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

FORM 10-Q

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

For the quarterly period ended **March 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	**GLW**	**New York Stock Exchange (NYSE)**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes ☒ No ☐

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

Large Accelerated Filer	☒	Accelerated Filer	☐
Non-Accelerated Filer	☐	Smaller Reporting Company	☐
		Emerging Growth Company	☐

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

Yes ☐ No ☐

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

Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding as of April 22, 2022
Corning's Common Stock, $0.50 par value per share	844,612,498 shares

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF INCOME
(Unaudited; in millions, except per share amounts)

	Three months ended March 31,	
	2022	2021
Net sales	$ 3,680	$ 3,290
Cost of sales	2,397	2,134
Gross margin	1,283	1,156
Operating expenses:		
Selling, general and administrative expenses	434	400
Research, development and engineering expenses	248	222
Amortization of purchased intangibles	31	32
Operating income	570	502
Interest income	3	3
Interest expense	(71)	(77)
Translated earnings contract gain, net (Note 10)	129	272
Other income, net	130	125
Income before income taxes	761	825
Provision for income taxes (Note 3)	(180)	(226)
Net income attributable to Corning Incorporated	$ 581	$ 599
Earnings per common share available to common shareholders:		
Basic (Note 4)	$ 0.69	$ 0.75
Diluted (Note 4)	$ 0.68	$ 0.67

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

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited; in millions)

	Three months ended March 31,	
	2022	2021
Net income attributable to Corning Incorporated	$ 581	$ 599
Foreign currency translation adjustments and other	(200)	(363)
Unamortized losses and prior service costs for postretirement benefit plans	(1)	
Net unrealized gains on designated hedges	14	11
Other comprehensive loss, net of tax	(187)	(352)
Comprehensive income attributable to Corning Incorporated	$ 394	$ 247

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

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEETS
(In millions, except share and per share amounts)

	March 31, 2022 (unaudited)	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 2,016	$ 2,148
Trade accounts receivable, net of doubtful accounts - $39 and $42	1,910	2,004
Inventories, net (Note 5)	2,618	2,481
Other current assets	1,317	1,026
Total current assets	7,861	7,659
Property, plant and equipment, net of accumulated depreciation - $14,010 and $13,969	15,780	15,804
Goodwill, net	2,408	2,421
Other intangible assets, net	1,118	1,148
Deferred income taxes (Note 3)	1,030	1,066
Other assets	2,060	2,056
Total Assets	$ 30,257	$ 30,154
Liabilities and Equity		
Current liabilities:		
Current portion of long-term debt and short-term borrowings (Note 7)	$ 120	$ 55
Accounts payable	1,849	1,612
Other accrued liabilities (Note 6 and Note 9)	3,092	3,139
Total current liabilities	5,061	4,806
Long-term debt (Note 7)	6,839	6,989
Postretirement benefits other than pensions (Note 8)	620	622
Other liabilities (Note 6 and Note 9)	5,108	5,192
Total liabilities	17,628	17,609
Commitments and contingencies (Note 9)		
Shareholders' equity (Note 12):		
Preferred stock – Par value $100 per share; Shares authorized 10 million; Shares issued: 0		
Common stock – Par value $0.50 per share; Shares authorized 3.8 billion; Shares issued: 1.8 billion and 1.8 billion	908	907
Additional paid-in capital – common stock	16,531	16,475
Retained earnings	16,737	16,389
Treasury stock, at cost; Shares held: 973 million and 970 million	(20,419)	(20,263)
Accumulated other comprehensive loss	(1,362)	(1,175)
Total Corning Incorporated shareholders' equity	12,395	12,333
Non-controlling interests	234	212
Total equity	12,629	12,545
Total Liabilities and Equity	$ 30,257	$ 30,154

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

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited; in millions)

	Three months ended March 31,	
	2022	2021
Cash Flows from Operating Activities:		
Net income	$ 581	$ 599
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	342	330
Amortization of purchased intangibles	31	32
Gain on sale of business	(53)	(14)
Loss on investment		36
Share-based compensation expense	42	34
Translation gain on Japanese yen-denominated debt	(84)	(118)
Deferred tax provision	24	121
Translated earnings contract gain	(129)	(272)
Unrealized translation losses on transactions	20	59
Changes in assets and liabilities:		
Trade accounts receivable	7	109
Inventories	(159)	44
Other current assets	(81)	(26)
Accounts payable	238	(49)
Other current liabilities	(161)	22
Customer deposits and government incentives	(9)	31
Deferred income	(25)	(34)
Other, net	(50)	(181)
Net cash provided by operating activities	534	723
Cash Flows from Investing Activities:		
Capital expenditures	(383)	(289)
Proceeds from sale of business	74	24
Realized gains (losses) on translated earnings contract	40	(3)
Other, net	(9)	(20)
Net cash used in investing activities	(278)	(288)
Cash Flows from Financing Activities:		
Repayments of short-term borrowings	(11)	(25)
Proceeds from exercise of stock options	18	51
Purchases of common stock for treasury	(149)	
Dividends paid	(228)	(208)
Other, net	(5)	(8)
Net cash used in financing activities	(375)	(190)
Effect of exchange rates on cash	(13)	(49)
Net (decrease) increase in cash and cash equivalents	(132)	196
Cash and cash equivalents at beginning of period	2,148	2,672
Cash and cash equivalents at end of period	$ 2,016	$ 2,868

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

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Unaudited; in millions)

(In millions)	Common stock	Additional paid-in capital common	Retained earnings	Treasury stock	Accumulated other comprehensive loss	Total Corning Incorporated shareholders' equity	Non-controlling interests	Total
Balance, December 31, 2021	$ 907	$ 16,475	$ 16,389	$ (20,263)	$ (1,175)	$ 12,333	$ 212	$ 12,545
Net income			581			581	22	603
Other comprehensive loss					(187)	(187)		(187)
Purchase of common stock for treasury				(151)		(151)		(151)
Shares issued to benefit plans and for option exercises	1	56				57		57
Common dividends ($0.27 per share)			(233)			(233)		(233)
Other, net				(5)		(5)		(5)
Balance, March 31, 2022	$ 908	$ 16,531	$ 16,737	$ (20,419)	$ (1,362)	$ 12,395	$ 234	$ 12,629

(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 interests	Total
Balance, December 31, 2020	$ 2,300	$ 863	$ 14,642	$ 16,120	$ (19,928)	$ (740)	$ 13,257	$ 191	$ 13,448
Net income				599			599	2	601
Other comprehensive loss						(352)	(352)	(1)	(353)
Shares issued to benefit plans and for option exercises		1	80				81		81
Common dividends ($0.24 per share)				(187)			(187)		(187)
Preferred dividends ($10,625 per share)				(24)			(24)		(24)
Other, net				1	(6)		(5)	(3)	(8)
Balance, March 31, 2021	$ 2,300	$ 864	$ 14,722	$ 16,509	$ (19,934)	$ (1,092)	$ 13,369	$ 189	$ 13,558

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

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CORNING INCORPORATED AND SUBSIDIARY COMPANIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Significant Accounting Policies

Basis of Presentation

In these notes, the terms “Corning,” “Company,” “we,” “us,” or “our” mean Corning Incorporated and its subsidiary companies.

The accompanying unaudited consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (“SEC”) and in accordance with U.S. Generally Accepted Accounting Principles (“GAAP”) for interim financial information. Certain information and note disclosures normally included in financial statements prepared in accordance with GAAP have been omitted or condensed. These interim consolidated financial statements should be read in conjunction with Corning’s consolidated financial statements and notes thereto included in its Annual Report on Form 10-K for the year ended December 31, 2021 (“2021 Form 10-K”).

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

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and the disclosure of contingent assets and liabilities.

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

New Accounting Standards

In November 2021, the FASB issued Accounting Standards Update ("ASU") 2021-10 Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance, effective for financial statements issued for annual periods beginning after December 15, 2021. 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 to either a grant model or a contribution model. We plan to adopt ASU 2020-10 when we issue our annual financial statements. We do not expect it to have a material impact on our consolidated financial statements.

Other Accounting Standards

No other accounting standards, newly issued or adopted as of March 31, 2022, had a material impact on Corning’s financial statements or disclosures.

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2. Revenue

Revenue Disaggregation Table

The following table shows revenues 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 of revenue recognition and cash flows are substantially similar. Commercial markets and selling channels are also similar. Except for an inconsequential amount of revenue for Telecommunications products, product category revenues are recognized at point in time when control transfers to the customer.

