Consolidated Financial Statements of

Algonquin Power & Utilities Corp.

For the years ended December 31, 2022 and 2021

MANAGEMENT'S REPORT

Financial Reporting

The accompanying consolidated financial statements and management discussion and analysis ("MD&A") are the responsibility of management and have been approved by the Board of Directors.

The consolidated financial statements have been prepared by management in accordance with U.S. generally accepted accounting principles. Financial statements by nature include amounts based upon estimates and judgments. When alternative accounting methods exist, management has chosen those it deems most appropriate in the circumstances.

The Board of Directors and its committees are responsible for all aspects related to governance of the Company. The Audit Committee of the Board of Directors, composed of directors who are unrelated and independent, has a specific responsibility to oversee management's efforts to fulfill its responsibilities for financial reporting and internal controls related thereto. The Committee meets with management and independent auditors to review the consolidated financial statements and the internal controls as they relate to financial reporting. The Audit Committee reports its findings to the Board of Directors for its consideration in approving the consolidated financial statements for issuance to the shareholders.

Internal Control over Financial Reporting

Management is also responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with generally accepted accounting principles.

The Company acquired New York American Water Company, Inc (subsequently renamed Liberty Utilities (New York Water) Corp. ("Liberty NY Water")) effective January 1, 2022. The financial information for this acquisition is included in the MD&A and in Note 3 to the consolidated financial statements. Liberty NY Water contributed $125,370 in revenue and $21,776 operating income, representing approximately 5% and 4% of the Company's consolidated revenue and operating income, respectively, for the year ended December 31, 2022. Liberty NY Water represented approximately 4% of the Company's total consolidated assets, and 3% of the Company's total consolidated liabilities, respectively, as of December 31, 2022. National Instrument 52-109 and the U.S. Securities and Exchange Commission provide an exemption whereby companies undergoing acquisitions can exclude the acquired business in the year of acquisition from the scope of testing and assessment of design and operational effectiveness of controls over financial reporting. Due to the complexity associated with assessing internal controls during integration efforts, the Company has utilized the scope exemption as it relates to this acquisition in its conclusion on internal controls over financial reporting for the year ending December 31, 2022.

During the fiscal quarter ended December 31, 2022, there was a material change to the Company's internal controls over financial reporting, as the Company updated certain of its technology infrastructure systems through the implementation of an integrated customer solution platform, customer billing, and enterprise resource planning systems across core business processes for the Company's East Region regulated entities and processes in the corporate function. This change to the Company's internal controls included an assessment of the necessary and appropriate processes and controls with a view to ensuring that the design and operation of controls remains effective over financial reporting.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2022, based on the framework established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2022. Ernst & Young LLP, the independent registered public accounting firm that audited the accompanying consolidated financial statements has issued its attestation report on the Company's internal control over financial reporting,

March 17, 2023

/s/ Arun Banskota
Chief Executive Officer

/s/ Darren Myers
Chief Financial Officer

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Directors of Algonquin Power & Utilities Corp.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Algonquin Power & Utilities Corp. (the "Company"), as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, equity and cash flows for the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2022, based on the criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 17, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the US federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

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

Regulatory assets and liabilities—Recovery of costs through rate regulation

Description of the Matter

As described in Note 7 to the consolidated financial statements, the Company has approximately $1.27 billion in regulatory assets and approximately $628.2 million in regulatory liabilities that are subject to regulation by the public utility commissions of the regions in which they operate. Rates are determined under cost of service regulation. The regulation of rates is premised on the full recovery of prudently incurred costs and a reasonable rate of return on assets or common shareholder's equity. Regulatory decisions can have an impact on the timely recovery of costs and the approved returns. The recoverability of such costs through rate-regulation impacts multiple financial statement line items and disclosures, including property, plant, and equipment, regulatory assets and liabilities, derivative instruments, pension and other post-employment benefit obligation, regulated electricity, gas and water distribution revenues and the corresponding expenses, income tax expense, and depreciation and amortization expense.

