of December 31, 2022, Corning had additional operating leases, primarily for new production facilities, that have not yet commenced or been recorded, of approximately $168 million on an undiscounted basis. These operating leases will commence in 2023 with lease terms of 10 to 20 years.

7. Income Taxes

The following table presents the components of income before income taxes (in millions):

	Year ended December 31,		
	2022	2021	2020
U.S. companies	**$ 1,157**	$ 1,282	$ (62)
Non-U.S. companies	**640**	1,144	696
Income before income taxes	**$ 1,797**	$ 2,426	$ 634

The following table presents the current and deferred amounts of the provision for income taxes (in millions):

	Year ended December 31,		
	2022	2021	2020
Current:			
Federal	**$ (191)**	$ (172)	$ 88
State and municipal	**(16)**	(13)	(16)
Foreign	**(250)**	(290)	(203)
Deferred:			
Federal	**52**	(97)	7
State and municipal	**8**	(7)	3
Foreign	**(14)**	88	10
Provision for income taxes	**$ (411)**	$ (491)	$ (111)

Amounts reflected in the preceding tables are based on the location of the taxing authorities.

7. Income Taxes (Continued)

The following table presents the reconciliation of the statutory U.S. federal income tax rate to the effective tax rate:

	Year ended December 31,		
	2022	2021	2020
Statutory U.S. federal income tax rate	**21.0%**	21.0%	21.0%
State income tax, net of federal effect	**0.7**	1.0	1.4
Audit settlements & change in reserve	**3.7**	1.6	12.1
Differential arising from foreign earnings (1)	**2.2**	2.0	14.9
Valuation allowance	**2.1**	(0.5)	2.5
Intercompany loan adjustment	**0.6**		6.1
Tax credits	**(3.3)**	(2.6)	(29.2)
Foreign derived intangible income	**(2.7)**	(1.3)	
Stock compensation	**(0.8)**	(1.5)	(1.7)
Remeasurement of deferred tax assets and liabilities	**(0.1)**		(13.2)
Legal entity rationalization			(2.2)
Non-deductible expenses		1.4	6.9
Global intangible low-taxed income		0.2	(0.5)
Other items, net	**(0.5)**	(1.1)	(0.6)
Effective tax rate	**22.9%**	20.2%	17.5%

(1) Includes impact of intercompany asset sales.

On September 9, 2020, Corning obtained a 100% controlling interest in HS LLC and an 80.5% controlling interest in HSO LLC. As a result, the deferred tax liability on the outside basis difference between book and tax basis for Corning's investment in HS LLC and HSO LLC was adjusted by approximately $116 million.

Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.

During the year ended December 31, 2022, the Company distributed approximately $534 million from foreign subsidiaries to their respective U.S. parent companies. As of December 31, 2022, Corning has approximately $1.3 billion of indefinitely reinvested foreign earnings. It remains impracticable to calculate the tax cost of repatriating unremitted earnings which are considered indefinitely reinvested.

7. Income Taxes (Continued)

The following table presents the tax effects of temporary differences and carryforwards that gave rise to significant portions of the deferred tax assets and liabilities (in millions):

	December 31,	
	2022	2021
Loss and tax credit carryforwards	**$ 281**	$ 375
Other assets	**232**	200
Research and development capitalization	**280**	81
Asset impairments and restructuring reserves	**41**	30
Postretirement medical and life benefits	**102**	154
Other accrued liabilities	**311**	354
Other employee benefits	**346**	329
Gross deferred tax assets	**1,593**	1,523
Valuation allowances	**(166)**	(138)
Total deferred tax assets	**1,427**	1,385
Intangible and other assets	**(108)**	(103)
Fixed assets	**(289)**	(300)
Finance leases	**(200)**	(174)
Total deferred tax liabilities	**(597)**	(577)
Net deferred tax assets	**$ 830**	$ 808

Net deferred tax assets on the consolidated balance sheets consisted of the following (in millions):

	December 31,	
	2022	2021
Deferred tax assets	**$ 1,073**	$ 1,066
Other liabilities	**(243)**	(258)
Net deferred tax assets	**$ 830**	$ 808

The following table presents details of the deferred tax assets for loss and tax credit carryforwards (in millions):

		Expiration			
	Total	2023-2027	2028-2032	2033-2042	Indefinite
Net operating losses	**$ 278**	$ 94	$ 27	$ 24	$ 133
Tax credits	**3**		3		
Balance as of December 31, 2022	**$ 281**	$ 94	$ 30	$ 24	$ 133

The following table presents the changes in the deferred tax valuation allowance (in millions):

	2022	2021	2020
Balance as of January 1	**$ 138**	$ 167	$ 215
Additions	**81**	13	27
Reductions	**(53)**	(42)	(75)
Balance as of December 31	**$ 166**	$ 138	$ 167

7. Income Taxes (Continued)

The following table presents the reconciliation of the beginning and ending amount of unrecognized tax benefits (in millions):

	2022	2021	2020
Balance as of January 1	**$ 178**	$ 131	$ 62
Additions based on tax positions related to the current year	**10**	54	19
Additions for tax positions of prior years	**24**	17	53
Reductions for tax positions of prior years	**(5)**	(21)	
Settlements and lapse of statute of limitations	**(1)**	(3)	(3)
Balance as of December 31	**$ 206**	$ 178	$ 131

During 2020, the Internal Revenue Service ("IRS") opened an audit for tax years 2015-2018. The Company does not expect additional material exposure for the tax years under audit. However, if upon conclusion of these matters, the ultimate determination of taxes owed is for an amount materially different than the current position, the overall tax expense and effective tax rate could be materially impacted in the period of adjustment.

The additions for tax positions of prior years were primarily due to tax audits, development of tax court cases and tax law changes in various jurisdictions.

Included in the balance as of December 31, 2022, 2021 and 2020 are $169 million, $120 million and $102 million, respectively, of unrecognized tax benefits that would impact the Company's effective tax rate if recognized.

Accrued interest and penalties associated with uncertain tax positions are recognized as part of tax expense. For the years ended December 31, 2022, 2021 and 2020 the amount recognized in interest expense and accrued for the payment of interest and penalties was not material.

It is possible that the amount of unrecognized tax benefits will change due to one or more of the following events during the next twelve months: audit activity, tax payments, or final decisions in matters that are the subject of controversy in various jurisdictions. The Company believes that adequate tax reserves are provided for these matters. However, if upon conclusion of these matters, the ultimate determination of taxes owed is for an amount materially different than the current reserves, the Company's overall tax expense and effective tax rate could be materially impacted in the period of adjustment. As of December 31, 2022, the Company is not expecting any significant movements in the uncertain tax benefits in the next twelve months.

Corning Incorporated, as the common parent company, and all 80%-or-more-owned of its U.S. subsidiaries join in the filing of consolidated U.S. federal income tax returns. The statute of limitations is closed for all periods ending through December 31, 2012. All returns for periods ended through December 31, 2014, have been audited by and settled with the IRS.

Corning Incorporated and its U.S. subsidiaries file income tax returns on a combined, unitary or stand-alone basis in multiple state and local jurisdictions, which generally have statutes of limitations ranging from 3 to 5 years. Various state income tax returns are currently in the process of examination or administrative appeal. The Company does not expect any material proposed adjustments from any of these audits.

Corning's foreign subsidiaries file income tax returns in the countries where their operations are located. Generally, these countries have statutes of limitations ranging from 3 to 10 years. The statute of limitations is closed through the following years in these major jurisdictions: China (2008), Japan (2014), Taiwan (2016) and South Korea (2013).

Corning Precision Materials, a South Korean subsidiary, is currently appealing certain tax assessments and tax refund claims for tax years 2010 through 2018. The Company is required to deposit the disputed tax amounts with the South Korean government as a condition of its appeal of any tax assessment. Corning believes that it is more likely than not that the Company will prevail in the appeals process. The non-current receivable balance was $349 million and $350 million as of December 31, 2022 and December 31, 2021, respectively, for the amount on deposit with the South Korean government.

8. Property, Plant and Equipment, Net of Accumulated Depreciation

Property, plant and equipment, net of accumulated depreciation consisted of the following (in millions):

	December 31,	
	2022	2021
Land	**$ 420**	$ 441
Buildings	**5,963**	6,145
Equipment (1)	**20,800**	21,208
Construction in progress	**2,335**	1,979
Subtotal	**29,518**	29,773
Accumulated depreciation	**(14,147)**	(13,969)
Property, plant and equipment, net of accumulated depreciation (2)	**$ 15,371**	$ 15,804

(1) Manufacturing equipment includes certain components of production equipment that are constructed of precious metals. As of December 31, 2022 and 2021, the carrying value of precious metals was $3.4 billion and $3.5 billion, respectively, and significantly lower than the fair market value. Depletion expense for precious metals for the years ended December 31, 2022, 2021 and 2020 was $27 million, $28 million and $24 million, respectively.
(2) Approximately $48 million, $36 million and $58 million of interest costs were capitalized as part of property, plant and equipment during the years ended December 31, 2022, 2021 and 2020, respectively.

9. Goodwill and Other Intangible Assets

The following table presents the changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2021 (in millions):

	Optical Communications	Display Technologies	Specialty Materials	Life Sciences	Hemlock and Emerging Growth Businesses	Total
Balance as of December 31, 2020	$ 943	$ 132	$ 150	$ 618	$ 617	$ 2,460
Foreign currency translation adjustment and other	(28)	(7)		(2)	(2)	(39)
Balance as of December 31, 2021	$ 915	$ 125	$ 150	$ 616	$ 615	$ 2,421
Acquired goodwill	4		1			5
Foreign currency translation adjustment and other	(14)	(4)		(10)	(4)	(32)
Balance as of December 31, 2022	**$ 905**	**$ 121**	**$ 151**	**$ 606**	**$ 611**	**$ 2,394**

Corning's gross goodwill balance and accumulated impairment losses were $8.9 billion and $6.5 billion, respectively, as of December 31, 2022 and 2021. Accumulated impairment losses were generated primarily through goodwill impairments related to the Optical Communications segment.

9. Goodwill and Other Intangible Assets (Continued)

Other Intangible Assets, Net

Other intangible assets, net consisted of the following (in millions):

	December 31,					
	2022			2021		
	Gross	**Accumulated amortization**	**Net**	Gross	Accumulated amortization	Net
Amortized intangible assets:						
Patents, trademarks & trade names	**$ 496**	**$ 300**	**$ 196**	$ 498	$ 279	$ 219
Customer lists and other [1]	**1,461**	**628**	**833**	1,464	535	929
Other intangible assets, net	**$ 1,957**	**$ 928**	**$ 1,029**	$ 1,962	$ 814	$ 1,148

(1) Other consists of intangible assets related to developed technologies and intellectual know-how.

Corning's amortized intangible assets are primarily related to Optical Communications, Life Sciences and certain businesses within Hemlock and Emerging Growth Businesses. The net carrying amount of intangible assets decreased during the year, primarily driven by amortization of $123 million, offset by acquisitions of $9 million.

Annual amortization expense is expected to be approximately $119 million, $123 million, $121 million, $101 million and $94 million for years 2023 through 2027, respectively.

10. Other Assets and Other Liabilities

Other assets consisted of the following (in millions):

	December 31,	
	2022	2021
Current assets:		
Derivative instruments (Note 14)	**$ 454**	$ 336
Other current assets	**703**	690
Other current assets	**$ 1,157**	$ 1,026
Non-current assets:		
Derivative instruments (Note 14)	**$ 224**	$ 164
South Korean tax deposits (Note 7)	**349**	350
Operating leases (Note 6)	**842**	741
Investments	**360**	318
Other non-current assets	**404**	483
Other assets	**$ 2,179**	$ 2,056

10. Other Assets and Other Liabilities (Continued)

Other liabilities consisted of the following (in millions):

	December 31,	
	2022	2021
Current liabilities:		
Wages and employee benefits	**$ 727**	$ 824
Income taxes (Note 7)	**127**	196
Derivative instruments (Note 14)	**174**	144
Deferred revenue (Note 4)	**144**	148
Customer deposits (Note 4)	**132**	223
Share repurchase liability (Note 16)	**506**	506
Short-term leases (Note 6)	**111**	94
Other current liabilities	**1,226**	1,004
Other accrued liabilities	**$ 3,147**	$ 3,139
Non-current liabilities:		
Defined benefit pension plan liabilities (Note 12)	**$ 668**	$ 707
Derivative instruments (Note 14)	**17**	49
Deferred revenue (Note 4)	**725**	764
Customer deposits (Note 4)	**1,137**	1,072
Share repurchase liability (Note 16)	**17**	517
Deferred tax liabilities (Note 7)	**243**	258
Long-term leases (Note 6)	**795**	691
Other non-current liabilities	**1,353**	1,134
Other liabilities	**$ 4,955**	$ 5,192

11. Debt

Debt consisted of the following (in millions):

	December 31,	
	2022	2021
Long-term debt		
Medium-term notes, average rate 7.66%, due through 2023	**$ 45**	$ 45
Debentures, 6.85%, due 2029	**159**	160
Debentures, callable, 7.25%, due 2036	**249**	249
Debentures, 4.70%, due 2037	**296**	296
Debentures, 5.75%, due 2040	**396**	396
Debentures, 4.75%, due 2042	**496**	496
Debentures, 5.35%, due 2048	**544**	544
Debentures, 3.90%, due 2049	**395**	395
Debentures, 4.375%, due 2057	**743**	743
Debentures, 5.85%, due 2068	**297**	297
Debentures, 5.45%, due 2079	**1,086**	1,086
Yen-denominated debentures, 0.698%, due 2024	**160**	182
Yen-denominated debentures, 0.722%, due 2025	**76**	87
Yen-denominated debentures, 0.992%, due 2027	**358**	407
Yen-denominated debentures, 1.043%, due 2028	**232**	264
Yen-denominated debentures, 1.219%, due 2030	**190**	216
Yen-denominated debentures, 1.153%, due 2031	**237**	270
Yen-denominated debentures, 1.583%, due 2037	**76**	86
Yen-denominated debentures, 1.513%, due 2039	**45**	51
Financing Leases, average discount rate 4.4%, due through 2044	**190**	183
Other, average rate 3.93%, due through 2043	**641**	591
Total long-term debt, including current portion	**6,911**	7,044
Less current portion of long-term debt	**224**	55
Long-term debt	**$ 6,687**	$ 6,989

Based on borrowing rates currently available to us for loans with similar terms and maturities, the fair value of long-term debt was $6.1 billion and $8.3 billion as of December 31, 2022 and 2021, respectively, compared to recorded book values of $6.7 billion and $7.0 billion as of December 31, 2022 and 2021, respectively. The Company measures the fair value of its long-term debt using Level 2 inputs based primarily on current market yields for its existing debt traded in the secondary market.

On a quarterly basis, Corning will recognize the foreign currency translation gains and losses resulting from changes in exchanges rates within accumulated other comprehensive loss in shareholders' equity. Cash proceeds from loans and debt issuances are disclosed as financing activities, and cash payments for interest and bond redemptions are disclosed as operating activities and financing activities, respectively, in the consolidated statements of cash flows.

Corning did not have outstanding commercial paper as of December 31, 2022 and 2021.

During the year ended December 31, 2022, Corning amended and restated its existing revolving credit agreement, which provides a committed $1.5 billion unsecured multi-currency line of credit, primarily to extend the term to 2027. Additionally, Corning amended and restated its 25 billion Japanese yen liquidity facility, equivalent to approximately $191 million, primarily to extend the term to 2025. As of December 31, 2022 and 2021, there were no outstanding amounts under either the amended and restated or the existing facilities.

11. Debt (Continued)

Corning is the obligor to unsecured variable rate loan facilities, with an aggregate capacity of 4,645 million Chinese yuan, equivalent to approximately $673 million, whose proceeds are used for capital investment and general corporate purposes. As of December 31, 2022 and 2021, these facilities had variable rates ranging from 3.3% to 4.3% and 3.8% to 4.5%, respectively, and maturities ranging from 2023 to 2032. As of December 31, 2022 and 2021, amounts outstanding under these facilities totaled $352 million and $277 million, respectively.

The following table presents debt maturities by year as of December 31, 2022 (in millions) (1):

2023	2024	2025	2026	2027	Thereafter
$ 224	$ 284	$ 169	$ 29	$ 403	$ 5,845

(1) Excludes impact of an interest rate swap, bond discounts and deferred expenses.

Debt Issuances and Redemptions

During the year ended December 31, 2021, Corning redeemed $375 million of 2.9% debentures due in 2022 and $250 million of 3.7% debentures due in 2023, paying premiums of $10 million and $19 million, respectively, by exercising the make-whole call. The bond redemptions resulted in an $11 million and $20 million loss, respectively.

Losses on bond redemption have been recorded within other income (expense), net in the consolidated statements of income.

12. Employee Retirement Plans

Defined Benefit Plans

Corning has defined benefit pension plans covering certain domestic and international employees. The Company may contribute, as necessary, an amount exceeding the minimum requirements to achieve the Company's long-term funding targets. During the year ended December 31, 2022, voluntary cash contributions were not material to domestic and international defined benefit plans. During the year ended December 31, 2021, cash contributions of $24 million were made to international pension plans. In 2023, the Company plans to make cash contributions of $49 million to international pension plans.

Corning offers postretirement plans that provide health care and life insurance benefits for retirees and eligible dependents. Certain employees may become eligible for such postretirement benefits upon reaching retirement age and service requirements. In 2022 and 2021, no voluntary cash contributions were made to domestic postretirement plans. For current retirees (including surviving spouses) and active employees eligible for the salaried retiree medical program, Corning has placed a "cap" on the amount to be contributed toward retiree medical coverage in the future. The cap is equal to 120% of the 2005 contributions toward retiree medical benefits. Once contributions toward salaried retiree medical costs reach this cap, impacted retirees will have to pay the excess amount in addition to their regular contributions for coverage. This cap was attained for post-65 retirees in 2008 and attained for pre-65 retirees in 2010. Furthermore, employees hired or rehired on or after January 1, 2007 will be eligible for Corning retiree medical benefits upon retirement; however, these employees will pay 100% of the cost.

12. Employee Retirement Plans (Continued)

Obligations and Funded Status

The following table presents the change in benefit obligation and the funded status of the defined benefit pension and post-retirement benefit plans (in millions):

	Domestic pension benefits		International pension benefits		Postretirement benefits	
	2022	2021	**2022**	2021	**2022**	2021
Change in benefit obligation						
Benefit obligation at beginning of year	**$ 4,075**	$ 4,203	**$ 736**	$ 778	**$ 654**	$ 764
Service cost	**105**	102	**22**	25	**9**	10
Interest cost	**98**	78	**11**	10	**15**	15
Plan participants' contributions					**7**	7
Plan amendments	**28**					
Actuarial gain	**(925)**	(107)	**(137)**	(17)	**(209)**	(105)
Other	**3**		**(1)**	(2)		
Benefits paid	**(202)**	(201)	**(21)**	(26)	**(42)**	(37)
Foreign currency translation			**(61)**	(32)		
Benefit obligation at end of year	**$ 3,182**	$ 4,075	**$ 549**	$ 736	**$ 434**	$ 654
Change in plan assets						
Fair value of plan assets at beginning of year	**$ 3,598**	$ 3,575	**$ 584**	$ 598	**$ 9**	$ 30
Actual (loss) gain on plan assets	**(728)**	208	**(139)**	(2)		
Employer contributions	**15**	16	**8**	31	**31**	9
Plan participants' contributions					**7**	7
Benefits paid	**(202)**	(201)	**(21)**	(26)	**(42)**	(37)
Foreign currency translation			**(51)**	(17)		
Fair value of plan assets at end of year	**$ 2,683**	$ 3,598	**$ 381**	$ 584	**$ 5**	$ 9
Funded status at end of year						
Fair value of plan assets	**$ 2,683**	$ 3,598	**$ 381**	$ 584	**$ 5**	$ 9
Benefit obligations	**(3,182)**	(4,075)	**(549)**	(736)	**(434)**	(654)
Funded status of plans	**$ (499)**	$ (477)	**$ (168)**	$ (152)	**$ (429)**	$ (645)
Amounts recognized in the consolidated balance sheets consist of:						
Noncurrent asset			**$ 26**	$ 100		
Current liability	**$ (18)**	$ (15)	**(7)**	(7)	**$ (22)**	$ (23)
Noncurrent liability	**(481)**	(462)	**(187)**	(245)	**(407)**	(622)
Recognized liability	**$ (499)**	$ (477)	**$ (168)**	$ (152)	**$ (429)**	$ (645)
Amounts recognized in accumulated other comprehensive loss consist of:						
Net actuarial loss (gain)	**$ 259**	$ 272	**$ (2)**	$ (3)	**$ (226)**	$ (22)
Prior service cost (credit)	**44**	22	**(1)**	1	**(15)**	(20)
Amounts recognized at end of year	**$ 303**	$ 294	**$ (3)**	$ (2)	**$ (241)**	$ (42)

12. Employee Retirement Plans (Continued)

Across total pension benefits, an actuarial gain of $1.1 billion was recognized in 2022 primarily due to increases in bond yields during the year, leading to a domestic and international plan weighted-average discount rates that were 263 and 126 basis points higher, respectively, than the prior year. In 2021, an actuarial gain of $124 million was recognized primarily due to increases in bond yields during the year, leading to domestic and international plan weighted-average discount rates that were 37 and 18 basis points higher, respectively, than the prior year. The accumulated benefit obligation for defined benefit pension plans was $3.5 billion and $4.5 billion as of December 31, 2022 and 2021, respectively.