Revenues by product category are as follows (in millions):

	Three months ended March 31,	
	2022	2021
Telecommunication products	$ 1,198	$ 937
Display products	906	888
Specialty glass products	493	451
Environmental substrate and filter products	401	442
Life science products	307	301
Polycrystalline silicon and all other products	375	271
Total revenue	$ 3,680	$ 3,290
Impact of foreign currency movements (1)	64	(27)
Net sales of reportable segments and Hemlock and Emerging Growth Businesses	$ 3,744	$ 3,263

(1) This amount primarily represents the impact of foreign currency adjustments in the Display Technologies segment.

Refer to Note 14 (Reportable Segments) to the consolidated financial statements for additional information.

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 contract fulfillment costs are immaterial due to the nature of the products and their respective manufacturing processes.

Contract liabilities include deferred revenue, other advance payments and customer deposits. Other advance payments are not significant to operations and are classified as part of other accrued liabilities in the consolidated financial statements. Customer deposits are predominately related to Display products and deferred revenue is predominately related to obtaining a controlling interest in Hemlock Semiconductor Group ("Hemlock").

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Customer Deposits

As of March 31, 2022 and December 31, 2021, Corning had customer deposits of approximately $1.2 billion and $1.3 billion, respectively. 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.

Customer deposits used were $83 million and $93 million, respectively, in the three months ended March 31, 2022 and 2021. As of March 31, 2022 and December 31, 2021, $1.0 billion and $1.1 billion, respectively, were recorded as other long-term liabilities. The remaining $236 million and $223 million, respectively, were classified as other current liabilities.

Deferred Revenue

As of March 31, 2022 and December 31, 2021, Corning had deferred revenue of approximately $887 million and $912 million, respectively. The deferred revenue was related to the performance obligations of non-refundable consideration previously received by Hemlock from its customers under long-term supply agreements.

The 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.

As of March 31, 2022 and December 31, 2021, $751 million and $764 million, respectively, were classified as long-term liabilities and $136 million and $148 million, respectively, were classified as current liabilities.

3. Income Taxes

The provision for income taxes and the related effective income tax rates are as follows (in millions):

	Three months ended March 31,	
	2022	2021
Provision for income taxes	$ (180)	$ (226)
Effective tax rate	23.7%	27.4%

For the three months ended March 31, 2022, the effective income tax rate differed from the United States (“U.S.”) statutory rate of 21%, primarily due to changes in tax reserves and the impact of changes in tax legislation, partially offset by differences arising from foreign earnings. For the three months ended March 31, 2021, the effective income tax rate differed from the U.S. statutory rate of 21%, primarily due to adjustments to our permanently reinvested foreign income position and tax reform items.

Corning Precision Materials is currently appealing certain tax assessments and tax refund claims in South Korea for tax years 2010 through 2018. The Company was required to deposit the disputed amounts with the South Korean government as a condition of its appeal of any tax assessments. Corning believes that it is more likely than not the Company will prevail in the appeals process. As of March 31, 2022 and December 31, 2021, non-current receivables of $354 million and $350 million, respectively, were recorded related to these appeals.

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4. Earnings per Common Share

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

	Three months ended March 31,	
	2022	2021
Net income attributable to Corning Incorporated	$ 581	$ 599
Less: Series A convertible preferred stock dividend		24
Net income available to common shareholders – basic	581	575
Plus: Series A convertible preferred stock dividend		24
Net income available to common shareholders – diluted	$ 581	$ 599
Weighted-average common shares outstanding – basic	843	766
Effect of dilutive securities:		
Employee stock options and other dilutive securities	16	17
Series A convertible preferred stock		115
Weighted-average common shares outstanding – diluted	859	898
Basic earnings per common share	$ 0.69	$ 0.75
Diluted earnings per common share	$ 0.68	$ 0.67
Anti-dilutive potential shares excluded from diluted earnings per common share:		
Employee stock options and awards	—	1
Total	—	1

5. Inventories, Net

Inventories, net comprise the following (in millions):

	March 31, 2022	December 31, 2021
Finished goods	$ 1,216	$ 1,190
Work in process	383	358
Raw materials and accessories	485	427
Supplies and packing materials	534	506
Total inventories, net	$ 2,618	$ 2,481

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6. Other Liabilities

Other liabilities follow (in millions):

	March 31, 2022	December 31, 2021
Current liabilities:		
Wages and employee benefits	$ 488	$ 824
Income taxes	238	196
Derivative instruments (Note 10)	276	144
Deferred revenue (Note 2)	136	148
Customer deposits (Note 2)	236	223
Share repurchase liability (Note 12)	507	506
Short-term operating leases	93	94
Other current liabilities	1,118	1,004
Other accrued liabilities	$ 3,092	$ 3,139
Non-current liabilities:		
Defined benefit pension plan liabilities	$ 696	$ 707
Derivative instruments (Note 10)	85	49
Deferred revenue (Note 2)	751	764
Customer deposits (Note 2)	985	1,072
Share repurchase liability (Note 12)	518	517
Deferred tax liabilities	248	258
Long-term operating leases	676	691
Other non-current liabilities	1,149	1,134
Other liabilities	$ 5,108	$ 5,192

7. Debt

Based on borrowing rates currently available to us for loans with similar terms and maturities, the fair value of long-term debt was $7.3 billion and $8.3 billion at March 31, 2022 and December 31, 2021, respectively, compared to recorded book values of $6.8 billion and $7.0 billion at March 31, 2022 and December 31, 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.

Corning had no outstanding commercial paper as of March 31, 2022 and December 31, 2021.

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8. Employee Retirement Plans

Corning has defined benefit pension plans covering certain domestic and international employees. The Company's funding policy is to contribute, over time, an amount exceeding the minimum requirements to achieve the Company's long-term funding targets. During 2022, the Company expects to make cash contributions of $30 million to international pension plans.

The following table summarizes the components of net periodic benefit expense for Corning's defined benefit pension and postretirement health care and life insurance plans (in millions):

	Pension benefits		Postretirement benefits	
	Three months ended March 31,		Three months ended March 31,	
	2022	2021	2022	2021
Service cost	$ 32	$ 32	$ 2	$ 2
Interest cost	27	22	4	4
Expected return on plan assets	(55)	(54)		
Amortization of prior service cost (credit)	1	1	(1)	(1)
Total pension and postretirement benefit expense	$ 5	$ 1	$ 5	$ 5

The components of net periodic benefit expense, other than the service cost component, are included in the line item other income, net, in the consolidated statements of income.

9. Commitments and Contingencies

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 Dow each owned 50% of the common stock of 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 Corning 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.

Dow Corning Breast Implant Litigation

In May 1995, Dow Corning filed for bankruptcy protection to address pending and claimed liabilities arising from many thousands of breast implant product lawsuits. On June 1, 2004, Dow Corning emerged from Chapter 11 with a Plan of Reorganization (the "Plan") which provided for the settlement or other resolution of implant claims. The Plan includes releases for Corning and Dow as shareholders in exchange for contributions to the Plan.

Under the terms of the Plan, Dow Corning has established and funded a Settlement Trust and a Litigation Facility, to provide a means for tort claimants to settle or litigate their claims. Inclusive of insurance, Dow Corning has paid approximately $1.8 billion to the Settlement Trust. As of May 31, 2016, Dow Corning had recorded a reserve for breast implant litigation of $290 million. In the event Dow Corning's total liability for these claims exceeds such amount, Corning may be required to indemnify Dow for up to 50% of the excess liability, subject to certain conditions and limits. As of March 31, 2022 and December 31, 2021, Dow Corning had recorded a reserve for breast implant litigation of $127 million and $130 million, respectively. As a result, Corning does not believe its indemnity obligation for Dow Corning's breast implant litigation liability, if any, will be material.

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Dow Corning Bankruptcy Pendency Interest Claims

As a separate matter arising from the bankruptcy proceedings, Dow Corning had been defending claims asserted by commercial creditors who claimed additional compounded interest at default and state statutory judgment rates as well as attorneys' fees and other enforcement costs, during the period from May 1995 through June 2004. As of May 31, 2016, Dow Corning had recorded a reserve for these claims of $107 million. Dow Corning settled those claims as of September 30, 2019 and received approval of the settlement from the bankruptcy court. Corning does not believe its indemnity obligation, if any, for Dow Corning's liability to 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 March 31, 2022, Corning has determined a potential liability for these environmental matters is probable and the amount reserved was not material.

Environmental Litigation

Corning has been named by the Environmental Protection Agency (the Agency) under the Superfund Act, or by state governments under similar state laws, as a potentially responsible party for 15 active hazardous waste sites. Under the Superfund Act, all parties who may have contributed any waste to a hazardous waste site, identified by the Agency, are jointly and severally liable for the cost of cleanup unless the Agency agrees otherwise. It is Corning's policy to accrue for its estimated liability related to Superfund 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 March 31, 2022 and December 31, 2021, Corning had accrued approximately $50 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 and that the risk of an additional loss in an amount materially higher than that accrued is remote.