Although the Company expects to recover its costs from customers through rates, there is a risk that the respective regulator will not approve full recovery of the costs incurred. Auditing the recoverability of these costs through rates is complex and highly judgmental due to the significant judgments and probability assessments made by the Company to support its accounting and disclosure for regulatory matters when final regulatory decisions or orders have not yet been obtained or when regulatory formulas are complex. There is also subjectivity involved in assessing the potential impact of future regulatory decisions on the financial statements. The Company's judgments include evaluating the probability of recovery of and recovery on costs incurred, or probability of refund to customers through future rates.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's evaluation of the likelihood of recovery of regulatory assets and refund of regulatory liabilities, including management's controls over the initial recognition and the monitoring and evaluation of regulatory developments that may affect the likelihood of recovering costs in future rates, a refund, or future changes in rates.

We performed audit procedures that included, amongst others, evaluating the Company's assessment of the probability of future recovery for regulatory assets and refund of regulatory liabilities, by comparison to the relevant regulatory orders, filings and correspondence, and other publicly available information including past precedents. For regulatory matters for which regulatory decisions or orders have not yet been obtained, we inspected the Company's filings for any evidence that might contradict the Company's assertions, and reviewed other regulatory orders, filings and correspondence for other entities within the same or similar jurisdictions to assess the likelihood of recovery in future rates based on the respective regulator's treatment of similar costs under similar circumstances. We evaluated the Company's analysis and compared that analysis with letters from legal counsel, when appropriate, regarding cost recoveries or future changes in rates. We also assessed the methodology and mathematical accuracy of the Company's calculations of regulatory asset and liability balances based on provisions and formulas outlined in rate orders and other correspondence with regulators.

Impairment of Long-lived Assets

Description of the Matter

As of December 31, 2022, the Company's property, plant and equipment and finite-life intangible assets (collectively, long-lived assets) have an aggregate net book value of approximately $12 billion. As described in Note 1 to the consolidated financial statements, the Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value of those assets may not be recoverable. Indicators of impairment may include a deteriorating business climate, including, but not limited to, declines in energy prices, or plans to dispose of a long-lived asset significantly before the end of its useful life. Management determines if long-lived assets are potentially impaired by comparing the undiscounted expected future cash flows to the carrying value when indicators of impairment exist. When the undiscounted cash flow analysis indicates a long-lived asset or asset group may not be recoverable, the amount of the impairment loss is determined by measuring the excess of the carrying amount of the long-lived asset or asset group over its fair value. In 2022, as disclosed in Note 5 to the consolidated financial statements, the Company recognized an asset impairment charge of $159.6 million, related to the Company's Renewable Energy Group.

Auditing the Company's valuation of long-lived assets involved significant judgment to assess the recoverability and the fair value of these long-lived assets. The fair value analysis is primarily based on the income approach using significant assumptions that included the revenue forecasts driven by expected production, expected energy prices, and projected operating and capital expenditures and the discount rate, which were forward-looking and based upon expectations about future economic and market conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's controls over the identification of impairment indicators and valuation of the long-lived asset, including management's review controls of the valuation model, the significant assumptions used to develop the estimates, and the completeness and accuracy of the data used in the valuations.

When testing the impairment analyses for the Renewable Energy Group, our audit procedures included, among others, obtaining an understanding of management's strategic view of the facilities given market conditions, evaluating management's assessment of the lowest level of identifiable cash flows, assessing the appropriateness of the methodology, testing the significant assumptions discussed above, testing the computational accuracy of the valuation model and testing the completeness and accuracy of the underlying data used by the Company in its analyses. We also performed audit procedures that included, among others, assessing the expected production through corroboration with third party engineering reports and historical trends. We assessed the projected operating expenditures by comparison to historical data and third party operating and maintenance agreements.

With support of our valuation specialists, we assessed the projected capital expenditures by comparison to historical data and corroboration with independent market data and assessed the estimates of expected energy prices by comparison to historical data, executed power purchase agreements, and to relevant market curves. We also involved our valuation specialists in the evaluation of the discount rates, which included consideration of benchmark interest rates, geographic location and whether the asset is contracted or uncontracted. We also performed sensitivity analyses on significant assumptions to evaluate the changes in the fair value of the long-lived assets that would result from changes in the significant assumptions.