For postretirement benefits, an actuarial gain of $209 million was recognized in 2022 due to current year increases in bond yields, leading to a weighted-average discount rate that was 259 basis points higher than the prior year. In 2021, an actuarial gain of $105 million was recognized due to current year increases in bond yields, leading to a weighted-average discount rate that was 30 basis points higher than the prior year.

The following table presents information for pension plans where the projected benefit obligation or the accumulated benefit obligation exceeded the fair value of plan assets (in millions):

	December 31,	
	2022	2021
Projected benefit obligation	**$ 3,406**	$ 4,358
Fair value of plan assets	**$ 2,712**	$ 3,627
Accumulated benefit obligation	**$ 3,238**	$ 4,110
Fair value of plan assets	**$ 2,712**	$ 3,627

The following table presents the components of net periodic benefit expense (income) for employee retirement plans, which other than the service cost component is recorded in other income (expense), net in the consolidated statements of income (in millions):

	Domestic pension benefits			International pension benefits			Postretirement benefits		
	2022	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Service cost	**$ 105**	$ 102	$ 92	**$ 22**	$ 25	$ 26	**$ 9**	$ 10	$ 9
Interest cost	**98**	78	110	**11**	10	12	**15**	15	20
Expected return on plan assets	**(210)**	(209)	(186)	**(9)**	(7)	(9)			
Amortization of prior service cost (credit)	**6**	4	6	**(1)**	(1)	(1)	**(5)**	(6)	(5)
Amortization of actuarial (gain) loss							**(5)**	2	1
Recognition of actuarial loss	**29**	10	12	**8**	1	10			
Total net periodic benefit expense (income)	**$ 28**	$ (15)	$ 34	**$ 31**	$ 28	$ 38	**$ 14**	$ 21	$ 25
Settlement charge				**2**					
Special termination benefit charge	**2**		8						1
Total expense (income)	**$ 30**	$ (15)	$ 42	**$ 33**	$ 28	$ 38	**$ 14**	$ 21	$ 26
Other changes in plan assets and benefit obligations recognized in other comprehensive (loss) income:									
Curtailment effects						$ (4)			
Settlements				**$ 11**					
Current year actuarial loss (gain)	**$ 16**	$ (105)	$ 94	**(27)**	$ (7)	(11)	**$ (209)**	$ (105)	$ 58
Amortization of actuarial gain (loss)							**5**	(2)	(1)
Recognition of actuarial (loss) gain	**(29)**	(10)	(12)	**20**	(1)	(10)			
Current year prior service cost	**28**		1						
Amortization of prior service (cost) credit	**(6)**	(4)	(6)	**1**	1	1	**5**	6	5
Total recognized in other comprehensive (loss) income	**$ 9**	$ (119)	$ 77	**$ 5**	$ (7)	$ (24)	**$ (199)**	$ (101)	$ 62

12. Employee Retirement Plans (Continued)

Corning uses a hypothetical yield curve and associated spot rate curve to discount the plan's projected benefit payments. Once the present value of projected benefit payments is calculated, the suggested discount rate is equal to the level rate that results in the same present value. The yield curve is based on actual high-quality corporate bonds across the full maturity spectrum, which also includes private placements and eurobonds that are denominated in U.S. currency. The curve is developed from yields on hundreds of bonds from four grading sources, Moody's, S&P, Fitch and the Dominion Bond Rating Service. A bond will be included if at least half of the grades from these sources are Aa, non-callable bonds. The very highest 10% yields and the lowest 40% yields are excluded from the curve to eliminate outliers in the bond population.

Mortality is one of the key assumptions used in valuing liabilities of retirement plans. It is used to assign a probability of payment for benefits that are contingent upon participants' survival. To make this assumption, benefit plan sponsors typically use a base mortality table and an improvement scale to mortality rates for future anticipated changes to historical death rates.

As of December 31, 2021, Corning updated the adjustment factors applied to its base mortality assumption (PRI-2012 white collar table and PRI-2012 blue collar table for non-union and union participants, respectively) to value its U.S. benefit plan obligation, with no change in 2022. In addition, Corning also updated to the MP-2020 projection scale and the mortality assumption applied to disabled participants (PRI-2012 disabled mortality base table with future improvements using MP-2020) for the year ended December 31, 2020, with no change in 2021 or 2022. As the Society of Actuaries publishes additional mortality improvement scales and base mortality tables, Corning considers these revised schedules in setting its mortality assumptions.

Measurement of postretirement benefit expense is based on assumptions used to value the postretirement benefit obligation at the beginning of the year.

The following table presents the weighted-average assumptions used to determine benefit obligations:

	Pension benefits								
	Domestic			International			Postretirement benefits		
	2022	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Discount rate	**5.50%**	2.87%	2.50%	**2.46%**	1.20%	1.02%	**5.58%**	2.99%	2.69%
Rate of compensation increase	**3.48%**	3.50%	4.16%	**3.73%**	3.63%	3.55%			
Cash balance crediting rate	**4.14%**	3.86%	3.84%	**0.82%**	0.91%	0.94%			
Employee contributions crediting rate	**4.62%**	1.57%	0.62%						

The following table presents the weighted-average assumptions used to determine net periodic benefit expense (income):

	Pension benefits								
	Domestic			International			Postretirement benefits		
	2022	2021	2020	**2022**	2021	2020	**2022**	2021	2020
Discount rate	**2.88%**	2.50%	3.28%	**1.20%**	1.02%	1.34%	**2.99%**	2.69%	3.41%
Expected return on plan assets	**6.00%**	6.00%	6.00%	**1.64%**	1.26%	1.71%			
Rate of compensation increase	**3.50%**	4.16%	3.50%	**3.63%**	3.55%	2.96%			
Cash balance crediting rate	**3.86%**	3.84%	3.94%	**0.91%**	0.94%	0.97%			
Employee contributions crediting rate	**1.57%**	0.62%	2.03%						

The following table presents the assumed health care trend rates:

Assumed health care trend rates as of December 31	**2022**	2021
Health care cost trend rate assumed for next year (pre-65 / post-65 retirees)	**7.00% / 4.25%**	6.25% / 6.25%
Ultimate health care trend rate	**5%**	5%
Year that the rate reaches the ultimate trend rate	**2031**	2027

12. Employee Retirement Plans (Continued)

Plan Assets

The Company's primary objective is to ensure the plan has sufficient return on assets to fund the plan's current and future obligations as they become due. Investments are primarily made in public securities to ensure adequate liquidity to support benefit payments. Domestic and international stocks provide diversification to the portfolio. The target allocation range equity investment is 40% which includes large, mid and small-cap companies and investments in both developed and emerging markets. The target allocation for bond investments is 60%, which predominately includes corporate bonds. Long-duration fixed income assets are utilized to mitigate the sensitivity of funding ratios to changes in interest rates.

The following table presents the fair values of domestic defined benefit and post-retirement benefit plan assets, by asset category (in millions):

	December 31, 2022				December 31, 2021			
	Total	**Level 1**	**Level 2**	**Level 3**	Total	Level 1	Level 2	Level 3
Equity securities:								
U.S. companies	**$ 1,168**	**$ 63**	**$ 1,105**		$ 977	$ 20	$ 957	
International companies					234		234	
Fixed income:								
U.S. treasury bonds	**400**	**400**			256	256		
U.S. corporate bonds	**1,060**		**1,060**		1,770		1,770	
Preferred securities	**1**		**1**		11		11	
Private equity (1)	**24**			**$ 24**	41			$ 41
Real estate (2)	**7**			**7**	10			10
Cash equivalents	**28**	**28**			308	308		
Total	**$ 2,688**	**$ 491**	**$ 2,166**	**$ 31**	$ 3,607	$ 584	$ 2,972	$ 51

(1) This category includes venture capital, leverage buyouts and distressed debt limited partnerships invested primarily in U.S. companies. The inputs are valued by discounted cash flow analysis and comparable sale analysis.
(2) This category includes industrial, office, apartments, hotels, infrastructure and retail investments which are limited partnerships predominately in the U.S. The inputs are valued by discounted cash flow analysis; comparable sale analysis and periodic external appraisals.

The following table presents the fair values of international defined benefit plan assets, by asset category (in millions):

	December 31, 2022				December 31, 2021			
	Total	**Level 1**	**Level 2**	**Level 3**	Total	Level 1	Level 2	Level 3
Fixed income:								
International fixed income	**$ 87**	**$ 87**			$ 500	$ 416	$ 84	
Insurance contracts	**192**			**$ 192**	2			$ 2
Mortgages	**42**			**42**	22			22
Cash equivalents	**48**	**48**			60	60		
Other	**12**	**1**		**11**				
Total	**$ 381**	**$ 136**	**$ -**	**$ 245**	$ 584	$ 476	$ 84	$ 24

12. Employee Retirement Plans (Continued)

The following table presents the changes in the fair value of the defined benefit plans' Level 3 assets (in millions):

	Domestic		International		
	Private equity	Real estate	Mortgages	Insurance contracts	Other
Balance as of December 31, 2020	$ 51	$ 140	$ 20	$ 3	
Actual return on plan assets relating to assets still held at the reporting date	21	1	2		
Actual return on plan assets relating to assets sold during the reporting period		4			
Asset (sales) purchases	(31)	(135)		(1)	
Balance as of December 31, 2021	$ 41	$ 10	$ 22	$ 2	
Actual return on plan assets relating to assets still held at the reporting date	(8)		1		
Actual return on plan assets relating to assets sold during the reporting period			1		
Asset (sales) purchases	(9)	(3)	18	190	$ 11
Balance as of December 31, 2022	**$ 24**	**$ 7**	**$ 42**	**$ 192**	**$ 11**

Credit Risk

54% of domestic plan assets are invested in bonds with an average credit rating of AA-. These bonds are subject to both credit and default risk and changes in the risk could lead to a decline in the value of these bonds.

Liquidity Risk

1% of the domestic securities are invested in Level 3 securities. These are long-term investments in private equity and private real estate investments that may not mature or be sellable in the near-term without significant loss.

As of December 31, 2022 and 2021, the amount of Corning common stock included in equity securities was not significant.

Cash Flow Data

The following table presents the gross benefit payments expected to be paid for domestic and international defined benefit pension plans and the postretirement medical and life plans (in millions):

	Expected benefit payments		
	Domestic pension benefits	International pension benefits	Postretirement benefits
2023	$ 242	$ 27	$ 29
2024	$ 243	$ 34	$ 29
2025	$ 254	$ 34	$ 30
2026	$ 260	$ 38	$ 30
2027	$ 265	$ 38	$ 31
2028-2032	$ 1,393	$ 213	$ 156

Other Benefit Plans

Corning offers defined contribution plans covering employees meeting certain eligibility requirements. Total consolidated defined contribution plan expense was $117 million, $98 million and $76 million for the years ended December 31, 2022, 2021 and 2020, respectively.

13. Commitments, Contingencies and Guarantees

Guarantees

The Company is required, at the time a guarantee is issued, to recognize a liability for the fair value or market value of the obligation it assumes. In the normal course of business, the Company does not routinely provide significant third-party guarantees. Generally, third-party guarantees provided by Corning are limited to certain financial guarantees, including stand-by letters of credit and performance bonds, and the incurrence of contingent liabilities in the form of purchase price adjustments related to attainment of milestones. These guarantees have various terms and none of these guarantees are individually significant. The Company believes a significant majority of these guarantees and contingent liabilities will expire without being funded.

Purchase Commitments

Purchase obligations are enforceable and legally binding obligations. The Company has purchase commitments primarily for raw materials and energy-related take-or-pay contracts. Commitments made under these obligations as of December 31, 2022 are as follows (in millions):

	Amount of commitment expiration per period			
	Less than 1 year	1 to 3 years	3 to 5 years	5 years and thereafter
Purchase obligations	$ 230	$ 212	$ 102	$ 453

Litigation, Environmental and Indemnifications

Corning is a defendant in various lawsuits and is subject to various claims that arise in the normal course of business, the most significant of which are summarized below. In the opinion of management, the likelihood that the ultimate disposition of these matters will have a material adverse effect on Corning's consolidated financial position, liquidity, or results of operations, is remote.

Dow Corning Chapter 11 Related Matters

Until June 1, 2016, Corning and The Dow Chemical Company ("Dow") each owned 50% of the common stock of Dow Corning Corporation ("Dow Corning"). On May 31, 2016, Corning and Dow realigned their ownership interest in Dow Corning. Following the realignment, Corning no longer owned any interest in Dow Corning. With the realignment, Corning agreed to indemnify Dow for 50% of Dow Corning's non-ordinary course, pre-closing liabilities to the extent such liabilities exceed the amounts reserved for them by Dow Corning as of May 31, 2016, subject to certain conditions and limits. Corning does not believe that its indemnity obligation will be material.

Dow Corning Environmental Claims
In September 2019, Dow formally notified Corning of certain environmental matters for which Dow asserts that it has or will experience losses arising from remediation and response at a number of sites. In the event Dow is liable for these claims, Corning may be required to indemnify Dow for up to 50% of that liability, subject to certain conditions and limits. As of December 31, 2022, Corning has determined a potential liability for these environmental matters is probable, and the amount reserved is not material.

Environmental Litigation

Corning has been designated by federal or state governments under environmental laws, including Superfund, as a potentially responsible party that may be liable for cleanup costs associated with 19 hazardous waste sites. It is Corning's policy to accrue for its estimated liability related to such hazardous waste sites and other environmental liabilities related to property owned by Corning based on expert analysis and continual monitoring by both internal and external consultants. As of December 31, 2022 and 2021, Corning had accrued approximately $109 million and $55 million, respectively, for the estimated undiscounted liability for environmental cleanup and related litigation. Based upon the information developed to date, management believes that the accrued reserve is a reasonable estimate of the Company's liability.

14. Hedging Activities

Corning is primarily exposed to foreign currency risks due to fluctuations in exchange rates. These fluctuations affect the Company's financial instruments and transactions denominated in foreign currencies, which impact earnings.

The most significant foreign currency exposures relate to the Japanese yen, South Korean won, new Taiwan dollar, Chinese yuan, the euro and British pound. Corning seeks to mitigate the impact of exchange rate movements in the income statement by using over-the-counter ("OTC") derivative instruments including foreign exchange forward and option contracts. In general, the expirations of these contracts coincide with the timing of the underlying foreign currency commitments and transactions.

Corning is exposed to potential losses in the event of non-performance by counterparties to these derivative contracts. However, this risk is minimized by maintaining a portfolio with a diverse group of highly-rated major financial institutions. The Company does not expect to record any losses due to counterparty default. Neither the Company nor its counterparties are required to post collateral for these financial instruments. The Company qualified for and elected the end-user exception to the mandatory swap clearing requirement of the Dodd-Frank Act.

Designated Hedges

Corning uses OTC foreign exchange forward contracts designated as cash flow hedges to reduce the risk that movements in exchange rates will adversely affect the net cash flows resulting from the sale of products to customers and purchases from suppliers. The total gross notional values for foreign currency cash flow hedges are $419 million and $780 million as of December 31, 2022 and 2021, respectively, with maturities through 2024. Corning defers gains and losses related to the cash flow hedges into accumulated other comprehensive loss on the consolidated balance sheets until the hedged item impacts earnings. As of December 31, 2022, the amount expected to be reclassified into earnings within the next 12 months is a pre-tax gain of $20 million.

Corning has entered into leases of precious metals, with maturities through 2025. To offset the risk of changes in the fair value of the Company's separate accounting pool of leased precious metals due to adverse changes in the respective market prices, Corning designated the bifurcated embedded derivatives included in these leases as fair value hedges. The gain or loss on the derivatives, as well as the offsetting loss or gain on the hedged item attributable to the hedged risk, are recognized in current earnings. The amounts representing the time value component of the derivatives are excluded from the assessment of effectiveness and amortized in earnings. The impact of the excluded component on Corning's other comprehensive income and earnings is not material. The carrying amount of the leased precious metals pool, which is included within property, plant and equipment, net of accumulated depreciation in the consolidated balance sheets, is $278 million and $107 million, respectively, as of December 31, 2022 and 2021. The carrying amount of the leased precious metals pool includes cumulative fair value losses of $95 million and $5 million as of December 31, 2022 and 2021, respectively.

Corning uses regression analysis or the critical term match method to assess initial hedge effectiveness. Following the inception of a hedging relationship, hedge effectiveness is assessed quarterly based on qualitative factors.

Undesignated Hedges

Corning uses OTC foreign exchange forward and option contracts not designated as hedging instruments for accounting purposes to offset economic currency risks. The undesignated hedges limit exposure to foreign functional currency fluctuations related to certain subsidiaries' monetary assets, monetary liabilities and net earnings in foreign currencies.

A significant portion of the Company's non-U.S. revenue and expenses are denominated in Japanese yen, South Korean won, new Taiwan dollar, Chinese yuan and euro. When this revenue and these expenses are translated back to U.S. dollars, the Company is exposed to foreign exchange rate movements. To protect translated earnings against movements in these currencies, the Company has entered into a series of average rate forwards and option contracts. Most of these contracts hedge a significant portion of the Company's exposure to the Japanese yen, with maturities through 2024, and South Korean won, with maturities through 2026.

14. Hedging Activities (Continued)

The following table summarizes the total gross notional value for translated earnings contracts as of December 31, 2022 and 2021 (in billions):

	Year ended December 31,	
	2022	2021
Average rate forward contracts:		
Japanese yen-denominated	**$ 0.1**	$ 2.9
South Korean won-denominated	**2.1**	1.2
Other foreign currencies (1)	**0.7**	0.3
Option contracts:		
Japanese yen-denominated (2)	**4.6**	3.6
Other foreign currencies (3)		0.9
Total gross notional value for translated earning contracts	**$ 7.5**	$ 8.9

(1) Denominational currencies for average rate forward contracts include the Chinese yuan, New Taiwan dollar, euro and British pound.
(2) Japanese yen-denominated option contracts include purchased put and call options and zero-cost collars. With respect to the zero-cost collars, the gross notional amount includes the value of the put and call options. However, due to the nature of zero-cost collars, only the put or the call option can be exercised at maturity.
(3) Other foreign currencies option contracts are purchased basket options that include a basket of underlying currencies, including the Japanese yen, South Korean won, Chinese yuan, euro and British pound, and each basket option have been settled against U.S. dollars.

The fair values of these derivative contracts are recorded as either assets (gain position) or liabilities (loss position) on the consolidated balance sheets. Changes in the fair value of the derivative contracts are recorded currently in earnings within translated earnings contract gain (loss), net in the consolidated statements of income.

The following table summarizes the notional amounts and respective fair values of Corning's derivative financial instruments on a gross basis as of December 31, 2022 and 2021 (in millions):

			Asset derivatives			Liability derivatives		
	Notional amount			Fair value			Fair value	
	2022	2021	Balance sheet location	**2022**	2021	Balance sheet location	**2022**	2021
Derivatives designated as hedging instruments								
Foreign exchange and precious metals lease contracts (1)	**$ 419**	$ 780	Other current assets	**$ 26**	$ 49	Other accrued liabilities	**$ (1)**	$ (2)
			Other assets	**78**	10	Other liabilities		(9)
Derivatives not designated as hedging instruments								
Foreign exchange contracts	**2,231**	3,864	Other current assets	**44**	91	Other accrued liabilities	**(49)**	(95)
Translated earnings contracts	**7,543**	8,899	Other current assets	**384**	196	Other accrued liabilities	**(124)**	(47)
			Other assets	**146**	154	Other liabilities	**(17)**	(40)
Total derivatives	**$ 10,193**	$ 13,543		**$ 678**	$ 500		**$ (191)**	$ (193)

(1) As of December 31, 2022, derivatives designated as hedging instruments include foreign exchange cash flow hedges with gross notional amounts of $419 million and fair value hedges of leased precious metals with a gross notional amount of 23,152 troy ounces. As of December 31, 2021, derivatives designated as hedging instruments include foreign exchange cash flow hedges with gross notional amounts of $780 million and fair value hedges of leased precious metals with a gross notional amount of 7,559 troy ounces. Other assets include designated derivatives pertaining to precious metals lease contracts in the amounts of $64 million and $5 million as of December 31, 2022 and 2021, respectively.

14. Hedging Activities (Continued)

The following tables summarize the effect in the consolidated statements of income relating to Corning's derivative financial instruments (in millions). The accumulated derivative gain included in accumulated other comprehensive loss on the consolidated balance sheets as of December 31, 2022 and 2021 is $19 million and $52 million, respectively.