10. Hedging Activities

Designated Hedges

Corning uses over-the-counter ("OTC") foreign exchange forward contracts 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 $714 million and $780 million at March 31, 2022 and December 31, 2021, respectively, with maturities spanning the years 2022 through 2023. 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. At March 31, 2022, the amount expected to be reclassified into earnings within the next 12 months is a pre-tax gain of $53 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 in the property, plant and equipment, net of accumulated depreciation line of the consolidated balance sheets is $223 million and $107 million at March 31, 2022 and December 31, 2021, respectively.

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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 spanning years 2022 through 2024.

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

	March 31, 2022	December 31, 2021
Average rate forward contracts:		
Japanese yen-denominated	$ 2.4	$ 2.9
South Korean won-denominated	1.6	1.2
Euro-denominated	0.1	0.2
Other foreign currencies (1)	0.1	0.1
Option contracts:		
Japanese yen-denominated (2)	4.9	3.6
Other foreign currencies (3)	0.3	0.9
Total gross notional value for translated earning contracts	$ 9.4	$ 8.9

(1) Denominational currencies for average rate forward contracts include the Chinese yuan and British pound.
(2) Japanese yen-denominated option contracts include zero-cost collars, purchased put and call options. 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 the zero-cost collars, only the put or call option can be exercised at maturity.
(3) Other foreign currency option contracts are purchased basket options that include a basket of underlying currencies, including the Japanese yen, South Korean won, euro and British pound, and each basket option will be settled against U.S. dollars.

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

	Notional amount		Asset derivatives			Liability derivatives		
			Balance sheet location	Fair value		Balance sheet location	Fair value	
	March 31, 2022	December 31, 2021		March 31, 2022	December 31, 2021		March 31, 2022	December 31, 2021
Derivatives designated as hedging instruments (1)								
Foreign exchange contracts and other	$ 714	$ 780	Other current assets	$ 55	$ 49	Other accrued liabilities	$ (2)	$ (2)
			Other assets	19	10	Other liabilities	(44)	(9)
Derivatives not designated as hedging instruments								
Foreign exchange contracts	3,842	3,864	Other current assets	155	91	Other accrued liabilities	(133)	(95)
Translated earnings contracts	9,396	8,899	Other current assets	358	196	Other accrued liabilities	(141)	(47)
			Other assets	180	154	Other liabilities	(41)	(40)
Total derivatives	$ 13,952	$ 13,543		$ 767	$ 500		$ (361)	$ (193)

(1) At March 31, 2022, derivatives designated as hedging instruments include foreign exchange cash flow hedges with gross notional amounts of $714 million and fair value hedges of leased precious metals with gross notional amounts of 11,417 troy ounces. At 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 gross notional amounts of 7,559 troy ounces.

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The following tables summarize the effect of Corning's derivative financial instruments on the consolidated financial statements (in millions):

Derivatives in hedging relationships for cash flow and fair value hedges	Three months ended March 31, Gain recognized in other comprehensive income (OCI) 2022	2021	Location of gain (loss) reclassified from accumulated OCI into income effective (ineffective)	Gain reclassified from accumulated OCI into income 2022	2021
			Net sales	$ 10	$ 2
Foreign exchange contracts and other	$ 34	$ 26	Cost of sales	7	7
Total cash flow and fair value hedges	$ 34	$ 26		$ 17	$ 9

Undesignated derivatives	Location of gain recognized in income	Gain recognized in income Three months ended March 31, 2022	2021
Foreign exchange contracts	Other income, net	$ 26	$ 44
Translated earnings contracts	Translated earnings contract gain, net	129	272
Total undesignated		$ 155	$ 316

11. Fair Value Measurements

Fair value standards under GAAP define fair value, establish a framework for measuring fair value in applying generally accepted accounting principles, and require disclosures about fair value measurements. The standards identify two kinds of inputs that are used 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 the Company's own market assumptions. Once inputs have been characterized, the inputs are prioritized into one of three broad levels (provided in the table below) used to measure fair value. Fair value standards apply whenever an entity is measuring fair value under other accounting pronouncements that require or permit fair value measurement and require the use of observable market data when available.

The following tables provide fair value measurement information for the Company's major categories of financial assets and liabilities measured on a recurring basis; Level 1 ("L1"), quoted market prices in active markets for identical assets, Level 2 ("L2"), significant other observable inputs, and Level 3 ("L3"), significant unobservable inputs as of our reportable dates (in millions):

	March 31, 2022	L1	L2	L3	December 31, 2021	L1	L2	L3
Current assets:								
Other current assets [1]	$ 622	$ 11	$ 568	$ 43	$ 352	$ 10	$ 336	$ 6
Non-current assets:								
Other assets [1]	$ 199		$ 199		$ 175		$ 164	$ 11
Current liabilities:								
Other accrued liabilities [1]	$ 276		$ 276		$ 144		$ 144	
Non-current liabilities:								
Other liabilities [1]	$ 102		$ 102		$ 66		$ 66	

(1) Derivative assets and liabilities mainly consist of foreign exchange contracts which were measured using observable inputs for similar assets and liabilities.

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Assets and Liabilities Measured on a Non-Recurring Basis

There were no significant financial assets and liabilities measured on a non-recurring basis as of March 31, 2022 and December 31, 2021.

12. Shareholders' Equity

Fixed Rate Cumulative Convertible Preferred Stock, Series A

On January 16, 2021, the Preferred Stock became convertible into 115 million Common Shares. On April 5, 2021 ("Initial Closing Date"), 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 the Initial Closing Date. Subsequent payments of approximately $507 million will be paid on each of the first and second anniversaries of the Initial Closing Date.

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 and were included in the weighted-average common shares outstanding for the calculation of the Company's basic and diluted earnings per share. SDC has the option to sell 22 million common shares to Corning subject to certain conditions beginning in 2024-2027. The remaining 58 million common shares are subject to a seven-year lock-up period expiring in 2027.

Share Repurchases

On July 17, 2019, Corning's Board of Directors authorized $5 billion in share repurchases with no expiration date (the "2019 Repurchase Program").

For the three months ended March 31, 2022, the Company repurchased 3.9 million shares of common stock on the open market for approximately $151 million as part of its 2019 Repurchase Program.

The Company made no open market share repurchases for the three months ended March 31, 2021.

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Accumulated Other Comprehensive Loss

In the three months ended March 31, 2022 and 2021, the change in accumulated other comprehensive loss was primarily related to the foreign currency translation adjustment.

A summary of changes in the foreign currency translation adjustment component of accumulated other comprehensive loss is as follows (in millions) (1):

	Three months ended March 31,	
	2022	2021
Beginning balance	$ (933)	$ (329)
Losses on foreign currency translation (2)	(198)	(355)
Equity method affiliates (3)	(2)	(8)
Net current-period other comprehensive loss	(200)	(363)
Ending balance	$ (1,133)	$ (692)

(1) All amounts are after tax. Amounts in parentheses indicate debits to accumulated other comprehensive loss.
(2) For the three months ended March 31, 2022 and 2021, amounts are net of tax benefit of $11 million and $10 million, respectively.
(3) Tax effects are not significant.

13. 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 allow Corning to grant equity-based compensation awards, including stock options, stock appreciation rights, performance share units, restricted stock units, restricted stock awards or a combination of awards (collectively, share-based awards). At March 31, 2022, there were approximately 39 million unissued common shares available for future grants authorized under the Plans.

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

The Company measures and recognizes compensation cost for all share-based payment awards made to employees and directors based on estimated fair values.

Total share-based compensation cost was $42 million and $34 million, respectively, for the three months ended March 31, 2022 and 2021. The income tax benefit realized from share-based compensation was $4 million for the three months ended March 31, 2022, and not significant during the same period in 2021.

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 market price on the grant date and generally become exercisable in installments 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").

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The following table summarizes information regarding stock options outstanding, including the related transactions under the stock option plans, for the three months ended March 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	(941)	18.60		
Forfeited and expired	(109)	17.82		
Options outstanding as of March 31, 2022	10,854	22.68	6.60	$ 154,501
Options expected to vest as of March 31, 2022	10,802	22.69	6.60	153,600
Options exercisable as of March 31, 2022	5,594	21.68	5.50	85,179

Corning uses a multiple-point Black-Scholes valuation model to estimate the fair value of stock option grants. Corning utilizes a blended approach for calculating the volatility assumption used in the multiple-point Black-Scholes valuation model defined as 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 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. The risk-free rates used in the multiple-point Black-Scholes valuation model are the implied rates for a zero-coupon U.S. Treasury bond with a term equal to the option's expected term. Ranges used reflect results from separate groups of employees exhibiting different exercise behavior.