Impairment of long-term investment in Texas Coastal Wind Facilities

Description of the Matter

As described in Note 8 to the consolidated financial statements, the balance of the Company's equity method investment in Texas Coastal Wind Facilities, was $206.8 million as of December 31, 2022. Management periodically evaluates its equity method investments to determine whether an other-than-temporary decline in value has occurred and an impairment exists. Management determined that primarily as a result of continued challenges with congestion at the facilities, the carrying value of the interest in the Texas Coastal Wind Facilities required testing for an other-than-temporary impairment. Management assessed whether the fair value of its investment in Texas Coastal Wind Facilities had declined below its carrying value on an other-than-temporary basis in the fourth quarter of 2022. In the fourth quarter of 2022, as disclosed in Note 8 to the consolidated financial statements, the Company recorded an impairment charge of $75.9 million.

Auditing the Company's impairment assessment for Texas Coastal Wind Facilities was complex and required a high degree of auditor judgment, as the valuation included subjective estimates and assumptions in determining the estimated fair value of the investment. The fair value analysis is primarily based on the income approach using significant assumptions that included the expected revenue driven by production, expected energy prices, and projected operating and capital expenditures and the discount rate, which were forward-looking and based upon expectations about future economic and market conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's controls over the equity method investment impairment review process, including management's review controls of the valuation model, the significant assumptions used to develop the estimates, and the completeness and accuracy of the data used in the valuations.

When testing the impairment analyses for Texas Coastal Wind Facilities, our audit procedures included, among others, assessing the appropriateness of the methodology, testing the significant assumptions discussed above, testing the computational accuracy of the valuation model and testing the completeness and accuracy of the underlying data used by the Company in its analyses. We also performed audit procedures that included, among others, assessing the expected production through corroboration with third party engineering reports and historical trends. We assessed the projected operating expenditures by comparison to historical data and third party operating and maintenance agreements.

With support of our valuation specialists, we assessed the projected capital expenditures by comparison to historical data and corroboration with independent market data and assessed the expected energy prices by comparison to historical data, executed power purchase agreements, and relevant market curves. We also involved our valuation specialists in the evaluation of the discount rates, which included consideration of benchmark interest rates, geographic location and whether the asset is contracted or uncontracted. We also performed sensitivity analyses on significant assumptions to evaluate the changes in the fair value of the investment that would result from changes in the significant assumptions.

/s/ Ernst & Young LLP

Chartered Professional Accountants

Licensed Public Accountants

We have served as the Company's auditor since 2013.

Toronto, Canada

March 17, 2023

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Directors of Algonquin Power & Utilities Corp.

Opinion on Internal Control over Financial Reporting

We have audited Algonquin Power & Utilities Corp.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, Algonquin Power & Utilities Corp. ("the Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

As indicated in the Management Report on Internal Controls over Financial Reporting section contained in the accompanying Management Discussion and Analysis, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Liberty Utilities (New York Water) Corp. ("Liberty NY Water"), which is included in the 2022 consolidated financial statements of the Company and constituted 4% of the Company's total consolidated assets and 3% of the Company's total consolidated liabilities, respectively as of December 31, 2022, and 5% and 4% of the Company's consolidated revenue and operating income, respectively, for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Liberty NY Water.

We also have audited, in accordance with the standards of the Public Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, equity and cash flows for the years then ended, and the related notes, and our report dated March 17, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the Management Report on Internal Controls over Financial Reporting section contained in the accompanying Management Discussion and Analysis. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Chartered Professional Accountants