Derivatives hedging relationships for cash flow and fair value hedges	Gain (loss) recognized in other comprehensive income (OCI)			Location of gain (loss) reclassified from accumulated OCI into income effective (ineffective)	Gain (loss) reclassified from accumulated OCI into income		
	2022	2021	2020		**2022**	2021	2020
				Net sales	**$ 52**	$ 14	$ (6)
				Cost of sales	**32**	39	13
Foreign exchange and precious metals lease contracts	**$ 52**	$ 47	$ (19)	Other income (expense), net (1)	**(3)**	(1)	(14)
Total cash flow and fair value hedges	**$ 52**	$ 47	$ (19)		**$ 81**	$ 52	$ (7)

Undesignated derivatives	Location of gain (loss) recognized in income	Gain (loss) recognized in income		
		2022	2021	2020
Foreign exchange contracts	Other income (expense), net	**$ 46**	$ 38	$ (93)
Translated earnings contracts	Translated earnings contract gain (loss), net	**351**	354	(38)
Total undesignated		**$ 397**	$ 392	$ (131)

(1) A loss of $14 million was reclassified from accumulated other comprehensive loss into other income (expense), net, resulting from the de-designation of certain cash flow hedges during the year ended December 31, 2020.

15. Fair Value Measurements

The following table provides the fair value measurement information for the Company's major categories of financial assets and liabilities measured on a recurring basis (in millions):

	December 31, 2022	Fair value measurements at reporting date			December 31, 2021	Fair value measurements at reporting date		
		Level 1	Level 2	Level 3		Level 1	Level 2	Level 3
Current assets:								
Other current assets (1)	**$ 505**	$ 2	$ 454	$ 49	$ 352	$ 10	$ 336	$ 6
Non-current assets:								
Other assets (1)	**$ 225**		$ 224	$ 1	$ 175		$ 164	$ 11
Current liabilities:								
Other accrued liabilities (1)	**$ 174**		$ 174		$ 144		$ 144	
Non-current liabilities:								
Other liabilities (1)	**$ 34**		$ 34		$ 66		$ 66	

(1) Derivative assets and liabilities include foreign exchange and precious metals lease contracts which are measured using observable inputs for similar assets and liabilities.

Assets and Liabilities Measured on a Non-Recurring Basis

There were no significant financial assets or liabilities measured on a nonrecurring basis as of December 31, 2022 and 2021.

16. Shareholders' Equity

Common Stock Dividends

On February 8, 2023, Corning's Board of Directors declared a $0.28 per share common stock dividend.

Fixed Rate Cumulative Convertible Preferred Stock, Series A

The Company had 2,300 outstanding shares of Fixed Rate Cumulative Convertible Preferred Stock, Series A (the "Preferred Stock") as of December 31, 2020. On January 16, 2021, the Preferred Stock became convertible into 115 million common shares. On April 5, 2021 Corning and Samsung Display Co., Ltd. ("SDC") executed the Share Repurchase Agreement ("SRA"), and the Preferred Stock was fully converted as of April 8, 2021. Immediately following the conversion, Corning repurchased and retired 35 million of the common shares held by SDC for an aggregate purchase price of approximately $1.5 billion, of which approximately $507 million was paid on both April 8, 2022 and 2021. The remaining payment of approximately $507 million will be paid on April 8, 2023. The 35 million common shares repurchased by Corning were excluded from the weighted-average common shares outstanding for the calculation of the Company's basic and diluted earnings per share starting on April 8, 2021.

The remaining 80 million common shares were accounted for as a conversion of Preferred Stock and resulted in an increase of common stock and additional paid-in-capital based on the carrying value of the Preferred Stock. These common shares were included in the weighted-average common shares outstanding for the calculation of the Company's basic and diluted earnings per share.

Pursuant to the SRA, with respect to the 80 million common shares outstanding held by SDC:

- SDC has the option to sell an additional 22 million common shares to Corning in specified tranches from time to time in calendar years 2024 through 2027. Corning may, at its sole discretion, elect to repurchase such common shares. If Corning elects not to repurchase the common shares and SDC sells the common shares on the open market, Corning will be required to pay SDC a make-whole payment, subject to a 5% cap of the repurchase proceeds that otherwise would have been paid by Corning. As of December 31, 2022 and 2021, the fair value of the option was $17 million, when measured using significant other observable inputs.
- The remaining 58 million shares of common shares are subject to a seven-year lock-up period expiring in 2027.

Share Repurchase Program

In 2019, the Board authorized the repurchase of up to $5.0 billion of additional common stock upon the completion of the 2018 repurchase plan ("2019 Authorization").

In addition to the common shares repurchased under the SRA as discussed above, the Company repurchased 6.0 million, 7.3 million and 4.1 million shares of common stock under its 2019 Authorization for approximately $221 million, $274 million and $105 million, respectively, during the years ended December 31, 2022, 2021 and 2020, respectively.

As of December 31, 2022, approximately $3.3 billion remains available under the Company's 2019 Authorization.

16. Shareholders' Equity (Continued)

The following table presents changes in capital stock (in millions):

	Common stock		Treasury stock	
	Shares	Par value	Shares	Cost
Balance as of December 31, 2019	1,718	$ 859	(956)	$ (19,812)
Shares issued to benefit plans and for option exercises	8	4		
Shares purchased for treasury			(4)	(105)
Other, net [1]			(1)	(11)
Balance as of December 31, 2020	1,726	$ 863	(961)	$ (19,928)
Shares issued to benefit plans and for option exercises	9	4		
Shares purchased for treasury			(7)	(274)
Conversion of preferred stock to common stock	115	58		
Repurchase of converted common stock	(35)	(18)		
Other, net [1]			(2)	(61)
Balance as of December 31, 2021	1,815	$ 907	(970)	$ (20,263)
Shares issued to benefit plans and for option exercises	5	3		
Shares purchased for treasury			(6)	(221)
Other, net [1]			(1)	(48)
Balance as of December 31, 2022	**1,820**	**$ 910**	**(977)**	**$ (20,532)**

(1) Includes the deemed surrender to the Company of common stock to satisfy employee tax withholding obligations

16. Shareholders' Equity (Continued)

Accumulated Other Comprehensive Loss

The following table presents the changes in the components of accumulated other comprehensive loss, including the proportionate share of equity method investee's accumulated other comprehensive loss (in millions) (1):

	Foreign currency translation adjustments and other	Unamortized actuarial gains (losses) and prior service (costs) credits	Net unrealized losses on investments	Realized and unrealized (losses) gains on derivatives	Accumulated other comprehensive loss
Balance as of December 31, 2019	$ (857)	$ (362)	$ (3)	$ 51	$ (1,171)
Other comprehensive income (loss) before reclassifications (2)	$ 511	$ (106)		$ (14)	$ 391
Amounts reclassified from accumulated other comprehensive income (5)		18		5	23
Equity method affiliates (6)	17				17
Net current-period other comprehensive income (loss)	528	(88)	—	(9)	431
Balance as of December 31, 2020	$ (329)	$ (450)	$ (3)	$ 42	$ (740)
Other comprehensive (loss) income before reclassifications (3)	$ (582)	$ 178		$ 43	$ (361)
Amounts reclassified from accumulated other comprehensive loss (5)				(52)	(52)
Equity method affiliates (6)	(22)				(22)
Net current-period other comprehensive (loss) income	(604)	178	—	(9)	(435)
Balance as of December 31, 2021	$ (933)	$ (272)	$ (3)	$ 33	$ (1,175)
Other comprehensive (loss) income before reclassifications (4)	$ (762)	$ 151		$ 31	$ (580)
Amounts reclassified from accumulated other comprehensive income (loss) (5)		3		(61)	(58)
Equity method affiliates (6)	(17)				(17)
Net current-period other comprehensive (loss) income	(779)	154	—	(30)	(655)
Balance as of December 31, 2022	**$ (1,712)**	**$ (118)**	**$ (3)**	**$ 3**	**$ (1,830)**

(1) All amounts are after tax. Amounts in parentheses indicate debits to accumulated other comprehensive loss.
(2) Amounts are net of total tax expense of $22 million, primarily driven by $55 million related to foreign currency translation adjustments; embedded in this number are positive impacts of $5 million related to the hedging component and $28 million related to retirement plans.
(3) Amounts are net of total tax expense of $4 million, primarily driven by $51 million related to retirement plans, offset by positive impacts of $44 million and $3 million related to foreign currency translation adjustments and the hedging component, respectively.
(4) Amounts are net of total tax benefit of $22 million, primarily driven by $29 million and $24 million related to foreign currency translation adjustments and the hedging component, respectively, offset by negative impacts of $31 million related to retirement plans.
(5) Tax effect of reclassifications are disclosed separately within the footnote.
(6) Tax effects related to equity method affiliates are not significant in the reported periods.

16. Shareholders' Equity (Continued)

The following table presents reclassifications out of accumulated other comprehensive income ("AOCI") by component (in millions) (1):

Details about AOCI Components	Amount reclassified from AOCI Year ended December 31, 2022	2021	2020	Affected line item in the consolidated statements of income
Amortization of net actuarial loss	$ (4)	$ (3)	$ (23)	(2)
Amortization of prior service credit		3		(2)
	(4)	—	(23)	Total before tax
	1		5	Tax benefit
	$ (3)	$ —	$ (18)	Net of tax
Realized gains (losses) on designated hedges	$ 52	$ 14	$ (6)	Sales
	32	39	13	Cost of sales
	(3)		(14)	Other expense, net
	81	53	(7)	Total before tax
	(20)	(1)	2	Tax (expense) benefit
	$ 61	$ 52	$ (5)	Net of tax
Total reclassifications for the period	$ 58	$ 52	$ (23)	Net of tax

(1) Amounts in parentheses indicate debits to the statement of income.
(2) These accumulated other comprehensive loss components are included in net periodic pension cost. Refer to Note 12 (Employee Retirement Plans) in the notes to the consolidated financial statements for additional details.

17. Earnings Per Common Share

Basic earnings per common share are computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding for the period. Diluted earnings per common share assumes the issuance of common shares for all potentially dilutive securities outstanding.

The following table presents the reconciliation of the amounts used to compute basic and diluted earnings per common share from operations (in millions, except per share amounts):

	Year ended December 31,		
	2022	2021	2020
Net income attributable to Corning Incorporated	**$ 1,316**	$ 1,906	$ 512
Less: Series A convertible preferred stock dividend		24	98
Less: Excess consideration paid for redemption of preferred shares (1)		803	
Net income available to common shareholders - basic	**1,316**	1,079	414
Net income available to common shareholders - diluted	**$ 1,316**	$ 1,079	$ 414
Weighted-average common shares outstanding - basic	**843**	828	761
Effect of dilutive securities:			
Stock options and other dilutive securities	**14**	16	11
Weighted-average common shares outstanding - diluted	**857**	844	772
Basic earnings per common share	**$ 1.56**	$ 1.30	$ 0.54
Diluted earnings per common share	**$ 1.54**	$ 1.28	$ 0.54
Anti-dilutive potential shares excluded from diluted earnings per common share:			
Series A convertible preferred stock dividend (1)(2)		31	115
Employee stock options and awards	**1**		2
Total	**1**	31	117

(1) Refer to Note 16 (Shareholders' Equity) in the notes to the consolidated financial statements for more information.
(2) For the years ended December 31, 2021 and 2020, the Preferred Stock was anti-dilutive and therefore excluded from the calculation of diluted earnings per share.

18. Share-Based Compensation

The following table presents share-based compensation cost and the unrecognized compensation cost by award type (in millions):

	Amount of share-based compensation cost recognized			Unrecognized compensation cost	Weighted-average remaining term in years
	Year ended December 31,			December 31,	
	2022	2021	2020	2022	
Time-based restricted stock and restricted stock units	**$ 111**	$ 94	$ 95	$ 150	2.7
Performance-based restricted stock units	**52**	79	81	17	1.4
Stock Options	**7**	9	23	2	0.4
Other	**5**	8	8		
Total share-based compensation cost (1)	**$ 175**	$ 190	$ 207		

(1) The income tax benefit realized from share-based compensation was $16 million, $37 million and $12 million, respectively, for the years ended December 31, 2022, 2021 and 2020.

As of December 31, 2022, there were approximately 32 million unissued common shares available for future grants authorized under the Plans.

Incentive Stock Plans

Time-Based Restricted Stock and Restricted Stock Units

The following table summarizes the changes in non-vested time-based restricted stock and restricted stock units during the year ended December 31, 2022:

	Number of shares (in thousands)	Weighted-average grant-date fair value
Non-vested shares and share units as of December 31, 2021	10,594	$ 25.83
Granted	4,680	33.82
Vested	(3,626)	25.44
Forfeited	(349)	28.44
Non-vested shares and share units as of December 31, 2022	**11,299**	**$ 29.19**

The total fair value of time-based restricted stock and restricted stock units that vested during the years ended December 31, 2022, 2021 and 2020 was approximately $93 million, $88 million and $38 million, respectively.

18. Share-Based Compensation (Continued)

Performance-Based Restricted Stock Units

The following table summarizes the changes in non-vested performance-based restricted stock units during the year ended December 31, 2022:

	Number of shares (in thousands)	Weighted-average grant-date fair value
Non-vested share units as of December 31, 2021	3,684	$ 34.17
Granted	1,764	40.74
Vested	(140)	32.21
Performance adjustments	(556)	38.77
Forfeited	(56)	34.50
Non-vested share units as of December 31, 2022	**4,696**	**$ 35.41**

The total fair value of performance-based restricted stock units that vested during the years ended December 31, 2022 and 2021 was approximately $5 million and $3 million, respectively. For the year ended December 31, 2020, there were no performance-based restricted stock units that vested.

Stock Options

The following table summarizes information concerning stock options as of December 31, 2022 and the related activity for the year ended December 31, 2022:

	Number of shares (in thousands)	Weighted-average exercise price	Weighted-average remaining contractual term in years	Aggregate intrinsic value (in thousands)
Options Outstanding as of December 31, 2021	11,904	$ 22.31		
Exercised	(2,010)	19.80		
Forfeited and expired	(229)	18.66		
Options outstanding as of December 31, 2022	9,665	22.92	5.78	$ 89,986
Options expected to vest as of December 31, 2022	9,650	22.92	5.78	89,805
Options exercisable as of December 31, 2022	7,895	23.65	5.43	68,233

The aggregate intrinsic value (market value of stock less option exercise price) in the preceding table represents the total pre-tax intrinsic value, based on the Company's closing stock price as of December 30, 2022, which would have been received by the option holders had all option holders exercised their "in-the-money" options as of that date.

There were no options granted in 2022 or 2021. The weighted-average grant-date fair value for options granted during the year ended December 31, 2020 was $3.67. The total fair value of options that vested during the years ended December 31, 2022, 2021 and 2020 was approximately $20 million, $16 million and $31 million, respectively.

Proceeds received from the exercise of stock options were $40 million, with a corresponding realized tax benefit of $5 million, for the year ended December 31, 2022. The total intrinsic value of options exercised for the years ended December 31, 2022, 2021 and 2020 was approximately $36 million, $100 million and $99 million, respectively.

18. Share-Based Compensation (Continued)

The following inputs were used for the valuation of option grants under the stock option plans awarded during 2020:

Expected volatility and Weighted-average volatility	32.9%
Expected dividends	4.48%
Risk-free rate and Average risk-free rate	0.5%
Expected term (in years)	7.4
Pre-vesting executive departure rate	0.6%
Pre-vesting non-executive departure rate	2.5%

19. Reportable Segments

The Company has determined that it has five reportable segments for financial reporting purposes, as follows:

- Optical Communications – manufactures carrier network and enterprise network components for the telecommunications industry.
- Display Technologies – manufactures glass substrates for flat panel liquid crystal displays and other high-performance display panels.
- Specialty Materials – manufactures products that provide material formulations for glass, glass ceramics and fluoride crystals to meet demand for unique customer needs.
- Environmental Technologies – manufactures ceramic substrates and filters for emission control systems.
- Life Sciences – manufactures glass and plastic labware, equipment, media, serum and reagents enabling workflow solutions for drug discovery and bioproduction.

All other businesses that do not meet the quantitative threshold for separate reporting have been grouped as Hemlock and Emerging Growth Businesses. The net sales for this group are primarily attributable to HSG, which is an operating segment that produces solar and semiconductor products. The emerging growth businesses primarily consist of Pharmaceutical Technologies, Auto Glass Solutions and the Emerging Innovations Group.

Financial results for the reportable segments and Hemlock and Emerging Growth Businesses are prepared on a basis consistent with the internal disaggregation of financial information to assist the Chief Operating Decision Maker ("CODM") in making internal operating decisions. As a significant portion of segment revenues and expenses are denominated in currencies other than the U.S. dollar, management believes it is important to understand the impact on segment net sales and segment net income of translating these currencies into U.S. dollars. Therefore, the Company utilizes constant-currency reporting for Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences segments to exclude the impact on segment sales and segment net income (loss) from the Japanese yen, South Korean won, Chinese yuan, new Taiwan dollar and the euro, as applicable to the segment. The most significant constant-currency adjustment relates to the Japanese yen exposure within the Display Technologies segment. Management utilizes constant-currency reporting based on internally-derived rates, as detailed below, which are closely aligned with the currencies we have hedged.

The Company believes that the use of constant-currency reporting allows management to understand segment results without the volatility of currency fluctuation, analyze underlying trends in the businesses and establish operational goals and forecasts. Further, it reflects the underlying economics of the translated earnings contracts used to mitigate the impact of changes in currency exchange rates on our earnings and cash flows.

Constant-currency rates are as follows and are applied to all periods presented:

Currency	Japanese yen	Korean won	Chinese yuan	New Taiwan dollar	Euro
Rate	¥107	₩1,175	¥6.7	NT$31	€.81

19. Reportable Segments (Continued)

In addition, certain income and expenses are excluded from segment net income (loss) and included in the unallocated amounts in the reconciliation of reportable segment net income (loss) to consolidated net income. These items are not used by the CODM in allocating resources or evaluating the results of the segments and include the following: the impact of translating the Japanese yen-denominated debt; the impact of the translated earnings contracts; acquisition-related costs; certain discrete tax items and other tax-related adjustments; restructuring, impairment and other charges and credits; certain litigation, regulatory and other legal matters; pension mark-to-market adjustments; and other non-recurring non-operational items. Although these amounts are excluded from segment results, they are included in reported consolidated results.

Corning's administrative and staff functions are performed on a centralized basis and such costs and expenses are allocated among the segments differently than they would for stand-alone financial reporting purposes. These include certain costs and expenses of shared services, such as information technology, human resources, legal, finance and supply chain management. Expenses that are not allocated to the segments are included in the reconciliation of reportable segment net income to consolidated net income. Segment net income (loss) may not be consistent with measures used by other companies.

The following provides historical segment information as described above:

Segment Information (in millions)

	Optical Communications	Display Technologies	Specialty Materials	Environmental Technologies	Life Sciences	Hemlock and Emerging Growth Businesses (1)	Total
For the year ended December 31, 2022							
Segment net sales	$ 5,023	$ 3,306	$ 2,002	$ 1,584	$ 1,228	$ 1,662	$ 14,805
Depreciation (2)	$ 249	$ 547	$ 155	$ 128	$ 60	$ 146	$ 1,285
Research, development and engineering expenses (3)	$ 230	$ 124	$ 222	$ 98	$ 37	$ 163	$ 874
Income tax provision (4)	$ (180)	$ (203)	$ (90)	$ (78)	$ (40)	$ (24)	$ (615)
Net income	$ 661	$ 769	$ 340	$ 292	$ 153	$ 39	$ 2,254
Investment in affiliated companies, at equity	$ 3	$ 102	$ 8		$ 4	$ 144	$ 261
Segment assets (5)	$ 3,295	$ 8,104	$ 2,419	$ 2,061	$ 862	$ 2,136	$ 18,877
Capital expenditures	$ 368	$ 495	$ 306	$ 110	$ 116	$ 218	$ 1,613
For the year ended December 31, 2021							
Segment net sales	$ 4,349	$ 3,700	$ 2,008	$ 1,586	$ 1,234	$ 1,243	$ 14,120
Depreciation (2)	$ 224	$ 605	$ 161	$ 139	$ 52	$ 134	$ 1,315
Research, development and engineering expenses (3)	$ 216	$ 110	$ 208	$ 111	$ 33	$ 160	$ 838
Income tax (provision) benefit (4)	$ (152)	$ (249)	$ (99)	$ (72)	$ (51)	$ 11	$ (612)
Net income (loss)	$ 553	$ 960	$ 371	$ 269	$ 194	$ (51)	$ 2,296
Investment in affiliated companies, at equity	$ 3	$ 109	$ 6		$ 4	$ 142	$ 264
Segment assets (5)	$ 3,183	$ 8,672	$ 2,328	$ 2,150	$ 791	$ 2,024	$ 19,148
Capital expenditures	$ 301	$ 710	$ 183	$ 228	$ 128	$ 149	$ 1,699
For the year ended December 31, 2020							
Segment net sales	$ 3,563	$ 3,172	$ 1,884	$ 1,370	$ 998	$ 465	$ 11,452
Depreciation (2)	$ 242	$ 548	$ 162	$ 132	$ 50	$ 81	$ 1,215
Research, development and engineering expenses (3)	$ 204	$ 99	$ 155	$ 100	$ 26	$ 170	$ 754
Income tax (provision) benefit (4)	$ (101)	$ (190)	$ (113)	$ (52)	$ (37)	$ 58	$ (435)
Net income (loss)	$ 366	$ 717	$ 423	$ 197	$ 139	$ (214)	$ 1,628
Investment in affiliated companies, at equity	$ 3	$ 107	$ 4		$ 2	$ 142	$ 258
Segment assets (5)	$ 2,868	$ 8,842	$ 2,571	$ 1,986	$ 683	$ 2,157	$ 19,107
Capital expenditures	$ 127	$ 311	$ 125	$ 159	$ 83	$ 123	$ 928

(1) Corning obtained a controlling interest in HSG during the third quarter of 2020 and has consolidated results in Hemlock and Emerging Growth Businesses since September 9, 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.
(2) Depreciation expense for Corning's reportable segments and Hemlock and Emerging Growth Businesses includes an allocation of depreciation of corporate property not specifically identifiable to a segment.
(3) Research, development and engineering expenses include direct project spending that is identifiable to a segment.
(4) Income tax (provision) benefit reflects a tax rate of 21%.
(5) Segment assets include inventory, accounts receivable, property, plant and equipment, net of accumulated depreciation, and associated equity companies.