There have been no stock options granted for the three months ended March 31, 2022 or 2021.

Incentive Stock Plans

The Corning Incentive Stock Plans permit restricted stock and restricted stock unit grants, either determined by specific performance goals or issued directly, in most instances, subject to the possibility of forfeiture and without cash consideration. Restricted stock and restricted stock units under the Incentive Stock Plans are granted at the closing market price on the grant date, contingently vest over a period of generally one year to ten years, and is aligned to the contractual terms. The fair value is based on the grant date closing price of the Company's stock.

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. Compensation cost is recognized over the requisite vesting period and adjusted for actual forfeitures before vesting.

The following table summarizes the Company's non-vested time-based restricted stock and restricted stock units and changes which occurred during the three months ended March 31, 2022:

	Number of shares (in thousands)	Weighted average grant-date fair value
Non-vested shares and share units at December 31, 2021	10,594	$ 25.83
Granted	117	42.48
Vested	(180)	30.99
Forfeited	(71)	22.47
Non-vested shares and share units at March 31, 2022	10,460	$ 25.95

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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 stock on the grant date and assumes that the target payout level will be achieved. Compensation cost is recognized over the requisite vesting period and adjusted for actual forfeitures before vesting. During the performance period, compensation cost may be adjusted based on changes in the expected outcome of the performance-related target.

The following table summarizes the Company's non-vested performance-based restricted stock units and changes which occurred during the three months ended March 31, 2022:

	Number of shares (in thousands)	Weighted average grant-date fair value
Non-vested share units at December 31, 2021	3,684	$ 34.17
Granted	1,215	42.74
Vested	(48)	38.72
Performance adjustments	367	34.46
Forfeited	(27)	41.26
Non-vested share units at March 31, 2022	5,191	$ 36.11

14. Reportable Segments

The Company's reportable segments are 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 more than 150 material formulations for glass, glass ceramics and fluoride crystals to meet demand for unique customer needs.
- Environmental Technologies – manufactures ceramic substrates and filters for automotive and diesel applications.
- 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 Hemlock, which is an operating segment that produces solar and semiconductor products. The emerging growth businesses primarily consist of Pharmaceutical Technologies ("CPT"), Auto Glass Solutions ("AGS") and the Emerging Innovations Group ("EIG"), which are also operating segments.

Financial results for the reportable segments 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. 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 core net income of translating these currencies into U.S. dollars. The Company uses constant currency reporting for Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences. Corning excludes the impact of these currencies from segment sales and net income. The adjustment for constant currency is primarily related to the Display Technologies' segment and excludes the impact of the fluctuation of the Japanese yen, South Korean won, Chinese yuan, and new Taiwan dollar. Certain income and expenses are included in the unallocated amounts in the reconciliation of reportable segment net income (loss) to consolidated net income. These include items that are not used by the CODM in evaluating the results of, or in allocating resources to, the segments and include the following: the impact of translated earnings contracts; acquisition-related costs; discrete tax items and other tax-related adjustments; certain litigation, regulatory and other legal matters; restructuring, impairment losses and other charges and credits; and other non-recurring non-operational items. Although these amounts are excluded from segment results, they are included in reported consolidated results.

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Earnings of equity affiliates that are closely associated with the reportable segments are included in the respective segment's net income (loss). Certain common expenses among reportable segments have been allocated differently than they would be for stand-alone financial information. Segment net income (loss) may not be consistent with measures used by other companies.

Reportable Segments and Hemlock and Emerging Growth Businesses (in millions):

	Optical Communications	Display Technologies	Specialty Materials	Environmental Technologies	Life Sciences	Hemlock and Emerging Growth Businesses	Total
Three months ended March 31, 2022							
Segment net sales	$ 1,198	$ 959	$ 493	$ 409	$ 310	$ 375	$ 3,744
Depreciation [1]	$ 59	$ 156	$ 40	$ 33	$ 14	$ 38	$ 340
Research, development and engineering expenses [2]	$ 55	$ 31	$ 53	$ 25	$ 9	$ 40	$ 213
Income tax provision [3]	$ (45)	$ (63)	$ (20)	$ (20)	$ (11)	$ (1)	$ (160)
Segment net income (loss) [4]	$ 166	$ 236	$ 75	$ 74	$ 42	$ (8)	$ 585

	Optical Communications	Display Technologies	Specialty Materials	Environmental Technologies	Life Sciences	Hemlock and Emerging Growth Businesses	Total
Three months ended March 31, 2021							
Segment net sales	$ 937	$ 863	$ 451	$ 441	$ 300	$ 271	$ 3,263
Depreciation [1]	$ 58	$ 148	$ 41	$ 36	$ 12	$ 32	$ 327
Research, development and engineering expenses [2]	$ 51	$ 22	$ 45	$ 27	$ 8	$ 34	$ 187
Income tax (provision) benefit [3]	$ (31)	$ (56)	$ (24)	$ (20)	$ (13)	$ 8	$ (136)
Segment net income (loss) [4]	$ 111	$ 213	$ 91	$ 74	$ 48	$ (24)	$ 513

(1) Depreciation expense for Corning's reportable segments includes an allocation of depreciation of corporate property not specifically identifiable to a segment.
(2) Research, development and engineering expenses include direct project spending that is identifiable to a segment.
(3) Income tax (provision) benefit reflects a tax rate of 21%.
(4) Many of Corning's administrative and staff functions are performed on a centralized basis. Where practicable, Corning charges these expenses to segments based upon the extent to which each business uses a centralized function. Other staff functions, such as corporate finance, human resources and legal, are allocated to segments, primarily as a percentage of sales. Expenses that are not allocated to the segments are included in the reconciliation of reportable segment net income (loss) to consolidated net income.

A reconciliation of reportable segments and Hemlock and Emerging Growth Businesses net sales to consolidated net sales follows (in millions):

	Three months ended March 31,	
	2022	2021
Net sales of reportable segments	$ 3,369	$ 2,992
Net sales of Hemlock and Emerging Growth Businesses	375	271
Impact of foreign currency movements [1]	(64)	27
Consolidated net sales	$ 3,680	$ 3,290

(1) This amount primarily represents the impact of foreign currency adjustments in the Display Technologies segment.

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A reconciliation of reportable segment net income (loss) to consolidated net income follows (in millions):

	Three months ended March 31,	
	2022	2021
Net income of reportable segments	$ 593	$ 537
Net loss of Hemlock and Emerging Growth Businesses	(8)	(24)
Unallocated amounts:		
Impact of foreign currency movements not included in segment net income (loss)	(63)	6
Gain on foreign currency hedges related to translated earnings	129	272
Translation gain on Japanese yen-denominated debt	84	118
Research, development, and engineering expenses	(35)	(34)
Amortization of intangibles	(31)	(32)
Interest expense, net	(61)	(74)
Income tax provision	(20)	(90)
Other corporate items	(7)	(80)
Net income	$ 581	$ 599

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

ORGANIZATION OF INFORMATION

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") provides a historical and prospective narrative on the Company's financial condition and results of operations. This interim MD&A should be read in conjunction with the MD&A in Corning's 2021 Form 10-K. The various sections of this MD&A contain forward-looking statements that involve risks and uncertainties. Words such as "anticipates," "expects," "intends," "plans," "goals," "believes," "seeks," "estimates," "continues," "may," "will," "should," and variations of such words and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to projections of the Company's future financial performance, anticipated growth and trends in the businesses, uncertain events or assumptions, and other characterizations of future events or circumstances are forward-looking statements. Such statements are based on current expectations and could be affected by the uncertainties and risk factors described throughout this filing and particularly in "Risk Factors" in Part I, Item 1A of Corning's 2021 Form 10-K, and as may be updated in the Forms 10-Q. Actual results may differ materially, and these forward-looking statements do not reflect the potential impact of any divestitures, mergers, acquisitions, or other business combinations that had not been completed as of March 31, 2022.

MD&A includes the following sections:

- Overview
- Results of Operations
- Core Performance Measures
- Reportable Segments
- Capital Resources and Liquidity
- Critical Accounting Estimates
- Environment
- Forward-Looking Statements

OVERVIEW

The Company has and will continue to focus on three core priorities: preserving the financial health of the Company; protecting employees and communities; and delivering on customer commitments. We are continuing to build a stronger, more resilient company that is committed to rewarding shareholders and supporting all global stakeholders.