Licensed Public Accountants

Toronto, Canada

March 17, 2023

Algonquin Power & Utilities Corp.
Consolidated Statements of Operations

(thousands of U.S. dollars, except per share amounts)	Year ended December 31 2022	2021
Revenue		
Regulated electricity distribution	**$ 1,277,409**	$1,183,399
Regulated natural gas distribution	**686,744**	525,897
Regulated water reclamation and distribution	**364,383**	234,875
Non-regulated energy sales	**350,939**	256,633
Other revenue	**85,680**	73,338
	2,765,155	2,274,142
Expenses		
Operating expenses	**851,489**	702,128
Regulated electricity purchased	**465,570**	475,764
Regulated natural gas purchased	**340,792**	194,174
Regulated water purchased	**18,308**	12,664
Non-regulated energy purchased	**41,826**	31,313
Administrative expenses	**80,232**	66,726
Depreciation and amortization	**455,520**	402,963
Asset impairment charge (note 5)	**159,568**	—
Loss on foreign exchange	**13,833**	4,371
	2,427,138	1,890,103
Gain on sale of renewable assets (notes 3(a) and 16(c))	**64,028**	29,063
Operating income	**402,045**	413,102
Interest expense	**(278,574)**	(209,554)
Fair value change, income (loss) and impairment charge on long-term investments (note 8)	**(465,206)**	(26,457)
Other net losses (note 19)	**(21,391)**	(22,949)
Pension and other post-employment non-service costs (note 10)	**(10,950)**	(16,313)
Gain on derivative financial instruments (note 24(b)(iv))	**4,408**	4,403
	(771,713)	(270,870)
Income (loss) before income taxes	**(369,668)**	142,232
Income tax recovery (expense) (note 18)		
Current	**(7,843)**	(7,237)
Deferred	**69,356**	50,662
	61,513	43,425
Net earnings (loss)	**(308,155)**	185,657
Net effect of non-controlling interests (note 17)		
Non-controlling interests	**111,323**	89,637
Non-controlling interests held by related party	**(15,157)**	(10,435)
	$ 96,166	$ 79,202
Net earnings (loss) attributable to shareholders of Algonquin Power & Utilities Corp.	**$ (211,989)**	$ 264,859
Preferred shares, Series A and preferred shares, Series D dividend (note 15)	**8,720**	9,003
Net earnings (loss) attributable to common shareholders of Algonquin Power & Utilities Corp.	**$ (220,709)**	$ 255,856
Basic and diluted net earnings (loss) per share (note 20)	**$ (0.33)**	$ 0.41

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.
Consolidated Statements of Comprehensive Income

(thousands of U.S. dollars)	Year ended December 31 2022	2021
Net earnings (loss)	**$ (308,155)**	$ 185,657
Other comprehensive income (loss) ("OCI"):		
Foreign currency translation adjustment, net of tax expense of $2,423 and recovery of $3,219, respectively (notes 24(b)(iii) and 24(b)(iv))	**(23,502)**	(30,270)
Change in fair value of cash flow hedges, net of tax expense of $20,644 and recovery of $22,077, respectively (note 24(b)(ii))	**(94,295)**	(54,331)
Change in pension and other post-employment benefits, net of tax expense of $8,330 and $9,176, respectively (note 10)	**27,761**	42,051
OCI, net of tax	**(90,036)**	(42,550)
Comprehensive income (loss)	**(398,191)**	143,107
Comprehensive loss attributable to the non-controlling interests	**(97,816)**	(78,953)
Comprehensive income (loss) attributable to shareholders of Algonquin Power & Utilities Corp.	**$ (300,375)**	$ 222,060

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.
Consolidated Balance Sheets

(thousands of U.S. dollars)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 57,623**	$ 125,157
Trade and other receivables, net (note 4)	**528,057**	403,426
Fuel and natural gas in storage	**95,350**	74,209
Supplies and consumables inventory	**129,571**	103,552
Regulatory assets (note 7)	**190,393**	158,212
Prepaid expenses	**58,653**	54,548
Derivative instruments (note 24)	**12,270**	3,486
Other assets (note 11)	**22,564**	16,153
	1,094,481	938,743
Property, plant and equipment, net (note 5)	**11,944,885**	11,042,446
Intangible assets, net (note 6)	**96,683**	105,116
Goodwill (note 6)	**1,320,579**	1,201,244
Regulatory assets (note 7)	**1,081,108**	1,009,413
Long-term investments (note 8)		
Investments carried at fair value	**1,344,207**	1,848,456
Other long-term investments	**462,325**	495,826
Derivative instruments (note 24)	**71,630**	17,136
Deferred income taxes (note 18)	**84,416**	31,595
Other assets (note 11)	**127,299**	107,528
	$ 17,627,613	$ 16,797,503

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.
Consolidated Balance Sheets (continued)

(thousands of U.S. dollars)