19. Reportable Segments (Continued)

The following table presents a reconciliation of net sales of reportable segments to consolidated net sales (in millions):

	Year ended December 31,		
	2022	2021	2020
Net sales of reportable segments	**$ 13,143**	$ 12,877	$ 10,987
Net sales of Hemlock and Emerging Growth Businesses (1)	**1,662**	1,243	465
Impact of constant currency reporting (2)	**(616)**	(38)	(44)
Cumulative adjustment related to customer contract (3)			(105)
Consolidated net sales	**$ 14,189**	$ 14,082	$ 11,303

(1) Corning obtained a controlling interest in HSG during the third quarter of 2020 and has consolidated results in Hemlock and Emerging Growth Businesses since September 9, 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for more information.
(2) This amount primarily represents the impact of foreign currency adjustments in the Display Technologies segment.
(3) Amount represents the negative impact of a cumulative adjustment recorded during the first quarter of 2020 to reduce revenue in the amount of $105 million. The adjustment was associated with a previously recorded commercial benefit asset, reflected as a prepayment, to a customer with a long-term supply agreement that substantially exited its production of LCD panels.

The following table presents a reconciliation of net income of reportable segments to consolidated net income (in millions):

	Year ended December 31,		
	2022	2021	2020
Net income of reportable segments	**$ 2,215**	$ 2,347	$ 1,842
Net income (loss) of Hemlock and Emerging Growth Businesses (1)	**39**	(51)	(214)
Unallocated amounts:			
Impact of constant currency reporting not included in segment net income (loss)	**(480)**	(87)	(22)
Gain (loss) on foreign currency hedges related to translated earnings	**348**	354	(46)
Translation gain (loss) on Japanese yen-denominated debt	**191**	180	(86)
Litigation, regulatory and other legal matters	**(100)**	(16)	(144)
Research, development, and engineering expense (2)(3)	**(163)**	(151)	(150)
Transaction-related gain, net (4)			498
Amortization of intangibles	**(123)**	(129)	(121)
Interest expense, net	**(237)**	(265)	(261)
Income tax benefit	**204**	120	324
Pension mark-to-market	**(11)**	(32)	(31)
Cumulative adjustment related to customer contract (5)			(105)
Severance (charges) credits (3)	**(70)**	13	(148)
Asset impairment (3)			(217)
Capacity realignment and other charges and credits (3)	**(344)**	(123)	(462)
Bond redemption loss (6)		(31)	(22)
Gain (loss) on investments (7)	**8**	(23)	107
Gain on sale of business	**53**	54	
Other corporate items	**(214)**	(254)	(230)
Net income	**$ 1,316**	$ 1,906	$ 512

(1) Corning obtained a controlling interest in HSG during the third quarter of 2020 and has consolidated results in Hemlock and Emerging Growth Businesses since September 9, 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.
(2) Amount does not include research, development and engineering expense related to restructuring, impairment and other charges and credits and pension mark-to-market.
(3) Refer to Note 2 (Restructuring, Impairment and Other Charges and Credits) in the notes to the consolidated financial statements for additional information on restructuring activities and impairment.
(4) Amount represents the pre-tax gain recorded on Corning's previously held equity investment in HSG recorded in 2020. Refer to Note 3 (HSG Transactions and Acquisitions) in the notes to the consolidated financial statements for additional information.
(5) Amount represents the negative impact of a cumulative adjustment to reduce revenue in the amount of $105 million recorded during the first quarter of 2020. The adjustment was associated with a previously recorded commercial benefit asset, reflected as a prepayment, to a customer with a long-term supply agreement that substantially exited its production of LCD panels.
(6) Refer to Note 11 (Debt) in the notes to the consolidated financial statements for additional information.
(7) Amount for the year ended December 31, 2020 primarily represents the gain recognized from the initial public offering of an investment.

19. Reportable Segments (Continued)

The following table presents a reconciliation of total assets of reportable segments to consolidated total assets (in millions):

	December 31,		
	2022	2021	2020
Total assets of reportable segments	**$ 16,741**	$ 17,124	$ 16,950
Total assets of Hemlock and Emerging Growth Businesses	**2,136**	2,024	2,157
Unallocated amounts:			
Current assets (1)	**2,823**	3,163	3,434
Investments (2)	**99**	54	177
Property, plant and equipment, net (3)	**1,385**	1,426	1,463
Other non-current assets (4)	**6,315**	6,363	6,594
Total assets	**$ 29,499**	$ 30,154	$ 30,775

(1) Includes cash, other receivables, prepaid expenses and current portion of long-term derivative assets.
(2) Represents other corporate investments. HSG became a fully consolidated subsidiary of Corning on September 9, 2020.
(3) Represents corporate property not specifically identifiable to an operating segment.
(4) Includes goodwill, other intangible assets, pension assets, long-term derivative assets, operating leases and deferred income taxes.

19. Reportable Segments (Continued)

The following table presents selected financial information about the Company's product lines and reportable segments (in millions):

	Year ended December 31,		
Revenue from external customers	**2022**	2021	2020
Optical Communications			
Carrier network	**$ 3,760**	$ 3,200	$ 2,612
Enterprise network	**1,263**	1,149	951
Total Optical Communications	**5,023**	4,349	3,563
Display Technologies	**3,306**	3,700	3,172
Specialty Materials			
Corning® Gorilla® Glass	**1,331**	1,403	1,420
Advanced optics and other specialty glass	**671**	605	464
Total Specialty Materials	**2,002**	2,008	1,884
Environmental Technologies			
Automotive and other	**934**	936	883
Diesel	**650**	650	487
Total Environmental Technologies	**1,584**	1,586	1,370
Life Sciences			
Labware	**657**	671	552
Cell culture products	**571**	563	446
Total Life Science	**1,228**	1,234	998
Hemlock and Emerging Growth Businesses			
Polycrystalline Silicon	**1,191**	892	194
Other	**471**	351	271
Total Hemlock and Emerging Growth Businesses	**1,662**	1,243	465
Net sales of reportable segments	**13,143**	12,877	10,987
Net sales of Hemlock and Emerging Growth Businesses	**1,662**	1,243	465
Impact of constant currency reporting (1)	**(616)**	(38)	(44)
Cumulative adjustment related to customer contract (2)			(105)
Consolidated net sales	**$ 14,189**	$ 14,082	$ 11,303

(1) This amount primarily represents the impact of foreign currency adjustments in the Display Technologies segment.
(2) Amount represents the negative impact of a cumulative adjustment recorded during the first quarter of 2020 to reduce revenue in the amount of $105 million. The adjustment was associated with a previously recorded commercial benefit asset, reflected as a prepayment, to a customer with a long-term supply agreement that is exiting its production of LCD panels.

19. Reportable Segments (Continued)

The following table presents information relating to the Company's operations by geographic area (in millions):

	2022		2021		2020	
	Net sales (1)	**Long-lived assets (2)**	Net sales (1)	Long-lived assets (2)	Net sales (1)	Long-lived assets (2)
North America:						
United States	**$ 5,149**	**$ 8,937**	$ 4,539	$ 8,600	$ 3,412	$ 8,718
Canada	**503**	**99**	472	114	274	121
Mexico	**96**	**180**	93	289	75	239
Total North America	**5,748**	**9,216**	5,104	9,003	3,761	9,078
Asia Pacific:						
Japan	**617**	**429**	780	496	505	583
Taiwan	**813**	**1,696**	983	1,923	887	2,247
China	**4,435**	**4,794**	4,495	4,966	3,734	4,469
Korea	**514**	**3,294**	640	3,479	748	3,597
Other	**729**	**81**	459	84	340	83
Total Asia Pacific	**7,108**	**10,294**	7,357	10,948	6,214	10,979
Europe:						
Germany	**539**	**459**	462	500	378	579
Other	**1,116**	**937**	925	910	838	931
Total Europe	**1,655**	**1,396**	1,387	1,410	1,216	1,510
All Other	**294**	**67**	272	68	261	83
Total	**$ 14,805**	**$ 20,973**	$ 14,120	$ 21,429	$ 11,452	$ 21,650

(1) Net sales are attributed to countries based on location of customer.
(2) Long-lived assets primarily include investments, plant and equipment, goodwill and other intangible assets.

Exhibit 10.40

CORNING INCORPORATED

SUPPLEMENTAL INVESTMENT PLAN

(As Amended and Restated Effective January 1, 2023)

CORNING INCORPORATED (the "Company") hereby amends and restates in its entirety, effective January 1, 2023, the Corning Incorporated Supplemental Investment Plan (the "Plan") to permit Eligible Employees to defer a portion of their compensation to supplement contributions they make pursuant to the Corning Incorporated Investment Plan. The terms of this restated Plan shall only apply to eligible Employees who have a Plan benefit that is earned or vested, within the meaning of Section 409A, on or after January 1, 2005.

ARTICLE ONE

Definitions

1.1 "Board" means the Board of Directors of Corning Incorporated.

1.2 "Change in Control" means an event that is "a change in the ownership or effective control of the corporation, or in the ownership of a substantial portion of the assets of the corporation" within the meaning of Section 409A and that also falls within one of the following circumstances:

(i) an offeror (other than the Company) purchases shares of Corning Common Stock of the Company pursuant to a tender or exchange offer for such shares;

(ii) any person (as such term is used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934) is or becomes the beneficial owner, directly or indirectly, of the Company's securities representing 50 percent or more of the combined voting power of the Company's then outstanding securities;

(iii) the membership of the Company's Board of Directors changes as the result of a contested election or elections, such that within any 12 month period a majority of the individuals who are Directors at any particular time were initially placed on the Board of Directors as a result of such a contested election or elections;

(iv) the consummation of a merger in which the Company is not the surviving corporation, consolidation, sale or disposition of all or substantially all of the Company's assets or a plan of partial or complete liquidation approved by the Company's shareholders.

1.3 "Code" means the Internal Revenue Code of 1986, as amended from time to time.

1.4 “Committee” means the Compensation Committee of the Board, or other delegate of the Board.

1.5 “Company” means Corning Incorporated.

1.6 “Company Stock Fund” means an investment fund option that is invested, actually or hypothetically, primarily in any class of Corning common stock.

1.7 “Compensation” means the sum of an Eligible Employee’s base salary and bonuses (before salary reduction, if any, under the Company’s Management Deferral Plan, Supplemental Investment Plan, Investment Plan or any other Code Section 125, 132(f) or 401(k) employee benefit plan) without regard to the limitation prescribed in Code Section 401(a)(17). As used in this Plan, base salary, means the base pay to an Eligible Employee by the Company for personal services actually rendered, Division Cash Awards, Individual Outstanding Contributor Awards and certain other eligible cash bonuses; bonus means cash payments of GoalSharing awards and Performance Incentive Plan awards. Excluded as eligible forms of compensation under this Plan are any Company contributions paid under this Plan or any other employee benefit or deferred compensation plan, awards under the Company’s Incentive Stock Plan, non-cash bonuses, commission-based compensation, awards under the Corporate Performance Plan, the value of stock purchase contracts, dividends or dividend equivalents thereon, reimbursed expenses, overseas allowances, cost-of-living allowances, death benefits, severance pay, signing bonuses, special achievement bonuses and other unusual payments determined by the Committee in a non-discriminatory manner. The Committee in its sole discretion may add to the items of includable compensation other compensatory payments or benefits earned by an Eligible Employee.

1.8 “Effective Date” means January 1, 1997. The effective date of this second restatement is January 1, 2023.

1.9 “Eligible Employee” means any employee of a Participating Company who meets the eligibility requirements of Section 3.1(a) and the Committee permits to participate in the Plan.

1.10 “ERISA” means the Employee Retirement Income Security Act of 1974, as amended.

1.11 “Investment Plan” means the Corning Incorporated Investment Plan for Salaried Employees.

1.12 “Participating Company” means the Company and any related entity that meets the definition of “Company” in the Pension Plan and which is approved by the Committee as a Participating Company under this Plan.

1.13 “Pension Plan” means the Corning Incorporated Pension Plan for Salaried Employees.

1.14 “Plan” means this Corning Incorporated Supplemental Investment Plan.

1.15 “Plan Year” means the calendar year.

1.16 "Section 409A" means Code Section 409A, and the Treasury regulations and other authoritative guidance issued thereunder.

1.17 "Trustee" means any trustee the Board may designate if it determines, in its sole discretion, to establish a rabbi trust fund for the purpose of paying Plan benefits.

ARTICLE TWO

Purpose and Intent of Plan

2.1 The purpose of this Plan is to attract and retain a highly-motivated executive workforce by providing to Eligible Employees the opportunity to defer additional Compensation and for the Company to make additional contributions on behalf of Eligible Employees in excess of those permitted under the Investment Plan. The Plan is intended to constitute an unfunded plan of deferred compensation for a select group of management or highly-compensated employees as provided for in Title I of ERISA. This Plan is also intended to comply with the requirements of Section 409A and shall be interpreted consistent with that intent. The terms of this Plan shall supersede any and all other plans and documents that may have terms that are inconsistent with and/or are additional to the terms herein.

ARTICLE THREE

Eligibility and Participation

3.1 (a) **Eligibility**. An employee shall be an Eligible Employee and be entitled to participate in this Plan during any Plan Year that (i) such employee is on the Company payroll for the Plan Year; and (ii) such employee belongs to a select group of management or highly-compensated employees as provided for in Title I of ERISA that the Committee has designated as being eligible to participate in the Plan.

An employee who is eligible to participate in this Plan in a Plan Year shall not continue to be eligible to participate in the Plan in any subsequent Plan Year unless the employee satisfies the foregoing eligibility criteria in such subsequent Plan Year.

(b) **Participation**. An Eligible Employee shall commence participating in the Plan consistent with the Eligible Employee's election pursuant to Section 4.3; provided that an Eligible Employee's base salary deferrals into the Plan shall not commence until the Eligible Employee's elected contributions under the Investment Plan for a Plan Year are suspended because the Eligible Employee's compensation for such year exceeds the annual compensation limit of Code Section 401(a)(17) ($330,000 in calendar year 2023) or the Eligible Employee has contributed the maximum contribution to the Investment Plan under Code Sections 402(g) and 414(v).

ARTICLE FOUR

Contributions

4.1 **Employee Contributions**. An Eligible Employee may contribute to this Plan in a Plan Year any amount of his or her Compensation during the Plan Year (not to exceed the maximum percentage of compensation permitted under the Investment Plan for employee contributions), in the amount set forth on the Eligible Employee's deferral election form. Base salary contributions to this Plan shall be made in the amount set forth on the Eligible Employee's deferral election form specific to base pay, and shall commence after the Eligible Employee is unable to make contributions to the Investment Plan due to the application of the Code's limitations on compensation and/or contributions. Bonus contributions to this Plan shall be made in the amount set forth on the Eligible Employee's deferral election form specific to bonuses. All Eligible Employee contributions shall be pre-tax and shall be made by salary reduction in accordance with the deferral election rules of Section 4.3.

4.2 **Company Allocations**.

(a) **Matching Allocations**.

(i) Base Salary. If any portion of an Eligible Employee's base salary contributions under Section 4.1 for a payroll period consists of amounts that would have been matched by the Company under the Investment Plan, the Company will credit matching allocations to the Eligible Employee under this Plan for such payroll period with respect to such base salary contributions at the same level and under the same terms as specified in the Investment Plan (but ignoring Code limitations on contributions and compensation and treating the Eligible Employee's elective deferrals into this Plan as compensation to be taken into account for purposes of calculating such matching allocations); provided, however, for Plan Years beginning on or after January 1, 2023, (i) for Eligible Employees who both (A) are currently accruing a benefit under the career average formula of the Company's Pension Plan (part I benefit) and (B) have 24 or more years of vesting service as of the preceding December 31, the Company will credit matching allocations to such Eligible Employee under this Plan for such payroll period at a rate of 100 percent of such Eligible Employee's base salary contributions under Section 4.1 for such payroll period up to 5.00 percent of the Eligible Employee's base salary for such payroll period, and (ii) for Eligible Employees who both (A) are currently accruing a benefit under the career average formula of the Company's Pension Plan (part I benefit) and (B) have less than 24 years of vesting service as of the preceding December 31, the Company will credit matching allocations to such Eligible Employee under this Plan at a rate of 75 percent of such Eligible Employee's base salary contributions under Section 4.1 for such payroll period up to 5.00 percent of the Eligible Employee's base salary for such payroll period. Any Investment Plan limitation on matching contributions that is not attributable to Code limitations (e.g., the Investment Plan's cap on the maximum Company match) shall apply to allocations credited under this Plan and under the Investment Plan in the aggregate.

(ii) Bonus. If an Eligible Employee has bonus contributions under Section 4.1 for a Plan Year, the Company will credit matching allocations to the Eligible Employee under this Plan for such Plan Year with respect to such bonus contributions at the same level and under the same terms as specified in the Investment Plan (but ignoring Code limitations on contributions and compensation and treating the Eligible Employee's bonus compensation (both paid and deferred) as compensation to be taken into account for purposes of calculating such matching allocations); provided, however, for Plan Years beginning on or after January 1, 2023, (i) for Eligible Employees who both (A) are currently accruing a benefit under the career average formula of the Company's Pension Plan (part I benefit) and (B) have 24 or more years of vesting service as of the preceding December 31, the Company will credit matching allocations to such Eligible Employee under this Plan for such Plan Year at a rate of 100 percent of such Eligible Employee's bonus contributions for the Plan Year up to 5.00 percent of the Eligible Employee's bonus compensation (both paid and deferred) taken into account under this Plan for the Plan Year, and (ii) for Eligible Employees who both (A) are currently accruing a benefit under the career average formula of the Company's Pension Plan (part I benefit) and (B) have less than 24 years of vesting service as of the preceding December 31, the Company will credit matching allocations to such Eligible Employee under this Plan for such Plan Year at a rate of 75 percent of such Eligible Employee's bonus contributions for the Plan Year up to 5.00 percent of the Eligible Employee's bonus compensation (both paid and deferred) taken into account under this Plan for the Plan Year.

(iii) Maximum Match. An Eligible Employee will not be credited with a maximum match unless he or she contributes at least the required percent of earnings from both components of income (i.e., base salary and bonus).

(b) **Allocations for Long-Service Employees**. Each Plan Year, the Company shall allocate on behalf of each Eligible Employee who both (i) is currently accruing a benefit under the career average formula of the Company's Pension Plan (part I benefit) and (ii) has elected to contribute base salary or bonus for the Plan Year to this Plan, an amount equal to the sum of (A) 1.175 percent of the Eligible Employee's base salary for the portion of the Plan Year during which base salary contributions were made to this Plan under Section 4.1 and (B) 1.175 percent of the Eligible Employee's bonus compensation (both paid and deferred) taken into account under this Plan for the Plan Year; provided, however, that the amount included in the calculation for (B) will be zero if the Eligible Employee did not make any bonus compensation contribution to this Plan under Section 4.1 during such Plan Year.

(c) **Company Allocations Suspended**. Notwithstanding the foregoing provisions of this Section 4.2, the Company shall cease to make all Company Allocations under this Section 4.2 for Compensation earned in payroll periods beginning on or after May 25, 2020 and ending with the payroll period ending December 20, 2020, and with respect to Eligible Employee contributions made from such Compensation.

4.3 **Deferral Election for Eligible Employee Contributions**. An Eligible Employee may defer Compensation under this Plan only by making an election with the Company before the last day of the Plan Year preceding the Plan Year in which the services giving rise to the compensation are performed. For example, an election to defer base salary earned in 2009 must be made on or before December 31, 2008. Likewise, an election to defer an annual bonus that is earned for services rendered in 2009 but is paid in 2010 must be made on or before December 31, 2008.

Such election shall include: (a) the amount to be deferred; and (b) for the Eligible Employee's initial election to contribute to the Plan, the form of payment for receiving his or her retirement benefits. The terms of this election shall be irrevocable except that a new election form may be filed with respect to future deferrals for subsequent Plan Years. However, the form of payment elected by an Eligible Employer in his/her first deferral election shall govern all subsequent deferrals.