Corning continues to act rapidly and remain resilient in the face of global uncertainty. We have preserved our financial strength by executing well and advancing major innovations with industry leaders. We have continued to effectively leverage our focused and cohesive portfolio to create value and outperform our underlying markets, contributing to sales and earnings growth and strong free cash flow generation in the three months ended March 31, 2022.

Corning announced the Strategy & Growth Framework in 2019, highlighting significant opportunities to sell more Corning content through each of our Market-Access Platforms. The Company is focused on our cohesive portfolio and the utilization of our financial strength, supported by strong operating cash flow generation, which we expect to continue. Corning has and will continue to use its cash to grow, extend its leadership and reward shareholders. Our key growth drivers remain intact, and some are accelerating as key trends converge around Corning's capabilities.

Corning will continue to advance the objectives of the Strategy & Growth Framework, which sets its leadership priorities and articulates opportunities across its businesses. Our probability of success increases as we invest in our world-class capabilities. Corning is concentrating approximately 80% of its research, development and engineering investment along with capital spending on a cohesive set of three core technologies, four manufacturing and engineering platforms, and five market-access platforms. This strategy allows us to quickly apply our talents and repurpose our assets across the Company, as needed, to capture high-return opportunities.

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Summary of results for the three months ended March 31, 2022

In the first quarter of 2022, net sales were $3,680 million, compared to $3,290 million during the same period in 2021, a net increase of $390 million, or 12%, primarily driven by sales increases in Optical Communications and Display Technologies.

In the first quarter of 2022, Corning generated net income of $581 million, or $0.68 per diluted share, compared to net income of $599 million, or $0.67 per diluted share, for the same period in 2021. The decrease in net income of $18 million was primarily driven by lower translated earnings contract gains of $110 million (amount presented after-tax), partially offset by higher net income of reportable segments and Hemlock and Emerging Growth Businesses of $72 million and a gain on the sale of a business of $41 million.

The change in diluted earnings per share for the three months ended March 31, 2022, was primarily driven by the changes in net income, outlined above, and impacted by share repurchases of 47.6 million over the last twelve months.

The translation impact of fluctuations in foreign currency exchange rates, including the impact of hedges realized in the current quarter, adversely impacted Corning's consolidated net income by $25 million in the three months ended March 31, 2022, respectively, when compared to the same period in 2021.

2022 Corporate Outlook

We expect core net sales of approximately $3.7 to $3.9 billion for the second quarter of 2022.

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RESULTS OF OPERATIONS

Selected highlights from operations are as follows (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Net sales	$ 3,680	$ 3,290	12%
Gross margin	$ 1,283	$ 1,156	11%
(gross margin %)	35%	35%	
Selling, general and administrative expenses	$ 434	$ 400	9%
(as a % of net sales)	12%	12%	
Research, development and engineering expenses	$ 248	$ 222	12%
(as a % of net sales)	7%	7%	
Translated earnings contract gain, net	$ 129	$ 272	(53%)
(as a % of net sales)	4%	8%	
Provision for income taxes	$ (180)	$ (226)	(20%)
(as a % of net sales)	(5%)	(7%)	
Net income attributable to Corning Incorporated	$ 581	$ 599	(3%)
(as a % of net sales)	16%	18%	

Segment Net Sales

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

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Optical Communications	$ 1,198	$ 937	28%
Display Technologies	959	863	11%
Specialty Materials	493	451	9%
Environmental Technologies	409	441	(7%)
Life Sciences	310	300	3%
Net sales of reportable segments	$ 3,744	$ 3,263	15%
Hemlock and Emerging Growth Businesses	375	271	38%
Impact of foreign currency movements [1]	(64)	27	(337%)
Consolidated net sales	$ 3,680	$ 3,290	12%

(1) This amount primarily represents the impact of foreign currency adjustments in the Display Technologies segment.

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In the first quarter of 2022, net sales of reportable segments and Hemlock and Emerging Growth Businesses were $3,744 million, compared to $3,263 million during the same period in 2021, a net increase of $481 million, or 15%. Changes in net sales were as follows:

- Optical Communications' net sales increased by $261 million, or 28%, primarily driven by higher sales of carrier products as network operators increased capital spending to address demand for 5G, broadband, and the cloud;
- Display Technologies' net sales increased by $96 million or 11%, largely due to volume growth of approximately 10 percent and slightly higher pricing;
- Specialty Materials' net sales increased by $42 million, or 9%, primarily due to strong demand for premium cover materials and advanced optics products;
- Net sales for Environmental Technologies decreased by $32 million, or 7%, primarily driven by sales declines of heavy-duty diesel products of $8 million, or 5%, and automotive products, of $24 million, or 9%, as component shortages limited automotive production;
- Net sales for Life Sciences increased by $10 million, or 3%; and
- Net sales for Hemlock and Emerging Growth Businesses increased by $104 million, primarily driven by increases in Hemlock's sales, with AGS and CPT contributing to year-over-year growth.

Movements in foreign exchange rates adversely impacted Corning's consolidated net sales by $98 million in the three months ended March 31, 2022, when compared to the same period in 2021.

Cost of Sales

The types of expenses included in the cost of sales line item 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

In the three months ended March 31, 2022, gross margin increased by $127 million, or 11%, and was consistent as a percentage of sales when compared to the prior period. The increase in gross margin was primarily driven by higher sales and the benefit of pricing actions across all businesses.

The translation impact of fluctuations in foreign currency exchange rates, including the impact of hedges realized in the current quarter, adversely impacted Corning's consolidated gross margin by $75 million in the three months ended March 31, 2022, when compared to the same period in 2021.

Selling, General and Administrative Expenses

In the three months ended March 31, 2022, selling, general and administrative expenses increased by $34 million, or 9%, and was consistent as a percentage of sales, when compared to the prior period. Increases in these costs were primarily driven by higher compensation and benefit expenses when compared to the same period in 2021.

The types of expenses included in the selling, general and administrative expenses line item are: salaries, wages and benefits; share-based compensation expense; travel; sales commissions; professional fees; and depreciation and amortization, utilities, rent for administrative facilities and restructuring, impairment and other charges and credits.

Research, Development and Engineering Expenses

In the three months ended March 31, 2022, research, development and engineering expenses increased by $26 million, or 12%, was consistent as a percentage of sales when compared to the prior period.

Translated earnings contract gain, net

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

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The following table provides detailed information on the impact of translated earnings contract gains and losses (in millions):

	Three months ended March 31, 2022		Three months ended March 31, 2021		Change 2022 vs. 2021	
	Income before taxes	Net income	Income before taxes	Net income	Income before taxes	Net income
Hedges related to translated earnings:						
Realized gain (loss), net (1)	$ 33	$ 25	$ (12)	$ (9)	$ 45	$ 34
Unrealized gain, net (2)	96	74	284	218	(188)	(144)
Total translated earnings contract gain, net	$ 129	$ 99	$ 272	$ 209	$ (143)	$ (110)

(1) Includes before tax realized losses related to the expiration of option contracts for the three months ended March 31, 2022 and 2021 of $7 million and $9 million, respectively. Activity has been reflected in operating activities in the consolidated statements of cash flows.
(2) The impact to income was primarily driven by yen-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 quarter, adversely impacted Corning's consolidated income before income taxes by $30 million for the three months ended March 31, 2022, when compared to the same period in 2021.

Provision for Income Taxes

The provision for income taxes and the related effective income tax rates are as follows (in millions):

	Three months ended March 31,	
	2022	2021
Provision for income taxes	$ (180)	$ (226)
Effective tax rate	23.7%	27.4%

For the three months ended March 31, 2022, the effective income tax rate differed from the U.S. statutory rate of 21%, primarily due to changes in tax reserves and the impact of changes in tax legislation, partially offset by differences arising from foreign earnings. For the three months ended March 31, 2021, the effective income tax rate differed from the U.S. statutory rate of 21%, primarily due to adjustments to our permanently reinvested foreign income position and tax reform items.

Refer to Note 3 (Income Taxes) to the consolidated financial statements for additional information.

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Net Income Attributable to Corning Incorporated

Net income and per share data is as follows (in millions, except per share amounts):

	Three months ended March 31,	
	2022	2021
Net income attributable to Corning Incorporated	$ 581	$ 599
Net income available to common shareholders used in basic earnings per common share calculation	$ 581	$ 575
Net income available to common shareholders used in diluted earnings per common share calculation	$ 581	$ 599
Basic earnings per common share	$ 0.69	$ 0.75
Diluted earnings per common share	$ 0.68	$ 0.67
Weighted-average common shares outstanding - basic	843	766
Weighted-average common shares outstanding - diluted	859	898

Comprehensive Income

For the three months ended March 31, 2022, comprehensive income increased by $147 million when compared to the same period in 2021, primarily due to a net gain on foreign currency translation adjustments of $163 million, largely driven by the Japanese yen and South Korean won.