	December 31, 2022	December 31, 2021
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	**$ 186,080**	$ 185,291
Accrued liabilities	**555,792**	428,733
Dividends payable (note 15)	**125,655**	114,544
Regulatory liabilities (note 7)	**69,865**	65,809
Long-term debt (note 9)	**423,274**	356,397
Other long-term liabilities (note 12)	**134,212**	167,908
Derivative instruments (note 24)	**32,491**	38,569
Other liabilities	**7,091**	7,461
	1,534,460	1,364,712
Long-term debt (note 9)	**7,088,743**	5,854,978
Regulatory liabilities (note 7)	**558,317**	510,380
Deferred income taxes (note 18)	**565,639**	530,187
Derivative instruments (note 24)	**137,830**	81,676
Pension and other post-employment benefits obligation (note 10)	**125,579**	238,054
Other long-term liabilities (note 12)	**461,230**	515,911
	8,937,338	7,731,186
Redeemable non-controlling interests (note 17)		
Redeemable non-controlling interest, held by related party	**307,856**	306,537
Redeemable non-controlling interests	**11,520**	12,989
	319,376	319,526
Equity:		
Preferred shares	**184,299**	184,299
Common shares (note 13(a))	**6,183,943**	6,032,792
Additional paid-in capital	**9,413**	2,007
Deficit	**(997,945)**	(288,424)
Accumulated other comprehensive loss ("AOCI") (note 14)	**(160,063)**	(71,677)
Total equity attributable to shareholders of Algonquin Power & Utilities Corp.	**5,219,647**	5,858,997
Non-controlling interests (note 17)		
Non-controlling interests - tax equity partnership units	**1,225,608**	1,377,117
Other non-controlling interests	**333,362**	64,807
Non-controlling interest, held by related party	**57,822**	81,158
	1,616,792	1,523,082
Total equity	**6,836,439**	7,382,079
Commitments and contingencies (note 22)		
Subsequent events (notes 3(b), 7, 9(a), 9(d) and 13(a))		
	$ 17,627,613	$16,797,503

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.
Consolidated Statement of Equity

(thousands of U.S. dollars)
For the year ended December 31, 2022

	Algonquin Power & Utilities Corp. Shareholders						
	Common shares	Preferred shares	Additional paid-in capital	Retained earnings (deficit)	AOCI	Non-controlling interests	Total
Balance, December 31, 2021	$ 6,032,792	$ 184,299	$ 2,007	$ (288,424)	$ (71,677)	$ 1,523,082	$ 7,382,079
Net loss	—	—	—	(211,989)	—	(96,166)	(308,155)
Effect of redeemable non-controlling interests not included in equity (note 17)	—	—	—	—	—	(8,859)	(8,859)
OCI	—	—	—	—	(88,386)	(1,650)	(90,036)
Dividends declared and distributions to non-controlling interests	—	—	—	(396,965)	—	(61,063)	(458,028)
Dividends and issuance of shares under dividend reinvestment plan	97,801	—	—	(97,801)	—	—	—
Contributions received from non-controlling interests, net of cost	—	—	—	—	—	273,697	273,697
Common shares issued upon conversion of convertible debentures	6	—	—	—	—	—	6
Common shares issued upon public offering, net of tax effected cost	38,227	—	—	—	—	—	38,227
Common shares issued under employee share purchase plan	5,319	—	—	—	—	—	5,319
Share-based compensation	—	—	14,849	—	—	—	14,849
Common shares issued pursuant to share-based awards	9,798	—	(14,743)	(2,766)	—	—	(7,711)
Repurchase of non-controlling interest (note 17)	—	—	7,300	—	—	(12,249)	(4,949)
Balance, December 31, 2022	$ 6,183,943	$ 184,299	$ 9,413	$ (997,945)	$ (160,063)	$ 1,616,792	$ 6,836,439

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.
Consolidated Statement of Equity (continued)