An Eligible Employee shall make separate elections with respect to deferrals of base salary and deferrals of bonuses. An Eligible Employee's elections for base salary and bonuses shall continue in effect for subsequent Plan Years until the Eligible Employee makes a new election. Any new election shall become effective for Compensation earned for services provided in the Plan Year following the year when the new election is made. Generally, references to "base salary" means Compensation other than Compensation earned for services provided (in whole or part) in one year and paid out in a subsequent year (e.g., annual bonuses), and references to bonuses means Compensation that does not qualify as a base salary.

When an Eligible Employee makes an election to contribute a percentage of base salary into the Plan, the Eligible Employee must also make an election to contribute a percentage to the Investment Plan. Actual deferrals of base salary into this Plan shall not commence until the percentage election under the Investment Plan results in a cessation of contributions to the Investment Plan due to the application of the Code's limitations on compensation and/or contributions. By making a base salary deferral election into this Plan for a Plan Year, the Eligible Employee agrees that his or her deferral election under the Investment Plan shall be irrevocable for the Plan Year. If an Eligible Employee makes an election to contribute a portion of his/her bonus into the Plan that contribution will be made regardless of whether the Eligible Employee has reached a Code limitation on compensation and/or contributions as of the date the bonus is paid. Also, if an Eligible Employee makes an election to contribute a portion of his/her bonus into the Plan for a Plan Year, the Eligible Employee shall not be permitted to defer any portion of such bonus into the Investment Plan and the bonus will not count as compensation for purposes of making elective or matching contributions under the Investment Plan (although the bonus will count as compensation for purposes of this Plan).

4.4 **Committee Adjustments**. Notwithstanding the foregoing, for purposes of calculating a particular Eligible Employee's benefit under the Plan, the Committee, in its sole discretion, may adjust an Eligible Employee's compensation, vesting service or other factor used in calculating the Eligible Employee's benefit in any manner the Committee deems appropriate, provided such adjustment is memorialized in writing. The Committee may make such adjustment solely for a specified Eligible Employee or group of Eligible Employees and without regard to how other Eligible Employees are treated. Notwithstanding the foregoing, no adjustment may be made under this Section if it would violate Section 409A.

ARTICLE FIVE

Investment of Eligible Employee Accounts

5.1 **Investment of Deferred Amounts**. The Committee shall establish the same investment options under this Plan as are available from time to time under the Investment Plan. These options may be in the form of: (1) hypothetical accounts whose performance shall track the returns of the comparable Investment Plan options; (2) actual funds held by the Company; or (3) actual funds held by a Board appointed Trustee of a rabbi trust. In any event, amounts allocated to an Eligible Employee's accounts shall be subject to the investment direction of such Eligible Employee as designated under the Plan.

Notwithstanding the objective of establishing identical investment options under this Plan as exist in the Investment Plan, the Committee may in its sole discretion establish independent rules under this Plan concerning the investment of Eligible Employee deferrals in the Company Stock Fund, e.g., by prohibiting such investments altogether, by prohibiting persons subject to Section 16(b)'s short-swing profits rules from making such investments or by otherwise regulating the terms of investing in the Company Stock Fund.

Effective July 1, 2009, the Company Stock Fund is frozen and no future Eligible Employee deferrals or transfers are permitted into the Company Stock Fund. Distributions or transfers out of the Company Stock Fund are permitted pursuant to the terms of the Plan.

The Company shall have the ultimate obligation to pay out all deferred amounts adjusted for earnings/losses thereon in accordance with the terms of this Plan. In order to meet its obligations under this Plan, the Company may appoint a Trustee and direct such Trustee to establish a single investment account or individual investment accounts. The Trustee shall be empowered to invest such accounts and any earnings thereon in such investments (not to include securities of the Trustee) as may be designated by the Committee. In the event a Trustee is appointed to establish investment accounts, the Committee shall be responsible for directing how the accounts are to be invested, taking into account Eligible Employee preferences. If no Trustee is appointed, the Committee shall establish bookkeeping accounts and credit earnings to such accounts in accordance with such Investment Plan benchmarks as may be established from time to time.

5.2 **Investment of Company Allocations**. If applicable, all Company allocations under Section 4.2 shall be subject to such investment and transfer restrictions as apply from time to time to comparable contributions made under the Investment Plan in which the Eligible Employee participates.

5.3 **Rollover of Other Deferred Compensation Accounts**. The Committee may in its sole discretion direct the transfer of amounts deferred by an Eligible Employee under another unfunded deferred compensation plan of the Company to the Eligible Employee's account under this Plan. Such transfer shall be made for the purpose of commonly investing the deferred amounts under a single investment arrangement. Any such transfer of assets shall be permitted only to the extent that the assets are of a type which can be invested under this Plan. No transfer of assets shall change the terms of any deferred compensation election made by the Eligible Employee with respect to such transferred assets. However, to the extent consistent with any election on the other unfunded deferred compensation arrangement's election form, the terms of this Plan and any associated trust agreement shall govern such transferred amounts. No transfer may be permitted under this Section if prohibited under Section 409A.

5.4 **Limitations on Assignment of Benefits**. Each Eligible Employee's account under the trust shall be subject to the claims of the Company's creditors in the event of the Company's insolvency or bankruptcy as provided in the trust agreement. The benefits payable under this Plan shall not be subject in any way to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance, charge, garnishment, execution or levy of any kind by the Eligible Employee, his beneficiary or the creditors of either, including any such liability as may arise from the Eligible Employee's bankruptcy. Notwithstanding the foregoing, all or a portion of an Employee's account under the Plan may be paid to another person as specified in a Domestic Relations Order, as described in Section 9.2 of this Plan.

5.5 **Unfunded Plan**. The benefits payable to an Eligible Employee under this Plan shall be paid by the Participating Company that employs the Eligible Employee out of its general assets and shall not be otherwise funded as of the original effective date of the plan. Although the Company does not intend, as of the original effective date, to set aside any specific assets to meet its obligation to pay benefits under this Plan, the Company may, in its discretion, set aside assets for meeting its obligations, including, but not limited to, the establishment of a rabbi or other grantor trust. In the event such fund or trust is established, each Participating Company shall be responsible for making contributions to provide for the benefits of its own Eligible Employees. No Eligible Employee shall have any property rights in any such fund or trust or in any other assets held by a Participating Company. The right of an Eligible Employee or his or her spouse or beneficiary to receive any of the benefits provided by this Plan shall be an unsecured claim against the general assets of a Participating Company.

ARTICLE SIX

Benefits

6.1 **Vesting**. An Eligible Employee's contributions under Section 4.1, the Company's allocations for long-service Eligible Employees under Section 4.2(b) and the earnings on all such contributions are 100 percent vested at all times. The Company's matching allocations under Sections 4.2(a) and earnings thereon shall become vested in accordance with the terms and conditions in effect from time to time for the vesting of Company matching contributions under the Investment Plan.

6.2 **Timing and Form of Benefit Payments**.

(a) **Retirement Benefits**. If an Eligible Employee terminates employment at any time on or after the date the Eligible Employee attains age 55 and completes five years of vesting service, the amounts accumulated in an Eligible Employee's account shall be paid in full or shall commence within 60 days after the six-month anniversary of his or her termination of employment. Account balances shall be paid in cash in either a lump sum or in annual installment payments of substantially equal amounts over a five-year period. Installment payments will be calculated by dividing the Eligible Employee's account balance by the remaining installment payments). The election of the form of payment shall be made initially at the time of the deferral election as specified in Section 4.3. If no valid election concerning the form of benefits is in effect, the Eligible Employee's entire account balance shall be paid in a lump sum amount. For purposes of this Plan, vesting service shall be calculated under the rules set forth in the Investment Plan as of January 1, 2008. For purposes of this Section, "terminates employment" or "termination of employment" shall have the meaning specified in Section 409A; provided that for purposes of this definition where a leave of absence is due to any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than six months, where such impairment causes the Employee to be unable to perform the duties of his or her position of employment or any substantially similar position of employment, the employment relationship is deemed to terminate on the first date immediately following a 29-month period of absence.

(b) **Death Benefits**. In the event of an Eligible Employee's death, his or her account balance shall be payable to his or her designated beneficiary which may be a natural person, a trust or an estate. An Eligible Employee shall designate his or her beneficiary in writing on a form acceptable to the Committee. The filing of any beneficiary designation form shall have the effect of automatically revoking any beneficiary designation form filed previously. The consent of a previously designated beneficiary shall not be a prerequisite for an Eligible Employee to file a new beneficiary designation form.

If death occurs while the Eligible Employee is receiving installment payments, the Company shall pay the remaining interest of the Eligible Employee to his or her beneficiary in a lump sum payment within 60 days after the Eligible Employee's death.

With respect to deaths which occur prior to an Eligible Employee's commencing receipt of benefits, the Company shall pay the Eligible Employee's benefit to his or her beneficiary in a lump sum payment within 60 days after the Eligible Employee's death.

If a beneficiary is not validly designated, or is not living or cannot be found at the date of payment, any amount payable pursuant to this Plan shall be paid to the estate of the Eligible Employee in a lump sum amount.

(c) **Benefits Payable Other Than on Account of Retirement or Death**. If an Eligible Employee's termination of employment occurs for any reason other than retirement or death as described in the preceding subsections, the Eligible Employee's entire vested interest under this Plan shall be paid out in a single lump sum payment within 60 days following termination of employment. Notwithstanding the foregoing, benefit payments to a specified employee may not commence until six months following the date of the specified employee's termination of employment. Therefore, benefits paid under this subsection to a specified employee shall be paid in a lump sum within 60 days after the date that is six months following the specified employee's termination of employment. For purposes of this Section, "specified employee" or "termination of employment" shall have the meanings set forth in Section 409A; provided that for purposes of the definition of "termination of employment" where a leave of absence is due to any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than six months, where such impairment causes the Employee to be unable to perform the duties of his or her position of employment or any substantially similar position of employment, the employment relationship is deemed to terminate on the first date immediately following a 29-month period of absence.

6.3 **In-Service Withdrawals**. Notwithstanding the time of payment provisions set forth in Section 6.2, the Committee may, in its sole discretion, authorize an in-service withdrawal on account of an Eligible Employee's Unforeseeable Emergency. A distribution based upon Unforeseeable Financial Emergency shall not exceed the lesser of the Eligible Employee 's vested account balance, or the amount reasonably needed to satisfy the Unforeseeable Financial Emergency plus amounts necessary to pay taxes reasonably anticipated as a result of the payouts, after taking into account the extent to which the Unforeseeable Financial Emergency is or may be relieved through reimbursement or compensation by insurance or otherwise or by liquidation of the participant's assets (to the extent the liquidation of assets would not itself cause severe financial hardship). A distribution based upon Unforeseeable Financial Emergency shall be permitted only to the extent permitted under Section 409A.

For purposes of the Plan, the term "Unforeseeable Financial Emergency" shall mean an unanticipated emergency that is caused by an event beyond the control of the Eligible Employee that would result in severe financial hardship to the Eligible Employee resulting from (i) an illness or accident of the participant, the participant's spouse or a dependent of the participant, (ii) a loss of the participant's property due to casualty, or (iii) such other extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the participant, all as determined in the sole discretion of the Committee.

6.4 **Change in Control**. In the event of a Change in Control, the accounts of all Eligible Employees shall remain or become 100 percent vested and the Committee shall have the discretion either to distribute all account balances accrued to the date of the Change in Control in a lump sum amount or to permit the Plan to continue in accordance with its terms. The Committee shall make its determination on whether to continue the Plan or to distribute all accounts in the period beginning 30 days prior to an anticipated Change in Control and 180 days following an actual Change in Control. Any termination and liquidation of the Plan under this Section must satisfy all applicable requirements under Section 409A.

6.5 **CCS Supplemental Investment Plan and the CCS Supplemental Retirement Plan**. Effective February 2, 2004, the CCS Supplemental Investment Plan and the CCS Supplemental Retirement Plan were merged into this plan and all distributions on and after February 2, 2004, from the Plan shall be made in accordance with the distribution rules set forth under the Plan.

ARTICLE SEVEN

Administration and Procedures

7.1 **Committee as Administrator**. This Plan shall be administered by the Committee in accordance with the Plan's terms.

The Committee shall inform each Eligible Employee of any deferral, investment and beneficiary elections which the Employer may possess and shall record such choices along with such other information as may be necessary to administer the Plan.

7.2 **Establishment of Accounts**. The Committee shall establish and maintain individual accounts for each Eligible Employee, which accounts shall record all activities with respect to the accounts, including contributions, adjustments for earnings (and losses), and withdrawals. The Committee shall determine the benefits due each Eligible Employee from this Plan and shall direct them to be paid by the Company, a Participating Company or the Trustee accordingly.

7.3 **Committee Action Final**. The Committee has sole discretion to determine the eligibility of employees to participate in this Plan, to determine their eligibility for and the amount of their benefits, to interpret the Plan, to adopt rules relating to its administration and to take any other action it deems appropriate to administer the Plan. The decisions made by and the actions taken by the Committee shall be final and conclusive on all persons.

Members of the Committee shall not be subject to individual liability with respect to their actions under this Plan. Notwithstanding the foregoing, the Company shall indemnify each member of the Committee who may incur financial liability for actions or failures to act with respect to the member's Committee responsibilities.

7.4 **Consistency of Interpretation**. Since this Plan is intended to operate in conjunction with the Investment Plan, any questions concerning plan administration or the calculation of benefits that arise but are not specifically addressed by this Plan shall be considered in light of the Investment Plan. In addition, unless the context requires otherwise, the terms used in this Plan shall have the same meaning as the same terms used in the Investment Plan.

7.5 **Claims Procedures**.

(a) **Claim for Benefits**. The Committee, or its authorized delegate, shall maintain a procedure under which an Eligible Employee or his beneficiary (or an authorized representative acting on behalf of an Eligible Employee or his beneficiary) may assert a claim for benefits under the Plan. Any such claim shall be submitted to the Committee in writing. The Committee will generally notify the claimant of its decision within 90 days after it receives the claim. However, if the Committee determines that special circumstances require an extension of time to decide the claim, it may obtain an additional 90 days to decide the claim. Before obtaining this extension, the Committee will notify the claimant, in writing and before the end of the initial 90-day period, of the special circumstances requiring the extension and the date by which the Committee expects to render a decision.

(b) **Claims Review Procedure**. If the claimant's claim is denied in whole or in part, the Committee will provide the claimant, within the period described in Section 7.5(a), with a written or electronic notice which explains the reason or reasons for the decision, includes specific references to Plan provisions upon which the decision is based, provides a description of any additional material or information which might be helpful to decide the claim (including an explanation of why that information may be necessary), and describes the appeals procedures and applicable filing deadlines.

If a claimant disagrees with the decision reached by the Committee, the claimant may submit a written appeal requesting a review of the decision. The claimant's written appeal must be submitted within 60 days of receiving the initial adverse decision. The claimant's written appeal should clearly state the reason or reasons why the claimant disagrees with the Committee's decision. The claimant may submit written comments, documents, records and other information relating to the claim even if such information was not submitted in connection with the initial claim for benefits. Additionally, the claimant, upon request and free of charge, may have reasonable access and copies of all documents, records and other information relevant to the claim.

The Committee will generally decide a claimant's appeal within 60 days after receipt of appeal. If special circumstances require an extension of time for reviewing the claim, the claimant will be notified in writing. The notice will be provided prior to the commencement of the extension, describe the special circumstances requiring the extension and set forth the date the Committee will decide the appeal. Such date will not be later than 120 days from the date the Committee receives the appeal. In the case of an adverse decision, the notice will explain the reason or reasons for the decision, include specific references to Plan provisions upon which the decision is based, and indicate that the claimant is entitled to, upon request and free of charge, reasonable access to and copies of documents, records, and other information relevant to the claim.

A claimant may not commence a judicial proceeding against any person, including the Plan, the Plan administrator, a Participating Company, or any other person, with respect to a claim for benefits without first exhausting the claims procedures set forth in the preceding paragraph. A claimant who has exhausted these procedures and is dissatisfied with the decision on appeal of a denied claim may bring an action in an appropriate court to review the Committee's decision on appeal but only if such action is commenced no later than the earlier of (1) the applicable statute of limitations, or (2) the first anniversary of the Committee's decision on appeal.

ARTICLE EIGHT

Amendment and Termination

8.1 **Company's Authority**. The Company reserves the right to amend or to terminate the Plan at any time for whatever reason it may deem appropriate. The Board may delegate to a Company employee, who is at least a Vice President, the authority to make technical amendments to the Plan. Notwithstanding the foregoing, any amendment or termination of the Plan shall comply with the requirements of Section 409A (e.g., no Plan amendment shall accelerate the payment of amounts previously deferred or provide for additional benefits).

8.2 **Company Obligations for Benefits**. Notwithstanding the preceding Section, the Company hereby makes a contractual commitment to pay to its Eligible Employees the benefits accrued under this Plan to the extent it is financially capable of meeting such obligations.

ARTICLE NINE

Miscellaneous

9.1 **No Contract of Employment**. Nothing contained in this Plan shall be construed as a contract of employment between the Company and an Eligible Employee, or as a right of any Eligible Employee to be continued in the employment of a Participating Company, or as a limitation of the right of a Participating Company to discharge any of its Eligible Employees, with or without cause.

9.2 **No Transferability**. The rights of an Eligible Employee under this Plan shall not be transferable, voluntarily or involuntarily, other than by will or the laws of descent and distribution and are exercisable during the Eligible Employee's lifetime only by the Eligible Employee or the Eligible Employee's guardian or legal representative.

9.3 **Domestic Relations Orders**. Notwithstanding the foregoing, all or a portion of an Employee's account under the Plan may be paid to another person as specified in a domestic relations order that the Board, or its delegate, determines meets certain requirements (a "Domestic Relations Order"). For this purpose, a Domestic Relations Order means a judgment, decree, or order (including the approval of a settlement agreement) which:

(i) is issued pursuant to a State's domestic relations law;

(ii) relates to the provision of child support, alimony payments or marital property rights to a spouse, former spouse, child or other dependent of the Participant;

(iii) creates or recognizes the right of a spouse, former spouse, child or other dependent of the Participant (an "Alternate Payee") to receive all or a portion of the Participant's benefits under the Plan;

(iv) requires payment of an Employee's benefit to an Alternate Payee in a form that maintains value equivalence; and

(v) meets such other requirements, terms, and conditions established by the Board, or its delegate.

The Board, or its delegate, shall determine whether any document received by it is a Domestic Relations Order. In making this determination, the Board, or its delegate, may consider the rules applicable to "domestic relations orders" under Code Section 414(p) and ERISA section 206(d), and such other rules and procedures as it deems relevant.

9.4 **Governing Law**. This Plan shall be interpreted and enforced in accordance with the laws of the State of New York.

9.5 **Section 409A**. This Plan shall be governed by and subject to the requirements of Section 409A and shall be interpreted and administered in accordance with that intent. If any provision of this Plan would otherwise conflict with or frustrate this intent, that provision will be interpreted and deemed amended so as to avoid the conflict. The Committee reserves the right to take any action it deems appropriate or necessary to comply with the requirements of Section 409A and may take advantage of such transition rules under Section 409A as it deems necessary or appropriate.

9.6 **Taxation**. The benefits payable under this Plan shall be subject to all federal, state and local income and employment taxes to which benefits of this type are normally subject.

9.7 **Successors**. This Plan shall be binding on the Company's successors and assigns.

9.8 **Effective Date**. The original effective date of this Plan is January 1, 1997. The effective date of this second amended and restated plan document is January 1, 2023.

IN WITNESS WHEREOF, the Company has caused this Plan document to be executed by its duly authorized officer this 8th day of December, 2022.

CORNING INCORPORATED

By: /s/ John P. MacMahon
John P. MacMahon

Title: Senior Vice President – Global Compensation and Benefits

Exhibit 10.41

CORNING INCORPORATED

EXECUTIVE SUPPLEMENTAL PENSION PLAN

(As Amended and Restated Effective January 1, 2023)

CORNING INCORPORATED (the "Company") hereby amends and restates effective January 1, 2023, the Corning Incorporated Executive Supplemental Pension Plan (the "Plan") for the benefit of eligible Employees. The terms of this restated Plan apply to eligible Employees who retire on or after December 6, 2006.

ARTICLE ONE

Definitions

1.1 "Board" means the Board of Directors of Corning Incorporated.

1.2 "Change in Control" means an event that is "a change in the ownership or effective control of the corporation, or in the ownership of a substantial portion of the assets of the corporation" within the meaning of Section 409A and that also falls within one of the following circumstances:

(i) an offeror (other than the Company) purchases shares of Corning Common Stock pursuant to a tender or exchange offer for such shares;

(ii) any person (as such term is used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934) is or becomes the beneficial owner, directly or indirectly, of the Company's securities representing 50 percent or more of the combined voting power of Company's then outstanding securities;

(iii) the membership of the Company's Board of Directors changes as the result of a contested election or elections, such that within any 12 month period a majority of the individuals who are Directors at any particular time were initially placed on the Board of Directors as a result of such a contested election or elections; discretion; or

(iv) the consummation of a merger in which the Company is not the surviving corporation, consolidation, sale or disposition of all or substantially all of the Company's assets or a plan of partial or complete liquidation approved by the Company's shareholders;

1.3 "Code" means the Internal Revenue Code of 1986, as amended from time to time.

1.4 "Committee" means the Compensation Committee of the Board, or other delegate of the Board.