Refer to Note 12 (Shareholders' Equity) to the consolidated financial statements for additional information.

CORE PERFORMANCE MEASURES

In managing the Company and assessing our financial performance, certain measures provided by our consolidated financial statements are adjusted to exclude specific items to arrive at core performance measures. These items include gains and losses on translated earnings contracts, acquisition-related costs, certain discrete tax items and other tax-related adjustments, restructuring, impairment losses, and other charges and credits, certain litigation-related expenses, pension mark-to-market adjustments and other items which do not reflect on-going operating results of the Company or our equity affiliates. Corning utilizes constant-currency reporting for our Display Technologies, Environmental Technologies, Specialty Materials and Life Sciences segments for the Japanese yen, South Korean won, Chinese yuan, new Taiwan dollar and the euro. The Company believes that the use of constant-currency reporting allows investors to understand our results without the volatility of currency fluctuations and reflects the underlying economics of the translated earnings contracts used to mitigate the impact of changes in currency exchange rates on earnings and cash flows. Corning also believes that reporting core performance measures provides investors greater transparency to the information used by the management team to make financial and operational decisions.

Core performance measures are not prepared in accordance with GAAP. We believe investors should consider these non-GAAP measures in evaluating results as they are more indicative of our core operating performance and how management evaluates operational results and trends. These measures are not, and should not, be viewed as a substitute for GAAP reporting measures. With respect to the Company's outlook for future periods, it is not possible to provide reconciliations for these non-GAAP measures because the Company 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 the Company's control. As a result, the Company 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".

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RESULTS OF OPERATIONS – CORE PERFORMANCE MEASURES

Selected highlights from continuing operations, excluding certain items, follow (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Core net sales	$ 3,744	$ 3,263	15%
Core net income	$ 465	$ 402	16%

Core Net Sales

Core net sales are consistent with net sales by reportable segment and Hemlock and Emerging Growth Businesses. Core net sales are presented below (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Optical Communications	$ 1,198	$ 937	28%
Display Technologies	959	863	11%
Specialty Materials	493	451	9%
Environmental Technologies	409	441	(7)%
Life Sciences	310	300	3%
Net sales of reportable segments	$ 3,369	$ 2,992	13%
Net sales of Hemlock and Emerging Growth Businesses	375	271	38%
Total core net sales	$ 3,744	$ 3,263	15%

Core Net Income

In the three months ended March 31, 2022, we generated core net income of $465 million, or $0.54 per diluted share, compared to core net income generated in the three months ended March 31, 2021 of $402 million, or $0.45 per diluted share. The increase of $63 million, or $0.09 per diluted share, was primarily due to higher net income of reportable segments and Hemlock and Emerging Growth Businesses when compared to the same period in 2021. Changes in net income are as follows:

- Optical Communications' net income increased $55 million, largely driven by higher volume and price;
- Display Technologies' net income increased $23 million, primarily driven by increased volume and slightly higher pricing; and
- Hemlock and Emerging Growth Businesses net loss decreased by $16 million.

The increases to segment net income were partially offset by declines in net income of $16 million and $6 million for Specialty Materials and Life Sciences, respectively.

The change in diluted earnings per share was primarily driven by changes in net income, outlined above, and share repurchases of 47.6 million over the last twelve months. Refer to Note 12 (Shareholders' Equity) to the consolidated financial statements for additional information.

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Core Earnings per Common Share

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

	Three months ended March 31,	
	2022	2021
Core net income attributable to Corning Incorporated	$ 465	$ 402
Less: Series A convertible preferred stock dividend		24
Core net income available to common shareholders - basic	465	378
Plus: Series A convertible preferred stock dividend		24
Core net income available to common shareholders - diluted	$ 465	$ 402
Weighted-average common shares outstanding - basic	843	766
Effect of dilutive securities:		
Stock options and other dilutive securities	16	17
Series A convertible preferred stock		115
Weighted-average common shares outstanding - diluted	859	898
Core basic earnings per common share	$ 0.55	$ 0.49
Core diluted earnings per common share	$ 0.54	$ 0.45

Reconciliation of Non-GAAP Measures

Corning utilizes certain financial measures and key performance indicators that are not calculated in accordance with GAAP to assess 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 equity in earnings of affiliated companies and core net income are non-GAAP financial measures utilized by 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 the Company's operations.

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

	Three months ended March 31, 2022					
	Net sales	Equity (losses) earnings	Income before income taxes	Net income	Effective tax rate (a)	Per share
As reported - GAAP	**$ 3,680**	**$ (1)**	**$ 761**	**$ 581**	**23.7%**	**$ 0.68**
Constant-currency adjustment (1)	64	1	63	49		0.06
Translation gain on Japanese yen-denominated debt (2)			(84)	(64)		(0.07)
Translated earnings contract gain (3)			(129)	(99)		(0.12)
Acquisition-related costs (4)			39	32		0.04
Discrete tax items and other tax-related adjustments (5)				11		0.01
Pension mark-to-market adjustment (6)			(10)	(8)		(0.01)
Restructuring, impairment and other charges and credits (7)			33	24		0.03
Gain on sale of business (8)			(53)	(41)		(0.05)
Contingent consideration (9)			(26)	(20)		(0.02)
Core performance measures	$ 3,744	$ —	$ 594	$ 465	21.7%	$ 0.54

(a) Based upon statutory tax rates in the specific jurisdiction for each event.

	Three months ended March 31, 2021					
	Net sales	Equity earnings	Income before income taxes	Net income	Effective tax rate (a)	Per share
As reported - GAAP	**$ 3,290**	**$ 8**	**$ 825**	**$ 599**	**27.4%**	**$ 0.67**
Constant-currency adjustment (1)	(27)		(6)	5		0.01
Translation gain on Japanese yen-denominated debt (2)			(118)	(90)		(0.10)
Translated earnings contract gain (3)			(272)	(209)		(0.23)
Acquisition-related costs (4)			47	35		0.04
Discrete tax items and other tax-related adjustments (5)				37		0.04
Pension mark-to-market adjustment (6)			5	4		0.00
Gain on sale of business (8)			(14)	(14)		(0.02)
Litigation, regulatory and other legal matters (10)			8	8		0.01
Loss on investments (11)			35	27		0.03
Core performance measures	$ 3,263	$ 8	$ 510	$ 402	21.2%	$ 0.45

(a) Based upon statutory tax rates in the specific jurisdiction for each event.

See Part 1, Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations, Results of Operations – Core Performance Measures, Reconciliation of Non-GAAP Measures, "Items which we exclude from GAAP measures to report core performance measures" for the descriptions of the footnoted reconciling items.

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

(1) Constant-currency adjustment: Because 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 core net income of translating these currencies into U.S. dollars. Our Display Technologies' segment sales and net income are primarily denominated in Japanese yen, but also impacted by the South Korean won, Chinese yuan, and new Taiwan dollar. Environmental Technologies and Life Science segments sales and net income are primarily impacted by the euro and Chinese yuan. Presenting results on a constant-currency basis mitigates the translation impact and allows management to evaluate performance period over period, analyze underlying trends in the businesses, and establish operational goals and forecasts. We establish constant-currency rates based on internally derived management estimates which are closely aligned with the currencies we have hedged.

Constant-currency rates are as follows:

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

(2) Translation gain on Japanese yen-denominated debt: We have excluded the gain or loss on the translation of the yen-denominated debt to U.S. dollars.

(3) Translated earnings contract gain: We have excluded the impact of the realized and unrealized gains and losses of 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 the British pound-denominated foreign currency hedges related to translated earnings.

(4) Acquisition-related costs: These expenses include intangible amortization, inventory valuation adjustments, external acquisition-related deal costs, and other transaction related costs.

(5) Discrete tax items and other tax-related adjustments: These include discrete period tax items such as changes of tax reserves and changes in our permanently reinvested foreign income position.

(6) Pension mark-to-market adjustment: 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.

(7) Restructuring, impairment and other charges and credits: This amount primarily includes other charges and credits. A portion of the charge during the first quarter of 2022, related to facility repairs resulting from the impact of the third quarter 2021 power outages. The Company is pursuing recoveries under its applicable property insurance policies.

(8) Gain on sale of business: Amount represents the gain recognized for the sale of a certain business.