(thousands of U.S. dollars)
For the year ended December 31, 2021

	Algonquin Power & Utilities Corp. Shareholders						
	Common shares	Preferred shares	Additional paid-in capital	Deficit	AOCI	Non-controlling interests	Total
Balance, December 31, 2020	$4,935,304	$ 184,299	$ 60,729	$ 45,753	$ (22,507)	$ 458,612	$5,662,190
Net earnings (loss)	—	—	—	264,859	—	(79,202)	185,657
Effect of redeemable non-controlling interests not included in equity (note 17)	—	—	—	—	—	(4,866)	(4,866)
OCI	—	—	—	—	(42,799)	249	(42,550)
Dividends declared and distributions to non-controlling interests	—	—	—	(339,531)	—	(30,609)	(370,140)
Dividends and issuance of shares under dividend reinvestment plan	92,495	—	—	(92,495)	—	—	—
Contributions received from non-controlling interests, net of cost	—	—	6,919	—	(6,371)	1,149,757	1,150,305
Common shares issued upon conversion of convertible debentures	16	—	—	—	—	—	16
Common shares issued upon public offering, net of tax effected cost	988,886	—	—	—	—	—	988,886
Contract adjustment payments	—	—	(62,240)	(160,138)	—	—	(222,378)
Common shares issued under employee share purchase plan	5,108	—	—	—	—	—	5,108
Share-based compensation	—	—	10,036	—	—	—	10,036
Common shares issued pursuant to share-based awards	10,983	—	(13,437)	(6,872)	—	—	(9,326)
Non-controlling interest assumed on asset acquisition (note 3(d))	—	—	—	—	—	29,141	29,141
Balance, December 31, 2021	$6,032,792	$ 184,299	$ 2,007	$ (288,424)	$ (71,677)	$1,523,082	$7,382,079

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp.

Consolidated Statements of Cash Flows

(thousands of U.S. dollars)	Year ended December 31	
	2022	**2021**
Cash provided by (used in):		
Operating activities		
Net earnings (loss)	**$ (308,155)**	$ 185,657
Adjustments and items not affecting cash:		
Depreciation and amortization	**455,520**	402,963
Deferred taxes	**(69,356)**	(50,662)
Initial value and unrealized loss (gain) on derivative financial instruments	**2,462**	(5,609)
Share-based compensation	**10,920**	8,395
Cost of equity funds used for construction purposes	**(1,896)**	(637)
Change in value of investments carried at fair value	**499,125**	122,419
Pension and post-employment expense lower than contributions	**(15,329)**	(14,146)
Distributions received from equity investments, net of income	**23,829**	29,818
Impairment of assets	**235,478**	—
Other	**8,116**	1,290
Net change in non-cash operating items (note 23)	**(221,618)**	(522,022)
	619,096	157,466
Financing activities		
Increase in long-term debt	**16,825,796**	12,834,047
Repayments of long-term debt	**(15,461,078)**	(12,895,091)
Issuance of common shares, net of costs	**43,546**	985,619
Cash dividends on common shares	**(378,597)**	(307,115)
Dividends on preferred shares	**(8,720)**	(9,003)
Contributions from non-controlling interests and redeemable non-controlling interests	**272,515**	1,125,548
Production-based cash contributions from non-controlling interest	**6,182**	4,832
Distributions to non-controlling interests, related party (note 17)	**(34,816)**	(28,007)
Distributions to non-controlling interests	**(43,919)**	(12,830)
Payments upon settlement of derivatives	**(28,913)**	(33,782)
Shares surrendered to fund withholding taxes on exercised share options	**(4,667)**	(3,372)
Acquisition of non-controlling interest	**(1,580)**	—
Increase in other long-term liabilities	**19,324**	62,000
Decrease in other long-term liabilities	**(94,837)**	(49,130)
	1,110,236	1,673,716
Investing activities		
Additions to property, plant and equipment and intangible assets	**(1,089,024)**	(1,345,045)
Increase in long-term investments	**(221,281)**	(622,320)
Acquisitions of operating entities (note 3(c))	**(632,797)**	—
Increase in other assets	**(26,527)**	(43,306)
Receipt of principal on development loans receivable	**178,300**	206,319
Decrease in long-term investments	**2,920**	220
Other proceeds	**—**	6,023
	(1,788,409)	(1,798,109)
Effect of exchange rate differences on cash and restricted cash	**(1,127)**	(1,702)
Increase (decrease) in cash, cash equivalents and restricted cash	**(60,204)**	31,371
Cash, cash equivalents and restricted cash, beginning of year	**161,389**	130,018
Cash, cash equivalents and restricted cash, end of year	**$ 101,185**	$ 161,389

Algonquin Power & Utilities Corp.
Consolidated Statements of Cash Flows (continued)