1.5 "Company" means Corning Incorporated.

1.6 "Employee" means any employee of a Participating Company who participates in the Qualified Plan and who is a management or highly compensated employee as such employees are defined in Title I of ERISA.

1.7 "Normal Retirement Date" means the first day of the month following the later of the Employee's 65th birthday or the date the Employee has five vesting years of service.

1.8 "Participating Company" means the Company and any related entity that meets the definition of "Company" in the Qualified Plan and which is approved by the Committee as a Participating Company under this Plan.

1.9 "Plan" means this Corning Incorporated Executive Supplemental Pension Plan.

1.10 "Qualified Plan" means The Corning Incorporated Pension Plan for Salaried Employees.

1.11 "Section 409A" means Code Section 409A, and the Treasury regulations and other authoritative guidance issued thereunder.

1.12 "Total and Permanent Disability" shall mean, based upon medical evidence satisfactory to the Committee, the inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or to be of long, continued and indefinite duration.

ARTICLE TWO

Purpose and Intent of Plan

2.1 The purpose of this Plan is to attract and retain a highly-motivated executive workforce by providing to eligible Employees retirement benefits in excess of those permitted under the Qualified Plan. The Plan is intended to constitute an unfunded plan of deferred compensation for a select group of management or highly-compensated employees as provided for in Title I of ERISA. This Plan is also intended to comply with the requirements of Section 409A and shall be interpreted consistent with that intent. The terms of this Plan shall supersede any and all other plans and documents that may have terms that are inconsistent with and/or are additional to the terms herein.

ARTICLE THREE

Eligible Employee

3.1 The Committee, in its sole discretion, shall designate those Employees who shall be eligible to participate in this Plan. All eligible Employees shall be identified in such records as the Committee deems appropriate to establish and maintain.

Notwithstanding any provision to the contrary, an otherwise eligible Employee shall be ineligible to participate and shall forfeit all rights to receive any benefit payment under this Plan if such employee:

(a) is terminated for cause, which determination shall be in the sole discretion of the Committee and this determination shall be final and binding on all persons;

(b) fails to comply with the terms of any noncompete, confidentiality and/or similar agreement(s) the eligible Employee has with the Company;

(c) solicits or encourages employees to leave the employ of the Company, as determined by the Committee in its sole discretion;

(d) works for or provides services to a third party, including competitors of the Company, which the Committee determines, in its sole discretion, may cause injury or harm to the Company; or

(e) files or threatens legal action against the Company, either directly or indirectly through a third party company, including but not limited to threats or assertions of patent infringement, which the Committee determines, in its sole discretion, may cause injury or harm to the Company.

If the Committee, in its sole discretion, determines that an eligible Employee has failed to comply with the terms of any of paragraphs (b), (c), (d) or (e), the eligible Employee shall forfeit all future benefits under this Plan, and the eligible Employee shall promptly reimburse the Company for any Plan benefits that were paid to the eligible Employee.

An Employee who is designated as being eligible to receive benefits under this Plan shall not be entitled to any benefits under the Corning Incorporated Supplemental Pension Plan.

ARTICLE FOUR

Benefits

4.1 Benefit Amount. The benefit payable under this Plan is, as follows:

A. Except for the individuals listed in Exhibit A, eligible Employees shall accrue benefits under this Section 4.1A, subject to the vesting rule described in the following sentence. An eligible Employee shall vest in his right to receive a benefit under this Section 4.1A, if the eligible Employee: (i) terminates employment after both reaching age 50 and attaining 10 years of Credited Service; or (ii) was an eligible Employee who had attained age 55 as of December 5, 2006 and whose age plus years of Credited Service as of December 5, 2006 totaled at least 65. If an eligible Employee fails to vest in his benefit under the preceding sentence, he will receive the benefit set forth in Section 4.1C, rather than the benefit described in this Section 4.1A.

An eligible Employee's annual benefit under this Section 4.1A, calculated as of the Employee's Normal Retirement Date, is a straight life annuity equal to (a) less (b), where:

(a) equals the aggregate amount the eligible Employee would be entitled to receive under the following formula:

2 percent multiplied by the Employee's Credited Service multiplied by the Employee's Average Compensation, and

(b) equals the amount the eligible Employee is actually entitled to receive under the Qualified Plan.

For purposes of calculating (a) above:

(1) the term Compensation shall mean the total remuneration (before salary reduction, if any, under the Company's Management Deferral Plan, Supplemental Investment Plan, Investment Plan or any other Code Section 125, 132(f) or 401(k) employee benefit plan) paid to an Employee by the Company for personal services actually rendered, including cash payments of GoalSharing awards, Performance Incentive Plan awards, Division Cash Awards, Individual Outstanding Contributor Awards and certain other eligible cash bonuses, but excluding any Company contributions paid under this Plan or any other employee benefit or deferred compensation plan, awards under the Company's Incentive Stock Plan, non-cash bonuses, awards under the Corporate Performance Plan, the value of stock purchase contracts, dividends or dividend equivalents thereon, reimbursed expenses, overseas allowances, cost-of-living allowances, death benefits, severance pay, signing bonuses, special achievement bonuses and other unusual payments determined by the Committee in a non-discriminatory manner. The Committee, in its sole discretion, may add to the items of includable compensation other compensatory payments or benefits earned by eligible Employees;

(2) the term Average Compensation shall mean the annualized equivalent of the average of an eligible Employee's Compensation in the highest 60 consecutive calendar months in the 120 calendar months immediately preceding the month after which the eligible Employee terminates employment; and

(3) the term Credited Service shall mean such service as defined in the Qualified Plan together with the modifications set forth in the Corning Incorporated Supplemental Pension Plan, provided that an Employee's Credited Service shall not exceed 25 years.

For purposes of calculating (b) above, in determining the amount the eligible Employee is actually entitled to receive under the Qualified Plan, the Career Average Contributions and Interest Allocations applicable to Career Average Contributions under the Qualified Plan effective January 1, 2023, will be disregarded and not considered, such that the amount payable under this Plan is not reduced by the Career Average Contributions and Interest Allocations applicable to Career Average Contributions credited under the Qualified Plan

An eligible Employee shall be entitled to receive an unreduced early retirement benefit if the Employee separates from service after: (i) attaining age 55 with at least 25 years of Credited Service; or (ii) attaining age 60 with at least 10 years of Credited Service. The following rules shall apply if an eligible Employee fails to satisfy these requirements:

(x) If an eligible Employee separates from service after attaining age 55 and commences benefits before attaining age 60, such Employee's early retirement benefit shall be the amount determined above in Section 4.1.A(a), adjusted and reduced, at the rate of one-third of one percent for each month between the date benefits commence and the month following the month in which the Employee would attain age 60 less the amount determined in Section 4.1.A(b).

(y) If an eligible Employee incurs a Total and Permanent Disability, the eligible Employee shall be entitled to receive an unreduced early retirement benefit at the time specified in Section 4.2.

(z) If an eligible Employee separates from service before attaining age 55, such Employee's benefit shall commence within 60 days of the first of the month after attaining age 55 pursuant to Section 4.2 and his early retirement benefit shall be the amount determined above in Section 4.1.A(a), adjusted and reduced by 50 percent, less the amount determined in Section 4.1.A(b).

The immediately preceding paragraph shall not apply and instead this paragraph shall apply to an eligible Employee if his straight life annuity benefit at Normal Retirement Date calculated under this Section 4.1A as of his separation from service exceeds four times the annual compensation limitation under Code Section 401(a)(l 7) in effect at the time of such separation. Such an eligible Employee shall be entitled to receive an unreduced early retirement benefit if the Employee (i) incurs a Total and Permanent Disability, (ii) dies with at least 25 years of Credited Service, or (iii) separates from service after attaining age 57 with at least 25 years of Credited Service or attaining age 60 with at least 10 years of Credited Service The following rules shall apply if such an eligible Employee fails to satisfy these requirements:

(I) If the Employee separates from service with 25 or more years of Credited Service after age 55, such Employee's early retirement benefit shall be the amount determined above in Section 4.lA(a), adjusted and reduced, at the rate of one-twelfth of one percent for each month, if any, between the date benefits commence and the month following the month in which the Employee would attain age 57 less the amount determined in Section 4.lA(b). If the Employee separates from service with less than 25 years of Credited Service after age 55, such Employee's early retirement benefit shall be the amount determined above in Section 4.lA(a), adjusted and reduced as outlined in Section 4. lA(x).

(II) If the Employee separates from service before attaining age 55, such Employee's benefit shall commence within 60 days after attaining age 55 pursuant to Section 4.2 and his early retirement benefit shall be the amount determined above in Section 4.lA(a), adjusted and reduced by 50 percent, less the amount determined in Section 4.lA(b).

B. This Section 4.1B shall only apply to an eligible Employee who is listed on Exhibit A. The eligible Employees listed on Exhibit A shall be vested in their Plan benefits under this Section 4.1B. An eligible Employee's annual benefit under this Section 4.1B, calculated as of the Employee's Normal Retirement Date, is a straight life annuity equal to (a) less (b), where:

(a) equals the aggregate amount the eligible Employee would be entitled to receive under the following formula:

1.5 percent multiplied by the Employee's Credited Service multiplied by the Employee's Average Compensation, and

(b) equals the amount the eligible Employee is actually entitled to receive under the Qualified Plan.

For purposes of calculating (a) above:

(1) the term Compensation shall mean the total remuneration (before salary reduction, if any, under the Company's Management Deferral Plan, Supplemental Investment Plan, Investment Plan or any other Code Section 125, 132(f) or 401(k) employee benefit plan) paid to an Employee by the Company for personal services actually rendered, including cash payments of GoalSharing awards, Performance Incentive Plan awards, Division Cash Awards, Individual Outstanding Contributor Awards and certain other eligible cash bonuses, but excluding any Company contributions paid under this Plan or any other employee benefit or deferred compensation plan, awards under the Company's Incentive Stock Plan, non-cash bonuses, awards under the Corporate Performance Plan, the value of stock purchase contracts, dividends or dividend equivalents thereon, reimbursed expenses, overseas allowances, cost-of-living allowances, death benefits, severance pay, signing bonuses, special achievement bonuses and other unusual payments determined by the Committee in a non-discriminatory manner. The Committee in its sole discretion may add to the items of includable compensation other compensatory payments or benefits earned by eligible Employees;

(2) the term Average Compensation shall mean the annualized equivalent of the average of an eligible Employee's Compensation in the highest 60 consecutive calendar months in the 120 calendar months immediately preceding the month after which the eligible Employee terminates employment; and

(3) the term Credited Service shall mean such service as defined in the Qualified Plan together with the modifications set forth in the Corning Incorporated Supplemental Pension Plan.

For purposes of calculating (b) above, in determining the amount the eligible Employee is actually entitled to receive under the Qualified Plan, the Career Average Contributions and Interest Allocations applicable to Career Average Contributions under the Qualified Plan effective January 1, 2023, will be disregarded and not considered, such that the amount payable under this Plan is not reduced by the Career Average Contributions and Interest Allocations applicable to Career Average Contributions credited under the Qualified Plan.

An eligible Employee shall be entitled to receive an unreduced early retirement benefit if the Employee separates from service after: (i) attaining age 55 with at least 25 years of Credited Service; or (ii) attaining age 60 with at least 10 years of Credited Service. The following rules shall apply if an eligible Employee fails to satisfy these requirements:

(x) If an eligible Employee separates from service after attaining age 55 and commences benefits before attaining age 60, such Employee's early retirement benefit shall be the amount determined above, adjusted and reduced, at the rate of one-third of one percent for each month between the date benefits commence and the month following the month in which the Employee would attain age 60.

(y) If an eligible Employee incurs a Total and Permanent Disability, the eligible Employee shall be entitled to receive an unreduced early retirement benefit at the time specified in Section 4.2.

(z) If an eligible Employee separates from service before attaining age 55, such Employee's benefit shall commence within 60 days of the first of the month after attaining age 55 pursuant to Section 4.2 and his early retirement benefit shall be the amount determined above, adjusted and reduced by 50 percent.

C. This Section 4.1C shall only apply to an eligible Employee who fails to vest in his benefit under Section 4.1A. The benefit payable to such an eligible Employee under this Plan shall be calculated as the benefit that would be paid to the eligible Employee under the benefit formula and terms and conditions (including the vesting provisions) set forth under the Corning Incorporated Supplemental Pension Plan, in the form of a lump sum benefit within 60 days of the first of the month following the Employee's "separation from service", as provided in Section 4.3 of the Corning Incorporated Supplemental Pension Plan.

D. Notwithstanding the foregoing, for purposes of calculating a particular Employee's benefit under the Plan, the Committee, in its sole discretion, may adjust an Employee's compensation, credited service or other factor used in calculating the Employee's benefit in any manner the Committee deems appropriate, provided such adjustment is memorialized in writing. The Committee may make such adjustment solely for a specified Employee or group of Employees and without regard to how other Employees are treated.

4.2 Commencement of Benefits. Except as set forth in Section 4.6 and Section 4.3(a), a Participating Company shall pay the nonforfeited benefits due under this Plan commencing within 60 days of the first of the month following the later of: (i) such Employee's "separation from service" within the meaning of Section 409A; or (ii) age 55. Notwithstanding the foregoing, benefit payments to a "specified employee" within the meaning of Section 409A (for this purpose, payments on account of death are not considered to be payments made on account of separation from service) may not commence until six months following the date of the specified employee's separation from service. Benefit payments that would otherwise have been paid to a specified employee in the absence of the previous sentence shall be held in suspense during the six-month suspension period and paid to the specified employee in a lump sum payment within the first 15 days of the seventh month following the specified employee's separation from service.

4.3 Form of Payment. The default form of benefit payable under this Plan shall be a life annuity for unmarried Employees and a joint and 75 percent survivor annuity for married Employees. Employees may elect to receive their benefits in the form of a single life annuity or a joint and 50, 75 or 100 percent survivor annuity. The amount of the actual benefit paid from this Plan shall be the straight life annuity calculated under Section 4.1 adjusted as appropriate using the actuarial assumptions set forth in the career average formula under the Qualified Plan if a different form of annuity is paid. Any life annuity or joint and survivor annuity shall be paid in the form of the six year certain benefit described in Section 4.11 of the Qualified Plan (as of the date of this restatement). No actuarial adjustments shall be made for such six year certain benefit. Notwithstanding any provision to the contrary in this Section 4.3, all annuity options shall be actuarially equivalent to any other annuity option.

Notwithstanding the foregoing, the following special rules shall apply in lieu of the foregoing under the specified circumstances:

(a) If an eligible Employee had accrued a benefit under the Corning Incorporated Supplemental Pension Plan before becoming eligible to receive a benefit under this Plan, the portion of such benefit that was accrued under the cash balance formula of the Corning Incorporated Supplemental Pension Plan as of the date the Employee commenced participation in this Plan shall be paid in the form of a lump sum benefit (rather than an annuity) within 60 days of the first of the month following the Employee's "separation from service", as provided in Section 4.3 of the Corning Incorporated Supplemental Pension Plan, and the annuity set forth in the preceding paragraph shall be offset by the value of such lump sum benefit.

The following rules shall apply when calculating the benefit that was accrued under the cash balance formula of the Corning Incorporated Supplemental Pension Plan as of the date the Employee commenced participation in this Plan (the "Frozen Cash Balance SPP Benefit") and when determining how the Frozen Cash Balance SPP Benefit reduces amounts otherwise payable hereunder:

(x) For the period of time after the Employee commences participation in this Plan, the Employee's Frozen Cash Balance SPP Benefit shall be credited with interest at the rate that applied to such benefit as of the date the Employee commenced participation in this Plan (i.e., the average of the monthly annual yields on ten-year Treasury Bonds in effect for the three-month period ending on the last business day of October of the Plan Year preceding the date the Employee commenced participation in this Plan.

(y) The offset of the Frozen Cash Balance SPP Benefit shall be calculated by converting the Employee's Frozen Cash Balance SPP Benefit (calculated with interest to the date the Employee's benefit under this Plan commences) into an actuarial equivalent single life annuity with a six-year certain benefit as of the date the Employee's benefit under this Plan commences using the "applicable interest rate" and "applicable mortality table", in each case as defined in Code Section 417(e)(3), that would apply for making such conversions as of the date the Employee commenced participation in this Plan (i.e., such rate and table that applied for the last month of the quarter that second precedes the date the Employee commenced participation in this Plan).

(z) For Employees with a Frozen Cash Balance SPP Benefit as of December 31, 2008, the interest rate used to credit interest on the Employee's Frozen Cash Balance SPP Benefit for periods after December 31, 2008 and the annuity factors used for making the calculation described in the preceding subsection (y) shall be the interest rate and annuity factors in effect for such Employee as of December 31, 2008.

(b) Benefits payable under Section 4.6 shall be paid in the form of a lump sum payment and the actuarial assumptions used for calculating such amount shall be the "applicable interest rate" and "applicable mortality table", in each case as defined in Code Section 417(e)(3), for the last month of the quarter that second precedes the quarter of the determination.

(c) In the event that the lump sum value of an Employee's benefit that would normally be paid in the form of an annuity or a death benefit described in Section 4.4 is less than $20,000, such benefit shall be paid in the form of a lump sum payment, rather than an annuity. The actuarial assumptions used for calculating such amount shall be the "applicable interest rate" and "applicable mortality table", in each case as defined in Code Section 417(e)(3), for the last month of the quarter that second precedes the quarter of the determination.

(d) Solely for the eligible Employee listed on Exhibit B, the Company shall provide such Employee's benefit by purchasing an annuity from MetLife (or its successor) after such Employee's separation from service.

4.4 Death Benefits. If an eligible Employee dies: (i) while still employed by a Participating Company; (ii) on or after attaining age 55; and (iii) after becoming entitled to receive a vested benefit, the eligible Employee's spouse, if surviving, shall be entitled to 100 percent of the benefit the Employee's spouse would have received under Section 4.1 if the Employee had commenced benefits under Section 4.1 as of the date of his death. Such benefit shall commence to the eligible Employee's spouse, if surviving, within 60 days of the first of the month after the date that the eligible Employee dies. Notwithstanding the foregoing, if the Employee's surviving spouse is more than five years younger than the deceased Employee, the benefit otherwise payable to the surviving spouse will be reduced by one-fifth of one percent times the number of months or major fractions thereof which is equal to the difference between (a) the age of the surviving spouse plus 60 months and (b) the age of the deceased Employee. If an eligible Employee dies: (i) while still employed by a Participating Company; (ii) before attaining age 55; and (iii) after becoming entitled to receive a vested benefit, the eligible Employee's spouse, if surviving, shall be entitled to a monthly lifetime benefit equal to 50 percent of the benefit the eligible Employee would have received under Section 4.1 at his Normal Retirement Date.

Such benefit shall commence to the eligible Employee's spouse, if surviving, within 60 days of the first of the month that the eligible employee dies. Notwithstanding the foregoing, if the Employee's surviving spouse is more than five years younger than the deceased Employee, the benefit otherwise payable to the surviving spouse will be reduced by one-fifth of one percent times the number of months or major fractions thereof which is equal to the difference between (a) the age of the surviving spouse plus 60 months and (b) the age of the deceased Employee.

If an eligible Employee separates from service before attaining age 55, is entitled to receive a vested benefit under the Plan, but dies before commencing such benefit, such an eligible Employee's spouse, if surviving, shall be entitled to a monthly lifetime benefit equal to 50 percent of the benefit the eligible Employee would have received under Section 4.1 at his Normal Retirement Date adjusted and reduced by 50 percent. Such benefit shall commence to the eligible Employee's spouse, if surviving, within 60 days of the first of the month that the eligible Employee would have attained age 55. Notwithstanding the foregoing, if the Employee's surviving spouse is more than five years younger than the deceased Employee, the benefit otherwise payable to the surviving spouse will be reduced by one-fifth of one percent times the number of months or major fractions thereof which is equal to the difference between (a) the age of the surviving spouse plus 60 months and (b) the age of the deceased Employee. Notwithstanding the foregoing, if an eligible Employee dies and has a Frozen Cash Balance SPP Benefit, such benefit shall be paid in a lump sum within 60 days of the Employee's death to the Employee's beneficiary. The amount of any other death benefit under this Plan shall be offset by the value of the Employee's Frozen Cash Balance SPP Benefit under the methodology set forth in Section 4.3(a).

4.5 Unfunded Plan. All benefits payable to an eligible Employee under this Plan shall be paid by the Participating Company that employs the eligible Employee out of its general assets and shall not be funded as of the original effective date of the plan. Although the Company does not intend, as of the original effective date, to set aside any additional specific assets to meet its obligation to pay benefits under this Plan, the Company may, in its discretion, set aside assets for meeting its obligations, including, but not limited to, the establishment of a rabbi or other grantor trust. In the event such fund or trust is established, each Participating Company shall be responsible for making contributions to provide for the benefits of its own eligible Employees. No Employee shall have any property rights in any such fund or trust or in any other assets held by a Participating Company. The right of an eligible Employee or his or her spouse or beneficiary to receive any of the benefits provided by this Plan shall be an unsecured claim against the general assets of a Participating Company.