(9) Contingent consideration: This amount represents the fair value mark-to-market cost adjustment of contingent consideration resulting from the Hemlock Transaction on September 9, 2020.

(10) Litigation, regulatory and other legal matters: Includes amounts that reflect developments in commercial litigation, intellectual property disputes, adjustments to the estimated liability for environmental-related items and other legal matters.

(11) Loss on investments: Amount represents the loss recognized due to mark-to-mark adjustments capturing the change in fair value based on the closing stock market price.

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REPORTABLE SEGMENTS

Reportable segments are 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 more than 150 material formulations for glass, glass ceramics and fluoride crystals to meet demand for unique customer needs.
- Environmental Technologies – manufactures ceramic substrates and filters for automotive and diesel applications.
- 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 Hemlock, which is an operating segment that produces solar and semiconductor products. The emerging growth businesses primarily consist of CPT, AGS and the EIG, which are also operating segments.

Financial results for the reportable segments are prepared on a basis consistent with the internal disaggregation of financial information to assist the CODM in making internal operating decisions. 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 core net income of translating these currencies into U.S. dollars. The Company uses constant currency reporting for Display Technologies, Specialty Materials, Environmental Technologies and Life Sciences. Corning excludes the impact of these currencies from segment sales and net income. The adjustment for constant currency is primarily related to the Display Technologies' segment and excludes the impact of the fluctuation of the Japanese yen, South Korean won, Chinese yuan, and new Taiwan dollar. Certain income and expenses are included in the unallocated amounts in the reconciliation of reportable segment net income (loss) to consolidated net income. These include items that are not used by the CODM in evaluating the results of or in allocating resources to the segments and include the following items: the impact of translated earnings contracts; acquisition-related costs; discrete tax items and other tax-related adjustments; certain litigation, regulatory and other legal matters; restructuring, impairment losses and other charges and credits; and other non-recurring non-operational items. Although these amounts are excluded from segment results, they are included in reported consolidated results.

Earnings of equity affiliates that are closely associated with the reportable segments are included in the respective segment's net income (loss). Certain common expenses among reportable segments have been allocated differently than they would for stand-alone financial information. Segment net income (loss) may not be consistent with measures used by other companies.

Optical Communications

The following table provides net sales and net income for the Optical Communications segment (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Segment net sales	$ 1,198	$ 937	28%
Segment net income	$ 166	$ 111	50%

Optical Communications' net sales increased by $261 million in the three months ended March 31, 2022, primarily driven by higher sales volumes of carrier products as network operators increased capital spending to address demand for 5G, broadband, and the cloud.

Net income increased by $55 million for the three months ended March 31, 2022, primarily driven by the changes in sales, outlined above, and price increases offsetting increased costs.

Movements in foreign currency exchange rates did not materially impact net income in this segment in the three months ended March 31, 2022, respectively, when compared to the same period in 2021.

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Display Technologies

The following table provides net sales and net income for the Display Technologies segment (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Segment net sales	$ 959	$ 863	11%
Segment net income	$ 236	$ 213	11%

Net sales in the Display Technologies segment increased by $96 million in the three months ended March 31, 2022, and were largely due to volume growth of approximately 10 percent and slightly higher pricing. Net income in the Display Technologies segment increased by $23 million in the three months ended March 31, 2022, primarily driven by the increases in sales outlined above.

Specialty Materials

The following table provides net sales and net income for the Specialty Materials segment (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Segment net sales	$ 493	$ 451	9%
Segment net income	$ 75	$ 91	(18%)

Net sales in the Specialty Materials segment increased by $42 million for the three months ended March 31, 2022, primarily due to strong demand for premium cover materials and advanced optics products for the three months ended March 31, 2022.

Net income decreased by $16 million for the three months ended March 31, 2022, primarily driven by increased investments in innovation programs that are moving towards commercialization.

Environmental Technologies

The following table provides net sales and net income for the Environmental Technologies segment (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Segment net sales	$ 409	$ 441	(7%)
Segment net income	$ 74	$ 74	—

Net sales in the Environmental Technologies segment decreased by $32 million for the three months ended March 31, 2022. Sales of heavy-duty diesel products decreased $8 million, or 5%, and automotive sales declined $24 million, or 9%, as component shortages limited automotive production. Net income was flat when compared to the prior period.

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Life Sciences

The following table provides net sales and net income for the Life Sciences segment (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Segment net sales	$ 310	$ 300	3%
Segment net income	$ 42	$ 48	(13%)

Net sales in the Life Sciences segment increased by $10 million in the three months ended March 31, 2022, and net income decreased by $6 million for the three months ended March 31, 2022, primarily due to COVID-related operational challenges in the first half of the quarter, which impacted output.

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”. The net sales for this group are primarily attributable to Hemlock, which is an operating segment that produces solar and semiconductor products. The emerging growth businesses primarily consist of CPT, AGS and the EIG, which are also operating segments.

The following table provides net sales and net loss for Hemlock and Emerging Growth Businesses (in millions):

	Three months ended March 31,		% change
	2022	2021	22 vs. 21
Net sales	$ 375	$ 271	38%
Net loss	$ (8)	$ (24)	67%

Net sales of this segment increased by $104 million in the three months ended March 31, 2022, when compared to the same period in 2021. Net loss decreased by $16 million primarily driven by Hemlock's increased sales, with AGS and CPT contributing to year-over-year growth, partially offset by increased spending on development projects.

CAPITAL RESOURCES AND LIQUIDITY

Financing and Capital Resources

There was no material debt activity in the first quarter of 2022 or 2021.

Share Repurchase Program

For the three months ended March 31, 2022, the Company repurchased 3.9 million shares of common stock on the open market for approximately $151 million as part of its 2019 Repurchase Program.

The Company made no open market share repurchases for the three months ended March 31, 2021.

Refer Note 12 (Shareholders' Equity) to the consolidated financial statements for additional information.

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Capital Spending

Capital spending totaled $383 million for the three months ended March 31, 2022. We expect our 2022 capital expenditures to be consistent with 2021.

Cash Flow

Summary of cash flow data (in millions):

	Three months ended March 31,	
	2022	2021
Net cash provided by operating activities	$ 534	$ 723
Net cash used in investing activities	$ (278)	$ (288)
Net cash used in financing activities	$ (375)	$ (190)

Net cash provided by operating activities decreased by $189 million in the three months ended March 31, 2022, when compared to the same period in the prior year, primarily driven by higher cash payments for variable compensation.

Net cash used in investing activities decreased by $10 million in the three months ended March 31, 2022, when compared to the same period last year. The decrease was primarily driven by higher proceeds from the sale of businesses and realized gains on translated earnings contracts, of $50 million and $43 million, respectively, partially offset by increased capital expenditures of $94 million.

Net cash used in financing activities increased by $185 million in the three months ended March 31, 2022, when compared to the same period last year, primarily driven by increased share repurchases of $149 million.

Defined Benefit Pension Plans

Corning has defined benefit pension plans covering certain domestic and international employees. The Company's funding policy is to contribute, over time, an amount exceeding the minimum requirements to achieve the Company's long-term funding targets. During 2022, the Company expects to make cash contributions of $30 million to our international pension plans.

Key Balance Sheet Data

Balance sheet and working capital measures are provided in the following table (in millions):

	March 31, 2022	December 31, 2021
Working capital	$ 2,800	$ 2,853
Current ratio	1.6:1	1.6:1
Trade accounts receivable, net of doubtful accounts	$ 1,910	$ 2,004
Days sales outstanding	47	49
Inventories, net	$ 2,618	$ 2,481
Inventory turns	3.7	3.7
Days payable outstanding (1)	58	50
Long-term debt	$ 6,839	$ 6,989
Total debt	$ 6,959	$ 7,044
Total debt to total capital	36%	36%

(1) Includes trade payables only.

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Management Assessment of Liquidity

Corning is committed to strong financial stewardship and expects to maintain a strong cash balance and generate positive free cash flow for the year.

We ended the first quarter of 2022 with approximately $2.0 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. At March 31, 2022, approximately 70% of the consolidated amount was held outside the U.S.

Corning has 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, the Company may issue the paper from time to time and will use the proceeds for general corporate purposes. As of March 31, 2022, Corning had no outstanding commercial paper.

The Company's $1.5 billion Revolving Credit Agreement is available to support its commercial paper program, if needed, and for general corporate purposes.

Other

Comprehensive reviews of significant customers and their creditworthiness are completed by analyzing their financial strength, at least annually or more frequently, for customers where Corning has identified an increased measure of risk. The Company closely monitors payments and developments which may signal possible customer credit issues. During the three months ended March 31, 2022 and December 31, 2021, Corning sold accounts receivable and accelerated collections for the periods by $381 million and $197 million, respectively. The Company believes the accelerated collections will be, or would have been, collected during the normal course of business in the quarter following the respective sales. Corning has not currently identified any potential material impact on our liquidity resulting from customer credit issues.