(thousands of U.S. dollars)	Year ended December 31	
	2022	**2021**
Supplemental disclosure of cash flow information:		
Cash paid during the year for interest expense	**$ 272,734**	$ 219,025
Cash paid during the year for income taxes	**$ 10,962**	$ 5,019
Cash received during the year for distributions from equity investments	**$ 112,951**	$ 112,309
Non-cash financing and investing activities:		
Property, plant and equipment acquisitions in accruals	**$ 120,819**	$ 103,427
Issuance of common shares under dividend reinvestment plan and share-based compensation plans	**$ 112,918**	$ 108,586
Property, plant and equipment, intangible assets and accrued liabilities in exchange of note receivable	**$ 90,700**	$ 90,821

See accompanying notes to consolidated financial statements

Algonquin Power & Utilities Corp. ("AQN" or the "Company") is an incorporated entity under the *Canada Business Corporations Act*. AQN's operations are organized across two primary business units consisting of the Regulated Services Group and the Renewable Energy Group. The Regulated Services Group owns and operates a portfolio of regulated electric, water distribution and wastewater collection, and natural gas utility systems and transmission operations in the United States, Canada, Bermuda and Chile; the Renewable Energy Group owns and operates, or has investments in, a diversified portfolio of non-regulated renewable and thermal energy generation assets.

1. Significant accounting policies

(a) Basis of preparation

The accompanying consolidated financial statements and notes have been prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP") and follow disclosure required under Regulation S-X provided by the U.S. Securities and Exchange Commission.

(b) Basis of consolidation

The accompanying consolidated financial statements of AQN include the accounts of AQN, its wholly owned subsidiaries and variable interest entities ("VIEs") where the Company is the primary beneficiary (note 1(m)). Intercompany transactions and balances have been eliminated. Interests in subsidiaries owned by third parties are included in non-controlling interests (note 1(s)).

(c) Business combinations, intangible assets and goodwill

The Company accounts for acquisitions of entities or assets that meet the definition of a business as business combinations. Business combinations are accounted for using the acquisition method. Assets acquired and liabilities assumed are measured at their fair value at the acquisition date, except for deferred income taxes, which are accounted for as described in note 1(v). Acquisition costs are expensed in the period incurred. When the set of activities does not represent a business, the transaction is accounted for as an asset acquisition and includes acquisition costs.

Intangible assets acquired are recognized separately at fair value if they arise from contractual or other legal rights or are separable. Power sales contracts are amortized on a straight-line basis over the remaining term of the contract ranging from 6 to 25 years from the date of acquisition. Interconnection agreements are amortized on a straight-line basis over their estimated life of 40 years. The majority of the Company's customer relationships are amortized on a straight-line basis over their estimated lives of 25 to 40 years. Certain customer relationships and water rights in Chile as well as brand names are considered indefinite-lived intangibles and are not amortized, but assessed annually for indicators of impairment. Miscellaneous intangibles include renewable energy credits that are purchased by the Company's electric utilities to satisfy renewable portfolio standard obligations. These intangibles are not amortized but are derecognized when remitted to the respective state authority to satisfy the compliance obligation.

Goodwill represents the excess of the purchase price of an acquired business over the fair value of the net assets acquired. Goodwill is generally not included in the rate base on which regulated utilities are allowed to earn a return and is not amortized.

As at September 30 of each year, the Company assesses qualitative and quantitative factors to determine whether it is more likely than not that the fair value of a reporting unit to which goodwill is attributed is less than its carrying amount. If it is more likely than not that a reporting unit's fair value is less than its carrying amount or if a quantitative assessment is elected, the Company calculates the fair value of the reporting unit. If the carrying amount of the reporting unit as a whole exceeds the reporting unit's fair value, an impairment charge is recorded in an amount of that excess, limited to the total amount of goodwill allocated to that reporting unit. Goodwill is tested for impairment between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount.

1. Significant accounting policies (continued)

(d) Accounting for rate regulated operations

The operating companies within the Regulated Services Group are subject to rate regulation generally overseen by the regulatory authorities of the jurisdictions in which they operate (the "Regulator"). The Regulator provides the final determination of the rates charged to customers. AQN's regulated operating companies are accounted for under the principles of U.S. Financial Accounting Standards Board ("FASB") ASC Topic 980, *Regulated Operations* ("ASC 980") except for AQN's Chilean operating company, Empresa de Servicios de Los Lagos S.A. ("ESSAL"), which was acquired in October 2020. The rates that are approved under the Chilean regulatory framework are designed to recover the costs of service of a model water utility. Because the rates are not designed to recover ESSAL's specific costs of service, the utility does not meet the criteria to follow the accounting guidance under ASC 980.