4.6 Change in Control. Notwithstanding any provision to the contrary but still subject to forfeiture provisions set forth in Section 3.1, in the event of a Change in Control, each eligible Employee shall become fully vested in the benefit payable under this Plan using the formula set forth in Section 4.1A (except that those eligible Employees listed on Exhibit A shall have their benefit calculated under the formula set forth in Section 4.1B). Such benefit shall be calculated assuming the Employee satisfied all requirements for receiving an unreduced early retirement benefit. If an eligible Employee has a "separation from service" within the meaning of Section 409A within 12 months of the Change in Control, such Employee shall receive his vested benefit under this Plan in the form of a single lump sum payment within 60 days of the first of the month of such separation, subject to the six-month delay described in Section 4.2 (if applicable). In the case of a Change in Control and a termination of employment described above, an eligible Employee who has not at such time attained the age of 55 shall nevertheless be entitled to an immediate lump sum payment under this Plan equal to the then present value of the benefit that would have been payable at the time the Employee reached age 55 but determined on the basis of Compensation and Credited Service in effect on the date of the Employee's termination of employment.

ARTICLE FIVE

Administration

5.1 Committee as Administrator. This Plan shall be administered by the Committee in accordance with the Plan's terms. The Committee shall determine the benefits due each Employee from this Plan and shall cause them to be paid by the Qualified Plan or by a Participating Company under this Plan accordingly. The Committee shall inform each Employee of any elections which the Employee may possess and shall record such choices along with such other information as may be necessary to administer the Plan.

5.2 Consistency of Interpretation. Since this Plan is intended to operate in conjunction with the Qualified Plan, any questions concerning plan administration or the calculation of benefits that arise but are not specifically addressed by this Plan shall be considered in light of the Qualified Plan. In addition, unless the context requires otherwise, the terms used in this Plan shall have the same meaning as the same terms used in the Qualified Plan.

5.3 Committee Action Final. The Committee has sole discretion to determine eligibility to participate in this Plan, to determine the eligibility for and the amount of benefits, to interpret the Plan and to take any other action it deems appropriate to administer this Plan. The decisions made by and the actions taken by the Committee shall be final and conclusive on all persons. Members of the Committee shall not be subject to individual liability with respect to their actions under this Plan. Notwithstanding the foregoing, the Company shall indemnify each member of the Committee who may incur financial liability for actions or failures to act with respect to the member's Committee responsibilities.

5.4 Claims Procedures.

(a) Claim for Benefits. The Committee, or its authorized delegate, shall maintain a procedure under which an Employee or his beneficiary (or an authorized representative acting on behalf of an Employee or his beneficiary) may assert a claim for benefits under the Plan. Any such claim shall be submitted to the Committee in writing. The Committee will generally notify the claimant of its decision within 90 days after it receives the claim. However, if the Committee determines that special circumstances require an extension of time to decide the claim, it may obtain an additional 90 days to decide the claim. Before obtaining this extension, the Committee will notify the claimant, in writing and before the end of the initial 90-day period, of the special circumstances requiring the extension and the date by which the Committee expects to render a decision.

(b) Claims Review Procedure. If the claimant's claim is denied in whole or in part, the Committee will provide the claimant, within the period described in Section 5.4(a), with a written or electronic notice which explains the reason or reasons for the decision, includes specific references to Plan provisions upon which the decision is based, provides a description of any additional material or information which might be helpful to decide the claim (including an explanation of why that information may be necessary), and describes the appeals procedures and applicable filing deadlines.

If a claimant disagrees with the decision reached by the Committee, the claimant may submit a written appeal requesting a review of the decision. The claimant's written appeal must be submitted within 60 days of receiving the initial adverse decision. The claimant's written appeal should clearly state the reason or reasons why the claimant disagrees with the Committee's decision. The claimant may submit written comments, documents, records and other information relating to the claim even if such information was not submitted in connection with the initial claim for benefits. Additionally, the claimant, upon request and free of charge, may have reasonable access and copies of all documents, records and other information relevant to the claim.

The Committee will generally decide a claimant's appeal within 60 days after receipt of the appeal. If special circumstances require an extension of time for reviewing the claim, the claimant will be notified in writing. The notice will be provided prior to the commencement of the extension, describe the special circumstances requiring the extension and set forth the date the Committee will decide the appeal. Such date will not be later than 120 days from the date the Committee receives the appeal. In the case of an adverse decision, the notice will explain the reason or reasons for the decision, include specific references to Plan provisions upon which the decision is based, and indicate that the claimant is entitled to, upon request and free of charge, reasonable access to and copies of documents, records, and other information relevant to the claim.

A claimant may not commence a judicial proceeding against any person, including the Plan, the Plan administrator, a Participating Company, or any other person, with respect to a claim for benefits without first exhausting the claims procedures set forth in the preceding paragraph. A claimant who has exhausted these procedures and is dissatisfied with the decision on appeal of a denied claim may bring an action in an appropriate court to review the Committee's decision on appeal but only if such action is commenced no later than the earlier of (1) the applicable statute of limitations, or (2) the first anniversary of the Committee's decision on appeal.

ARTICLE SIX

Amendment and Termination

6.1 While the Company intends to maintain this Plan in conjunction with the Qualified Plan indefinitely, the Board reserves the right to amend or terminate it at any time for whatever reasons it may deem appropriate. The Board may delegate to a Company employee, who is at least a Vice President, the authority to make technical amendments to the Plan. Notwithstanding the foregoing, any amendment or termination of the Plan shall comply with the requirements of Section 409A.

Notwithstanding the preceding paragraph, however, the Company hereby makes a contractual commitment on behalf of itself, the other Participating Companies and their successors to pay, or to require the other Participating Companies to pay, the benefits accrued under this Plan prior to its amendment or termination to the extent it or the other Participating Companies are financially capable of meeting such obligation.

ARTICLE SEVEN

Miscellaneous

7.1 No Contract of Employment. Nothing contained in this Plan shall be construed as a contract of employment between a Participating Company and an Employee, or as a right of any Employee to be continued in the employment of a Participating Company, or as a limitation of the right of a Participating Company to discharge any of its Employees, with or without cause.

7.2 No Transferability. The rights of an Employee under this Plan shall not be transferable, voluntarily or involuntarily, other than by will or the laws of descent and distribution and are exercisable during the Employee's lifetime only by the Employee or the Employee's guardian or legal representative.

7.3 Domestic Relations Orders. Notwithstanding the foregoing, all or a portion of an Employee's benefits under the Plan may be paid to another person as specified in a domestic relations order that the Board, or its delegate, determines meets certain requirements (a "Domestic Relations Order"). For this purpose, a Domestic Relations Order means a judgment, decree, or order (including the approval of a settlement agreement) which:

(1) is issued pursuant to a State's domestic relations law;

(2) relates to the provision of child support, alimony payments or marital property rights to a spouse, former spouse, child or other dependent of the Participant;

(3) creates or recognizes the right of a spouse, former spouse, child or other dependent of the Participant (an "Alternate Payee") to receive all or a portion of the Participant's benefits under the Plan;

(4) requires payment of an Employee's benefit to an Alternate Payee in a form that maintains value equivalence and does not accelerate the payment of benefits; and

(5) meets such other requirements, terms, and conditions established by the Board or its delegate.

The Board, or its delegate, shall determine whether any document received by it is a Domestic Relations Order. In making this determination, the Board, or its delegate, may consider the rules applicable to "domestic relations orders" under Code Section 414(p) and ERISA Section 206(d), and such other rules and procedures as it deems relevant.

7.4 Taxation. The benefits payable under this Plan shall be subject to all federal, state and local income and employment taxes to which benefits of this type are normally subject.

7.5 Indemnification. To the fullest extent authorized or permitted by law, the Company shall indemnify any eligible Employee who brings an action or proceeding, whether civil or criminal, or who is made, or threatened to be made, a party to an action or proceeding, whether civil or criminal, by reason of the fact that he, his testator or intestate, is or shall be entitled to benefits under this Plan and the Company has failed to make payments hereunder when due or has otherwise failed to follow the terms of the Plan or such eligible Employee has reasonable cause to believe the Company shall fail or intends to fail to perform its future obligations hereunder arising within a reasonable time thereof, or with respect to any other matter directly or indirectly related to this Plan, unless a judgment or other final adjudication adverse to such eligible Employee establishes that the Company was or is legally entitled to fail to so perform its obligations hereunder. Without limitation of the foregoing, such indemnification shall include indemnification against all costs of whatever nature or kind, including attorneys' fees and costs of investigation or defense, incurred by any eligible Employee with respect to any such action or proceeding and any appeal therein, and which judgments, fines, amounts and expenses have not been recouped by him in any other manner. All expenses incurred by a person in connection with an actual or threatened action or proceeding with respect to which such person is or may be entitled to indemnification under this Section, shall, in the absence of a final adjudication adverse to such person as described above, be promptly paid by the Company to him, upon receipt of an undertaking by him to repay the portion of such advances, if any, to which he may finally be determined not to be entitled. The indemnification provided by this Section shall not be deemed exclusive of any other rights to which an eligible Employee may be entitled other than pursuant to this Section. The reimbursement of an eligible expense described in this Section will be made by the end of the calendar year in which the expense is incurred or, if later, by the 15th day of the third month after the date on which the expense was incurred. The Employee must provide the Company with an invoice or other supporting documentation for each expense for which the Employee requests reimbursement at least one month before the date set forth in the preceding sentence. If the Employee fails to provide such supporting documentation within the time periods prescribed above, the Company shall have no obligation to reimburse the Employee for such expenses.

Notwithstanding the foregoing, there shall be no indemnification for persons who cease Plan participation and forfeit all benefits on account of termination for cause as described in Section 3.1(a) or the noncompete provision set forth in Section 3.1(b).

7.6 Successors. This Plan shall be binding on the Company's successors and assigns.

7.7 Section 409A. This Plan shall be governed by and subject to the requirements of Section 409A and shall be interpreted and administered in accordance with that intent. If any provision of this Plan would otherwise conflict with or frustrate this intent, that provision will be interpreted and deemed amended so as to avoid the conflict. The Committee reserves the right to take any action it deems appropriate or necessary to comply with the requirements of Section 409A and may take advantage of such transition rules under Section 409A as its deems necessary or appropriate. To the extent that this Plan has been amended in 2007 to change the time and form of payments, the amendment may apply only to amounts that would not otherwise be payable in 2007 and may not cause an amount to be paid in 2007 that would not otherwise be payable in 2007.

7.8 Effective Date. The original effective date of this Plan is January 1, 1986. The effective date of this second restated plan document is January 1, 2023, and the terms of this restated Plan apply to eligible Employees who retire on or after December 6, 2006. Notwithstanding the foregoing, any provision of this restated Plan that is required to comply with the requirements of Section 409A is effective as of January 1, 2005. For benefits commencing to "specified employees" (as defined by Code Section 409A) prior to December 6, 2006, only the portion of the Employee's benefit that was earned or vested after December 31, 2004 was subject to the six-month delay described in Section 4.2.

7.9 Governing Law. This Plan shall be interpreted and enforced in accordance with the laws of the State of New York.

IN WITNESS WHEREOF, the Company has caused this Plan document to be executed by its duly authorized officer this 8th day of December, 2022.

CORNING INCORPORATED

By: /s/ John P. MacMahon
John P. MacMahon

Title: Senior Vice President – Global Compensation and Benefits

Exhibit A

Larry Aiello, Jr.

R. Pierce Baker, III

Robert B. Brown

William D. Eggers

James B. Flaws

Kurt R. Fischer

David L. Morse

Exhibit B

James B. Flaws

Exhibit 10.42

CORNING INCORPORATED

SUPPLEMENTAL PENSION PLAN

(As Amended and Restated Effective January 1, 2023)

CORNING INCORPORATED (the "Company") hereby amends and restates effective January 1, 2023, the Corning Incorporated Supplemental Pension Plan (the Plan") for the benefit of eligible Employees. The terms of this restated Plan shall only apply to eligible Employees who have a Plan benefit that is earned or vested, within the meaning of Section 409A, on or after January 1, 2005.

ARTICLE ONE

Definitions

1.1 "Board" means the Board of Directors of Corning Incorporated.

1.2 "Change in Control" means an event that is "a change in the ownership or effective control of the corporation, or in the ownership of a substantial portion of the assets of the corporation" within the meaning of Section 409A and that also falls within one of the following circumstances:

(i) an offeror (other than the Company) purchases shares of Corning Common Stock pursuant to a tender or exchange offer for such shares;

(ii) any person (as such term is used in Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934) is or becomes the beneficial owner, directly or indirectly, of the Company's securities representing 50 percent or more of the combined voting power of Company's then outstanding securities;

(iii) the membership of the Company's Board of Directors changes as the result of a contested election or elections, such that within any 12 month period a majority of the individuals who are Directors at any particular time were initially placed on the Board of Directors as a result of such a contested election or elections; or

(iv) the consummation of a merger in which the Company is not the surviving corporation, consolidation, sale or disposition of all or substantially all of the Company's assets or a plan of partial or complete liquidation approved by the Company's shareholders.

1.3 “Code” means the Internal Revenue Code of 1986, as amended from time to time.

1.4 “Committee” means the Compensation Committee of the Board, or other delegate of the Board.

1.5 “Company” means Corning Incorporated.

1.6“ Employee” means any employee of a Participating Company who participates in the Qualified Plan and who is a management or highly compensated employee as such employees are defined in Title I of ERISA.

1.7“ Normal Retirement Date” and “Early Retirement Date” shall have the same meanings given these terms in the Qualified Plan.

1.8“ Participating Company” means the Company and any related entity that meets the definition of “Company” in the Qualified Plan and which is approved by the Committee as a Participating Company under this Plan.

1.9 “Plan” means this Corning Incorporated Supplemental Pension Plan.

1.10 “Qualified Plan” means The Corning Incorporated Pension Plan for Salaried Employees.

1.11 “Section 409A” means Code Section 409A, and the Treasury regulations and other authoritative guidance issued thereunder.

ARTICLE TWO

Purpose and Intent of Plan

2.1 The purpose of this Plan is to attract and retain a highly-motivated executive workforce by providing to eligible Employees retirement benefits in excess of those permitted under the Qualified Plan. The Plan is intended to constitute an unfunded plan of deferred compensation for a select group of management or highly-compensated employees as provided for in Title I of ERISA. This Plan is also intended to comply with the requirements of Section 409A and shall be interpreted consistent with that intent. The terms of this Plan shall supersede any and all other plans and documents that may have terms that are inconsistent with and/or are additional to the terms herein.

ARTICLE THREE

Eligibility

3.1 The following categories of Employees are eligible to participate in this Plan:

(a) every Employee whose benefit under the Qualified Plan's benefit formula is limited by the benefit limitations of Code Section 415, the compensation cap of Code Section 401(a)(17) or any other Code limitation that restricts the level of Qualified Plan benefits; and

(b) every other Employee designated by the Committee. The Committee shall keep such records as it deems appropriate to identify Employees covered by this subsection (b).

3.2 Notwithstanding any provision to the contrary, an otherwise eligible Employee shall be ineligible to participate and shall forfeit all rights to receive any benefit payment under this Plan if such employee:

(a) is terminated for cause, which determination shall be in the sole discretion of the Committee and this determination shall be final and binding on all persons; or

(b) terminates employment for any reason prior to becoming fully vested in the Qualified Plan.

Additionally, an Employee who is designated as eligible to receive benefits under the Executive Supplemental Pension Plan shall not be entitled to any benefits under the Corning Incorporated Supplemental Pension Plan. Instead, such an Employee's benefit will be determined under the terms of the Executive Supplemental Pension Plan, which generally ensures payment of any vested benefit under this Plan that has accrued as of the date the Employee commences participation under the Executive Supplemental Pension Plan.

ARTICLE FOUR

Benefits

4.1 Benefit Amount.

(a) For an eligible Employee entitled to a Part I career average benefit under the Qualified Plan, the supplemental career average benefit payable under this Plan on his or her Normal or Early Retirement Date shall be a straight life annuity equal to the excess of (i) over (ii) where:

(i) equals the aggregate amount he or she would be entitled to receive under the Qualified Plan's Part I career average formula as of the date benefits commence under Section 4.2 without regard to Code limitations on benefits or compensation but with regard to the modifications listed in subparagraph (c) below, and

(ii) equals the amount the eligible Employee is actually entitled to receive as of such date under the Qualified Plan's Part I career average formula.

(b) For an eligible Employee entitled to a Part II cash balance benefit under the Qualified Plan, the supplemental cash balance benefit payable under this Plan shall be a lump sum amount equal to the excess of (i) over (ii) where:

(i) equals the aggregate amount he or she would be entitled to receive under the Qualified Plan's Part II cash balance formula as of the date benefits commence under Section 4.2 without regard to Code limitations on benefits or compensation but with regard to the modifications listed in subparagraph (c) below, and

(ii) equals the amount the eligible Employee is actually entitled to receive as of such date under the Qualified Plan's Part II cash balance formula.

(c) The modifications referred to in computing the benefit under (a) and (b) above are as follows:

(i) the term compensation shall mean the total remuneration (before salary reduction, if any, under the Company's Management Deferral Plan, Supplemental Investment Plan, Investment Plan or any other Code Section 125, 132(f) or 401(k) employee benefit plan) paid to an Employee by the Company for personal services actually rendered, including cash payments of GoalSharing awards, Performance Incentive Plan awards, Division Cash Awards, Individual Outstanding Contributor Awards and certain other eligible cash bonuses, but excluding any Company contributions paid under this Plan or any other employee benefit or deferred compensation plan, awards under the Company's Incentive Stock Plan, non-cash bonuses, awards under the Corporate Performance Plan, the value of stock purchase contracts, dividends or dividend equivalents thereon, reimbursed expenses, overseas allowances, cost-of-living allowances, death benefits, severance pay, signing bonuses, special achievement bonuses and other unusual payments determined by the Committee in a non-discriminatory manner. The Committee, in its sole discretion, may add to the items of includable compensation other compensatory payments or benefits earned by eligible Employees;

(ii) pursuant to any agreement with an Employee and with the approval of the Committee, the service factor for persons who retire from a Participating Company on or after reaching age 55 with a Part I career average benefit or with a Part II cash balance benefit may take account of the eligible Employee's service with any prior employer;

(iii) in the discretion of the Committee the benefit under this Plan may, in lieu of the formula amount under Section 4.1(a) or (b), be a minimum benefit expressed in dollar terms or a percentage of pay, offset by the amount the Employee is actually entitled to receive under the Qualified Plan. Any such minimum benefit shall be identified in such records as the Committee deems appropriate; and

(iv) in determining the aggregate amount that an eligible Employee entitled to a Part II cash balance benefit under the Qualified Plan would be entitled to receive under the Qualified Plan's Part II cash balance formula for purposes of Section 4.1(b), the Career Average Contributions and Interest Allocations applicable to Career Average Contributions under the Qualified Plan effective January 1, 2023, will be disregarded and not considered under subsection (i) or (ii) thereof, such that no additional amount will be paid under this Plan for Career Average Contributions and Interest Allocations applicable to Career Average Contributions that could not be credited under the Qualified Plan, and such that the amount payable under this Plan is not reduced by the Career Average Contributions and Interest Allocations applicable to Career Average Contributions credited under the Qualified Plan.

Except for the foregoing modifications, the benefit calculation under Section 4.1 of this Plan shall be made in the same manner as it would be made under the Qualified Plan, including application of any pertinent reductions for early retirement and by reference to the definitions that appear in the Qualified Plan, except that (i) for purposes of calculating a supplemental cash balance benefit, the benefit shall be based on the stated balance of the eligible Employee's cash balance account and shall not be adjusted on account of any tax qualification rules not explicitly incorporated in the Qualified Plan's cash balance formula; and (ii) any special adjustments made to an Employee's benefit under the Qualified Plan due to a disability shall not apply to this Plan after the Employee's termination of employment.

4.2 Committee Adjustments. Notwithstanding the foregoing, for purposes of calculating a particular Employee's benefit under the Plan, the Committee, in its sole discretion, may adjust an Employee's compensation, credited and/or vesting service or other factor used in calculating the Employee's benefit in any manner the Committee deems appropriate, provided such adjustment is memorialized in writing. The Committee may make such adjustment solely for a specified Employee or group of Employees and without regard to how other Employees are treated.

4.3 Commencement of Benefits. Except as set forth in Section 4.7, a Participating Company shall commence paying the nonforfeited benefits due under the Plan's supplemental Part I career average benefit formula within 60 days of the first of the month following the later of: (i) the Employee's "separation from service" within the meaning of Section 409A; or (ii) the date the Employee attains age 55. A Participating Company shall commence paying the nonforfeited benefits due under the Plan's supplemental Part II cash balance benefit formula within 60 days of the first of the month following the Employee's "separation from service" within the meaning of Section 409A. For purposes of the definition of "separation from service" where a leave of absence is due to any medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than six months, where such impairment causes the Employee to be unable to perform the duties of his or her position of employment or any substantially similar position of employment, the employment relationship is deemed to terminate on the first date immediately following a 29-month period of absence.

Notwithstanding the foregoing, benefit payments to a "specified employee" within the meaning of Section 409A (for this purpose, payments on account of death are not considered to be payments made on account of separation from service) may not commence until six months following the date of the specified employee's separation from service. Benefit payments that would otherwise have been paid to a specified employee in the absence of the previous sentence shall be held in suspense during the six-month suspension period and paid to the specified employee in a lump sum payment within the first 15 days of the seventh month following the specified employee's separation from service.