We believe we have sufficient liquidity to fund operations, acquisitions, capital expenditures, scheduled debt repayments and dividend payments

The 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%. At March 31, 2022, the leverage using this measure was approximately 36%. As of March 31, 2022, we were in compliance and no amounts were outstanding under the Company's Revolving Credit Agreement.

The Company's 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 the debt instruments contain a cross default provision, whereby an uncured default of a specified amount on one debt obligation of the Company, would be considered a default under the terms of another debt instrument. As of March 31, 2022, we were in compliance with all such provisions.

Other than discussed, management is not aware of any known trends or any known demands, commitments, events or uncertainties that will, or are reasonably likely to, result in insufficient liquidity. There are no known trends, favorable or unfavorable, that would have a material change in the overall cost of liquidity.

Off Balance Sheet Arrangements

There have been no material changes outside the ordinary course of business in off balance sheet arrangements as disclosed in the 2021 Form 10-K under the caption "Off Balance Sheet Arrangements."

Contractual Obligations

There have been no material changes outside the ordinary course of business in the contractual obligations disclosed in the 2021 Form 10-K under the caption "Contractual Obligations".

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CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements requires management to make estimates and assumptions that affect amounts reported therein. The estimates that require management's most difficult, subjective or complex judgments are described in the 2021 Form 10-K and remain unchanged through the first three months of 2022. For certain items, additional details are provided below.

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 review long-lived assets in each quarter in which impairment indicators are present. We must exercise judgment in assessing whether an event of impairment has occurred.

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 the manufacturing process and have a very long useful life. Precious metals are reviewed for impairment as part of the assessment of long-lived assets. This review considers all the Company's 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 acquired to support the manufacturing operations and are not held for trading or other purposes.

At March 31, 2022 and December 31, 2021, the carrying value of precious metals was $3.5 billion, and significantly lower than the fair market value. Most of these precious metals are utilized by the Display Technologies and Specialty Materials segments. The potential for impairment exists in the future if negative events significantly decrease the cash flow of these segments. Such events include, but are not limited to, a significant decrease in demand for products or a significant decrease in profitability in our Display Technologies or Specialty Materials segments.

NEW ACCOUNTING STANDARDS

Refer to Note 1 (Significant Accounting Policies) to the consolidated financial statements.

ENVIRONMENT

Corning has been named by the Environmental Protection Agency (the Agency) under the Superfund Act, or by state governments under similar state laws, as a potentially responsible party for 15 active hazardous waste sites. Under the Superfund Act, all parties who may have contributed any waste to a hazardous waste site, identified by the Agency, are jointly and severally liable for the cost of cleanup unless the Agency agrees otherwise. It is Corning's policy to accrue for its estimated liability related to Superfund sites and other environmental liabilities related to property owned by Corning based on expert analysis and continual monitoring by both internal and external consultants. At March 31, 2022 and December 31, 2021, Corning had accrued approximately $50 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 and that the risk of an additional loss in an amount materially higher than that accrued is remote.

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FORWARD-LOOKING STATEMENTS

The statements in this Quarterly Report on Form 10-Q, in reports subsequently filed by Corning with the SEC on Forms 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, 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. The Company does not undertake to update forward-looking statements. 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:

- the duration and severity of the COVID-19 pandemic, and its impact across our businesses on demand, personnel, operations, our global supply chains and stock price;
- global economic trends, competition and geopolitical risks, or an escalation of sanctions, tariffs or other trade tensions, and related impacts on our businesses' global supply chains and strategies;
- changes in macroeconomic and market conditions, market volatility, interest rates, capital markets, the value of securities and other financial assets, precious metals, oil, natural gas and other commodities and exchange rates (particularly between the U.S. dollar and the Japanese yen, new Taiwan dollar, euro, Chinese yuan and South Korean won), consumer demand, and the impact of such changes and volatility on our financial position and businesses;
- 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;
- disruption to Corning's, our suppliers' and manufacturers' supply chain, logistics, equipment, facilities, IT systems, operations or commercial activities 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;
- effects of acquisitions, dispositions and other similar transactions;
- 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 without negatively impacting revenues;
- rate of technology change;
- ability to enforce patents and protect intellectual property and trade secrets;
- adverse litigation;
- product and components performance issues;
- attraction and 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.

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ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk Disclosures

As noted in the 2021 Form 10-K, we operate and conduct business in many foreign countries and as a result are exposed to fluctuations between the U.S. dollar and other currencies. Volatility in the global financial markets could increase the volatility of foreign currency exchange rates which would, in turn, impact sales and net income. For a discussion of the Company's exposure to market risk and how we mitigate that risk, refer to Part II, Item 1A, Risk Factors in this Quarterly Report on Form 10-Q and Part II, Item 7A, Quantitative and Qualitative Disclosures About Market Risks, contained in the 2021 Form 10-K.

ITEM 4. CONTROLS AND PROCEDURES

Under the supervision of and with the participation of Corning's management, including the chief executive officer and chief financial officer, we evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended), as of March 31, 2022, the end of the period covered by this report. Based on that evaluation, we have concluded that the Company's disclosure controls and procedures were effective as of that date. 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.

An evaluation of internal controls over financial reporting was performed to determine whether any changes have occurred during the period covered by this report that have materially affected, or are reasonably likely to materially affect, the internal control over financial reporting. The chief executive officer and chief financial officer concluded that there was no change in Corning's internal control over financial reporting that materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

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Part II – Other Information

ITEM 1. LEGAL PROCEEDINGS

Environmental Litigation. See the 2021 Form 10-K, Part I, Item 3. For additional information and updates to estimated liabilities as of March 31, 2022, see Part I, Item 1, Financial Statements, Note 9 (Commitments and Contingencies) of the notes to the consolidated financial statements included under Item 1 of this Quarterly Report, which is incorporated herein by reference.

ITEM 1A. RISK FACTORS

In addition to other information set forth in this report, you should carefully consider the factors discussed in Part I, Item 1A. Risk Factors in Corning's 2021 Form 10-K, which could materially impact the Company's business, financial condition or future results. Risks disclosed in the 2021 Form 10-K are not the only risks facing the Company. Additional risks and uncertainties not currently known to us or that we currently deem immaterial may materially adversely impact Corning's business, financial condition or operating results. There have been no material changes to Part I, Item 1A. Risk Factors in the 2021 Form 10-K.

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ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

This table provides information about purchases of common stock during the first 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
January 1 - 31, 2022	2,686,405	$ 37.75	2,649,127	
February 1 - 28, 2022	706,952	41.84	610,595	
March 1 - 31, 2022	670,332	37.81	669,041	
Total	4,063,689	$ 38.47	3,928,763	$ 3,371,420,032

(1) This column reflects: (i) 76,949 shares of common stock related to the vesting of employee restricted stock units; (ii) 46,548 shares of common stock related to the vesting of employee performances stock units; (iii) 11,250 shares of common stock related to the vesting of employee restricted stock; (iv) 179 shares of common stock related to the exercise of employee stock options and payment of the exercise price; and (v) the purchase of 3,928,763 shares of common stock in open market repurchases under the 2019 Repurchase Program.

(2) Represents the stock price at the time of surrender.

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ITEM 6. EXHIBITS

(a) Exhibits

Exhibit Number	Exhibit Name
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) under the Exchange Act
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) under the Exchange Act
32	Certification Pursuant to 18 U.S.C. Section 1350
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)

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SIGNATURES

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

Corning Incorporated
(Registrant)

April 29, 2022	/s/ Stefan Becker
Date	Stefan Becker Senior Vice President, Finance & Corporate Controller

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Exhibit 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Wendell P. Weeks, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Corning Incorporated (the registrant);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

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 controls over financial reporting.

April 29, 2022

/s/ Wendell P. Weeks

Wendell P. Weeks
Chairman and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CHIEF FINANCIAL OFFICER CERTIFICATION

I, Edward A. Schlesinger, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Corning Incorporated (the registrant);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

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 controls over financial reporting.

April 29, 2022

/s/ Edward A. Schlesinger

Edward A. Schlesinger
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32

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

In connection with the Quarterly Report of Corning Incorporated (the Company) on Form 10-Q for the period ended March 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the Report), we, Wendell P. Weeks, Chairman and Chief Executive Officer and Edward A. Schlesinger, Executive Vice President and Chief Financial Officer, of the Company, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 29, 2022

/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