4.4 Form of Payment.

(a) The supplemental Part I career average benefit payable under this Plan shall be a life annuity for unmarried participants and a joint and 75 percent survivor annuity for married participants. In lieu of the foregoing default form of payment, Employees may elect, prior to the commence of benefits, to receive their benefits in the form of a single life annuity or a joint and 50, 75 or 100 percent survivor annuity. Any election to change the form of benefit must be made under such procedures established by the Committee. The amount of the actual benefit paid from this Plan shall be the straight life annuity calculated under Section 4.1 adjusted as appropriate using the actuarial assumptions set forth in the career average formula under the Qualified Plan if a different form of annuity is paid. If an Employee terminates employment after attaining age 55 and completing more than five years of vesting service under the Qualified Plan, the Employee's life annuity or joint and survivor annuity shall be paid in the form of the six-year certain benefit described in Section 4.11 of the Qualified Plan (as of the date of this second restatement). No actuarial adjustments shall be made for such six-year certain benefit. Notwithstanding any provision to the contrary in this Section 4.4(a), all annuity options shall be actuarially equivalent to any other annuity option.

(b) The form of payment of the supplemental Part II cash balance benefit payable under this Plan shall be a lump sum amount.

(c) Notwithstanding the foregoing, the following special rules shall apply in lieu of the foregoing under the specified circumstances:

(i) Benefits payable under Section 4.7 shall be paid in the form of a lump sum payment and the actuarial assumptions used for calculating such amount shall be the "applicable interest rate" and "applicable mortality table", in each case as defined in Code Section 417(e)(3), for the last month of the quarter that second precedes the quarter of the determination.

(ii) In the event that the lump sum value of an Employee's supplemental Part I career average benefit payable under this Plan (or related death benefit described in Section 4.5) is less than $20,000 (calculated as of the date benefits would commence), such benefit shall be paid in the form of a lump sum payment, rather than an annuity. The actuarial assumptions used for calculating such amount shall be the "applicable interest rate" and "applicable mortality table", in each case as defined in Code Section 417(e)(3), for the last month of the quarter that second precedes the quarter of the determination.

4.5 Death Benefits.

(a) Supplemental Part I Career Average Death Benefit. The following rules shall apply to death benefits relating to an Employee's supplemental Part I career average benefit. If an eligible Employee dies: (i) while still employed by a Participating Company; (ii) before attaining age 55; and (iii) after becoming entitled to receive a vested benefit, the eligible Surviving Spouse of an Employee shall be entitled to a benefit under this paragraph. Such an eligible Surviving Spouse shall be entitled to receive a lifetime annuity, commencing within 60 days of the first of the month following the Employee's death in an amount equal to 50 percent of the Employee's benefit under Section 4.1 at Normal Retirement Age. If the Surviving Spouse is more than five years younger than the deceased Employee, the pension otherwise payable to the Surviving Spouse shall be reduced by one-fifth of one percent times the number of months or major fractions thereof which is equal to the difference between (a) the age of said Surviving Spouse plus 60 months and (b) the age of the deceased Employee.

In the event a Surviving Spouse is not entitled to a death benefit under the preceding paragraph and the Employee has a vested benefit under this Plan, a lifetime annuity shall be paid to the Surviving Spouse commencing within 60 days of the first of the month following the Employee's death (or, if later, the date the Employee would have attained age 55). In the case of an Employee who died before age 55 and before benefits under this Plan commence, the amount of such lifetime annuity shall equal the amount that would have been paid to the Surviving Spouse if the Participant had terminated employment on the date of death, survived until age 55, retired at age 55 and elected to commence benefits under a joint and 50 percent survivor benefit with the Surviving Spouse as beneficiary and immediately died.

(b) Supplemental Part II Cash Balance Death Benefit. If an Employee dies before the Employee receives his supplemental Part II cash balance benefit, such benefit shall be paid in a lump sum within 60 days of the first of the month of the Employee's death to the Employee's beneficiary.

4.6 Unfunded Plan. The benefits payable to an eligible Employee under this Plan shall be paid by the Participating Company that employs the eligible Employee out of its general assets and shall not be otherwise funded as of the original effective date of the plan. Although the Company does not intend, as of the original effective date, to set aside any specific assets to meet its obligation to pay benefits under this Plan, the Company may, in its discretion, set aside assets for meeting its obligations, including, but not limited to, the establishment of a rabbi or other grantor trust. In the event such fund or trust is established, each Participating Company shall be responsible for making contributions to provide for the benefits of its own eligible Employees. No Employee shall have any property rights in any such fund or trust or in any other assets held by a Participating Company. The right of an eligible Employee or his or her spouse or beneficiary to receive any of the benefits provided by this Plan shall be an unsecured claim against the general assets of a Participating Company.

No Employee shall have any property rights in any such fund or trust or in any other assets held by a Participating Company. The right of an eligible Employee or his or her spouse or beneficiary to receive any of the benefits provided by this Plan shall be an unsecured claim against the general assets of a Participating Company.

4.7 Change in Control. Notwithstanding any provision to the contrary but still subject to forfeiture provisions set forth in Section 3.2(a), in the event of a Change in Control, each eligible Employee shall become fully vested in the benefit payable under this Plan using the formula set forth in Section 4.1. If an eligible Employee has a "separation from service" within the meaning of Section 409A within 12 months of the Change in Control, such Employee shall receive his vested benefit under this Plan in the form of a single lump sum payment within 60 days of the first of the month of such separation, subject to the six-month delay described in Section 4.3 (if applicable). In the case of a Change in Control and a termination of employment described above, an eligible Employee who has not at such time attained the age of 55 shall nevertheless be entitled to an immediate lump sum payment under this Plan equal to the then present value of the benefit that would have been payable at the time the Employee reached age 55 but determined on the basis of compensation (as defined in Section 4.1(c)(i) of this Plan) and credited service (as defined in the Qualified Plan) as of the date of the Employee's separation from service.

4.8 Enhanced Benefit for "Avanex Deal" Employees.

(a) Eligible Participants. An individual is eligible for the enhanced benefit of this Section 4.8 if the individual (i) has been designated a "Transferred Corning Employee" within the meaning of the Asset Purchase Agreement between Avanex Corporation and the Company; (ii) is covered by the grandfathered Part I benefit under the Qualified Plan, if applicable; and (iii) has or by December 31, 2003 will have a combination of age plus Vesting Years of Service that equals at least 69.

(b) Earlier Commencement of Part I Benefits. Each eligible individual described in subsection (a) shall receive upon separation from service an immediate benefit from this Plan even if he or she has not reached age 55. The amount of the benefit computed under Section 4.1(a) shall be computed under the assumption that the eligible individual has reached age 55 except that benefits commencing prior to age 55 shall be reduced to an Actuarial Equivalent amount, as such term is described in the Qualified Plan. Until such time as benefits first become payable under the Qualified Plan, all benefits shall be paid from this Plan. When benefits become payable under the Qualified Plan, the Qualified Plan offset described in Section 4.1 shall be effective even if the Employee actually defers payment of the Qualified Plan benefit until a later date.

(c) Reemployment with the Company. If an individual who is entitled to the enhanced benefit under this Section is rehired by the Company, the enhanced benefit will be forfeited if the Employee terminated employment from Avanex prior to January 31, 2004. If the termination from Avanex occurred after that date, the enhanced benefit shall be preserved for the rehired Employee but only with respect to the pension benefits earned prior to becoming an Avanex employee.

(d) Enhanced Part II Benefits. A Transferred Corning Employee whose benefit is based on the Qualified Plan's Part II cash balance formula shall, in addition to the normal interest allocation specified in Section 4.16(c) of the Qualified Plan, have his or her Cash Balance Account credited with an interest allocation equal to 4 percent times the number of whole years between the end of his or her employment which immediately follows his or her period of paid leave and the date he or she would have attained the earlier of age 60 or 30 Vesting Years of Service, as determined under the Qualified Plan, provided that the maximum additional interest allocation shall not exceed 20 percent.

4.9 Beneficiary Designations. The Employee shall be given the right to designate a beneficiary under such rules as are prescribed by the Committee. The spousal consent requirements under the Qualified Plan shall not apply to this Plan. In the event all or a portion of an Employee's benefit is payable to a beneficiary and the Employee fails to designate a beneficiary, the beneficiary shall be the Employee's Surviving Spouse (as defined in the Qualified Plan), or if the Employee does not have a Surviving Spouse, the Employee's estate.

ARTICLE FIVE

Administration

5.1 Committee as Administrator. This Plan shall be administered by the Committee in accordance with the Plan's terms. The Committee shall determine the benefits due each Employee from this Plan and the Qualified Plan and shall cause them to be paid by the Qualified Plan or by a Participating Company under this Plan accordingly. The Committee shall inform each Employee of any elections which the Employee may possess and shall record such choices along with such other information as may be necessary to administer the Plan.

5.2 Consistency of Interpretation. Since this Plan is intended to operate in conjunction with the Qualified Plan, any questions concerning plan administration or the calculation of benefits that arise but are not specifically addressed by this Plan shall be considered in light of the Qualified Plan. In addition, unless the context requires otherwise, the terms used in this Plan shall have the same meaning as the same terms used in the Qualified Plan.

5.3 Committee Action Final. The Committee has sole discretion to determine eligibility to participate in this Plan, to determine the eligibility for and the amount of benefits, to interpret the Plan and to take any other action it deems appropriate to administer this Plan. The decisions made by and the actions taken by the Committee shall be final and conclusive on all persons. Members of the Committee shall not be subject to individual liability with respect to their actions under this Plan. Notwithstanding the foregoing, the Company shall indemnify each member of the Committee who may incur financial liability for actions or failures to act with respect to the member's Committee responsibilities.

5.4 Claims Procedures.

(a) Claim for Benefits. The Committee, or its authorized delegate, shall maintain a procedure under which an Employee or his beneficiary (or an authorized representative acting on behalf of an Employee or his beneficiary) may assert a claim for benefits under the Plan. Any such claim shall be submitted to the Committee in writing. The Committee will generally notify the claimant of its decision within 90 days after it receives the claim. However, if the Committee determines that special circumstances require an extension of time to decide the claim, it may obtain an additional 90 days to decide the claim. Before obtaining this extension, the Committee will notify the claimant, in writing and before the end of the initial 90-day period, of the special circumstances requiring the extension and the date by which the Committee expects to render a decision.

(b) Claims Review Procedure. If the claimant's claim is denied in whole or in part, the Committee will provide the claimant, within the period described in Section 5.4(a), with a written or electronic notice which explains the reason or reasons for the decision, includes specific references to Plan provisions upon which the decision is based, provides a description of any additional material or information which might be helpful to decide the claim (including an explanation of why that information may be necessary), and describes the appeals procedures and applicable filing deadlines.

If a claimant disagrees with the decision reached by the Committee, the claimant may submit a written appeal requesting a review of the decision. The claimant's written appeal must be submitted within 60 days of receiving the initial adverse decision. The claimant's written appeal should clearly state the reason or reasons why the claimant disagrees with the Committee's decision. The claimant may submit written comments, documents, records and other information relating to the claim even if such information was not submitted in connection with the initial claim for benefits. Additionally, the claimant, upon request and free of charge, may have reasonable access and copies of all documents, records and other information relevant to the claim.

The Committee will generally decide a claimant's appeal within 60 days after receipt of the appeal. If special circumstances require an extension of time for reviewing the claim, the claimant will be notified in writing. The notice will be provided prior to the commencement of the extension, describe the special circumstances requiring the extension and set forth the date the Committee will decide the appeal. Such date will not be later than 120 days from the date the Committee receives the appeal. In the case of an adverse decision, the notice will explain the reason or reasons for the decision, include specific references to Plan provisions upon which the decision is based, and indicate that the claimant is entitled to, upon request and free of charge, reasonable access to and copies of documents, records, and other information relevant to the claim.

A claimant may not commence a judicial proceeding against any person, including the Plan, the Plan administrator, a Participating Company, or any other person, with respect to a claim for benefits without first exhausting the claims procedures set forth in the preceding paragraph. A claimant who has exhausted these procedures and is dissatisfied with the decision on appeal of a denied claim may bring an action in an appropriate court to review the Committee's decision on appeal but only if such action is commenced no later than the earlier of (1) the applicable statute of limitations, or (2) the first anniversary of the Committee's decision on appeal.

ARTICLE SIX

Amendment and Termination

6.1 While the Company intends to maintain this Plan in conjunction with the Qualified Plan indefinitely, the Board reserves the right to amend or terminate it at any time for whatever reasons it may deem appropriate. The Board may delegate to a Company employee, who is at least a Vice President, the authority to make technical amendments to the Plan. Notwithstanding the foregoing, any amendment or termination of the Plan shall comply with the requirements of Section 409A.

Notwithstanding the preceding paragraph, however, the Company hereby makes a contractual commitment on behalf of itself, the other Participating Companies and their successors to pay, or to require the other Participating Companies to pay, the benefits accrued under this Plan prior to its amendment or termination to the extent it or the other Participating Companies are financially capable of meeting such obligation.

ARTICLE SEVEN

Miscellaneous

7.1 No Contract of Employment. Nothing contained in this Plan shall be construed as a contract of employment between a Participating Company and an Employee, or as a right of any Employee to be continued in the employment of a Participating Company, or as a limitation of the right of a Participating Company to discharge any of its Employees, with or without cause.

7.2 No Transferability. The rights of an Employee under this Plan shall not be transferable, voluntarily or involuntarily, other than by will or the laws of descent and distribution and are exercisable during the Employee's lifetime only by the Employee or the Employee's guardian or legal representative.

7.3 Domestic Relations Orders. Notwithstanding the foregoing, all or a portion of an Employee's benefits under the Plan may be paid to another person as specified in a domestic relations order that the Board, or its delegate, determines meets certain requirements (a "Domestic Relations Order"). For this purpose, a Domestic Relations Order means a judgment, decree, or order (including the approval of a settlement agreement) which is:

(1) issued pursuant to a State's domestic relations law;

(2) relates to the provision of child support, alimony payments or marital property rights to a spouse, former spouse, child or other dependent of the Participant;

(3) creates or recognizes the right of a spouse, former spouse, child or other dependent of the Participant (an "Alternate Payee") to receive all or a portion of the Participant's benefits under the Plan;

(4) requires payment of an Employee's benefit to an Alternate Payee in a form that maintains value equivalence and does not accelerate the payment of benefits; and

(5) meets such other requirements, terms, and conditions established by the Board, or its delegate.

The Board, or its delegate, shall determine whether any document received by it is a Domestic Relations Order. In making this determination, the Board, or its delegate, may consider the rules applicable to "domestic relations orders" under Code Section 414(p) and ERISA Section 206(d), and such other rules and procedures as it deems relevant.

7.4 Governing Law. This Plan shall be interpreted and enforced in accordance with the laws of the State of New York.

7.5 Section 409A. This Plan shall be governed by and subject to the requirements of Section 409A and shall be interpreted and administered in accordance with that intent. If any provision of this Plan would otherwise conflict with or frustrate this intent, that provision will be interpreted and deemed amended so as to avoid the conflict. The Committee reserves the right to take any action it deems appropriate or necessary to comply with the requirements of Section 409A and may take advantage of such transition rules under Section 409A as it deems necessary or appropriate. To the extent that this Plan has been amended in 2007 to change the time and form of payments, the amendment may apply only to amounts that would not otherwise be payable in 2007 and may not cause an amount to be paid in 2007 that would not otherwise be payable in 2007.

7.6 Taxation. The benefits payable under this Plan shall be subject to all federal, state and local income and employment taxes to which benefits of this type are normally subject.

7.7 Successors. This Plan shall be binding on the Company's successors and assigns.

7.8 Effective Date. The original effective date of this Plan is January 1, 1994. The effective date of this second restated plan document is January 1, 2023.

IN WITNESS WHEREOF, the Company has caused this Plan document to be executed by its duly authorized officer this 8th day of December, 2022.

CORNING INCORPORATED

By: /s/ John P. MacMahon
John P. MacMahon

Title: Senior Vice President – Global Compensation and Benefits

Corning Incorporated and Subsidiary Companies

Subsidiaries of the Registrant as of December 31, 2022 are listed below:

Alliance Fiber Optic Products, Inc.	Delaware
Axygen Bioscience, Inc.	Delaware
Axygen Holdings Corporation	Delaware
Axygen, Inc.	California
Cable Services, LLC	Delaware
Corning (Hainan) Optical Communications Co., Ltd.	China
Corning (Shanghai) Co., Ltd.	China
Corning Automotive Glass Solutions (Hefei) Co., Ltd.	China
Corning B.V.	Netherlands
Corning China (Shanghai) Regional Headquarter	China
Corning Display Technologies (China) Co., Ltd.	China
Corning Display Technologies (Chongqing) Co., Ltd.	China
Corning Display Technologies (Guangzhou) Co., Ltd.	China
Corning Display Technologies (Hefei) Co., Ltd.	China
Corning Display Technologies (Wuhan) Co., Ltd.	China
Corning Display Technologies Materials (Chongqing) Co., Ltd	China
Corning Display Technologies Taiwan Co., Ltd.	Taiwan
Corning Environmental Technologies (Hefei) Co., Ltd.	China
Corning Finance B.V.	Netherlands
Corning Finance Luxembourg S.à.r.l.	Luxembourg
Corning GmbH	Germany
Corning Holding GmbH	Germany
Corning Hungary Data Services Limited Liability Company	Hungary
Corning International Corporation	Delaware
Corning Japan K.K.	Japan
Corning Life Sciences (Wujiang) Co., Ltd.	China
Corning Luxembourg S.à.r.l.	Luxembourg
Corning Netoptix, Inc.	Delaware
Corning Oak Holding LLC	Delaware
Corning Optical Communications GmbH & Co. KG	Germany
Corning Optical Communications LLC	North Carolina
Corning Optical Communications Polska Sp. zo. o.	Poland
Corning Optical Communications RF LLC	Delaware
Corning Optical Communications S. de R.L. de C.V.	Mexico
Corning Optical Communications Vermoegensverwaltungs GmbH	Germany
Corning Optical Fiber Polska Sp. zoo	Poland
Corning Pharmaceutical Glass, LLC	Delaware
Corning Precision Materials Co., Ltd.	Korea
Corning Property Management Corporation	Delaware
Corning Research & Development Corporation	Delaware
Corning SAS	France
Corning Singapore Holdings Private Limited	Singapore
Corning SK Luxembourg S.à.r.l.	Luxembourg
Corning Specialty Materials, Inc.	Delaware
Corning Technologies (H.K.) Limited	Hong Kong
Corning Technologies India Private Limited	India
Corning Technologies SARL	Luxembourg
Corning Telecommunications Luxembourg S.à.r.l.	Luxembourg

Corning Tropel Corporation	Delaware
Corning Ventures France SAS	France
DC HSC Holdings LLC	Delaware
Discovery Labware, Inc.	Delaware
Hemlock Holdings LLC	Delaware
Hemlock Semiconductor Operations LLC	Michigan
Hemlock Semiconductor, L.L.C.	Delaware
HSC Holdings LLC	Delaware
Mediatech, Inc.	Virginia
Optical Filter Corporation	Delaware
TR Manufacturing, LLC	Delaware
US Conec Ltd.	Delaware

Companies accounted for under the equity method as of December 31, 2022 are listed below:

Chengdu Honing Display Glass Co., Ltd.	China
China Renewable Energy Fund, LP	Singapore
Eurokera (Thailand) Limited	Thailand
Eurokera Guangzhou Co., Ltd.	China
Eurokera North America, Inc.	Delaware
Eurokera S.N.C.	France
Keraglass S.N.C.	France
Phoenix Venture Partners II LP	Delaware
Samsung Corning Advanced Glass LLC	Korea
Xianyang Honing Display Glass Co., Ltd.	China

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-251135) and Form S-8 (Nos. 333-255652, 333-231238, 333-181075, 333-26049, 333-91879, 333-82926, 333-106265, and 333-166642) of Corning Incorporated of our report dated February 13, 2023 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
New York, New York
February 13, 2023

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, Wendell P. Weeks, certify that:

1. I have reviewed this Annual Report on Form 10-K of Corning Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 13, 2023

/s/ Wendell P. Weeks

Wendell P. Weeks
Chairman and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO SECTION 302(a) OF THE SARBANES-OXLEY ACT OF 2002

I, Edward A. Schlesinger, certify that:

1. I have reviewed this annual report on Form 10-K of Corning Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 13, 2023

/s/ Edward A. Schlesinger
Edward A. Schlesinger
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The undersigned, Wendell P. Weeks, Chairman and Chief Executive Officer of Corning Incorporated (the "Company") and Edward A. Schlesinger, Executive Vice President and Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Annual Report of the Company on Form 10-K for the annual period ended December 31, 2022 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) that information contained in such Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 13, 2023

/s/ Wendell P. Weeks
Wendell P. Weeks
Chairman and Chief Executive Officer

/s/ Edward A. Schlesinger
Edward A. Schlesinger
Executive Vice President and Chief Financial Officer