Under ASC 980, regulatory assets and liabilities are recorded to the extent that they represent probable future revenue or expenses associated with certain charges or credits that will be recovered from or refunded to customers through the rate making process. Included in note 7, "Regulatory matters", are details of regulatory assets and liabilities, and their current regulatory treatment.

In the event the Company determines that its net regulatory assets are not probable of recovery, it would no longer apply the principles of the current accounting guidance for rate regulated enterprises and would be required to record an after-tax, non-cash charge or credit against earnings for any remaining regulatory assets or liabilities. The impact could be material to the Company's reported financial condition and results of operations.

The U.S. electric, gas and water utilities' accounts are maintained in accordance with the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission ("FERC"), the applicable Regulator(s) and National Association of Regulatory Utility Commissioners in the United States. The New Brunswick Gas accounts are maintained in accordance with the New Brunswick Gas Distribution Act Uniform Accounting Regulation.

(e) Cash and cash equivalents

Cash and cash equivalents include all highly liquid instruments with an original maturity of three months or less.

(f) Restricted cash

Restricted cash represents reserves and amounts set aside pursuant to requirements of various debt agreements, deposits to be returned back to customers, and certain requirements related to generation and transmission operations. Cash reserves segregated from AQN's cash balances are maintained in accounts administered by a separate agent and disclosed separately as restricted cash in these consolidated financial statements. AQN cannot access restricted cash without the prior authorization of parties not related to AQN.

(g) Accounts receivable

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company maintains an allowance for doubtful accounts for estimated losses inherent in its accounts receivable portfolio. In establishing the required allowance, management considers historical losses adjusted to take into account current market conditions and customers' financial condition, the amount of receivables in dispute, future economic conditions and outlook, and the receivables aging and current payment patterns. Account balances are charged against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. The Company does not have any off-balance sheet credit exposure related to its customers.

1. Significant accounting policies (continued)

(h) Fuel and natural gas in storage

Fuel and natural gas in storage is reflected at weighted average cost or first-in-first-out as required by regulators and represents fuel, natural gas and liquefied natural gas that will be utilized in the ordinary course of business of the gas utilities and some generating facilities. Existing rate orders and other contracts allow the Company to pass through the cost of gas purchased directly to the customers along with any applicable authorized delivery surcharge adjustments (note 7(a)). Accordingly, the net realizable value of fuel and gas in storage does not fall below the cost to the Company.

(i) Supplies and consumables inventory

Supplies and consumables inventory (other than capital spares and rotatable spares, which are included in property, plant and equipment) are charged to inventory when purchased and then capitalized to plant or expensed, as appropriate, when installed, used or upon becoming obsolete. These items are stated at the lower of cost and net realizable value. Through rate orders and the regulatory environment, capitalized construction jobs are recovered through rate base and repair and maintenance expenses are recovered through a cost of service calculation. Accordingly, the cost usually reflects the net realizable value.

(j) Property, plant and equipment

Property, plant and equipment are recorded at cost. Capitalization of development projects begins when management with the relevant authority has authorized and committed to the funding of a project and it is probable that costs will be realized through the use of the asset or ultimate construction and operation of a facility. Project development costs for rate regulated entities, including expenditures for preliminary surveys, plans, investigations, environmental studies, regulatory applications and other costs incurred for the purpose of determining the feasibility of capital expansion projects, are capitalized either as regulatory assets or property, plant and equipment when it is determined that recovery of such costs through regulated revenue of the completed project is probable.

The costs of acquiring or constructing property, plant and equipment include the following: materials, labour, contractor and professional services, construction overhead directly attributable to the capital project (where applicable), interest for non-regulated property and allowance for funds used during construction ("AFUDC") for regulated property. Where possible, individual components are recorded and depreciated separately in the books and records of the Company. Plant and equipment under finance leases are initially recorded at cost determined as the present value of lease payments to be made over the lease term.

AFUDC represents the cost of borrowed funds and a return on other funds. Under ASC 980, an allowance for funds used during construction projects that are included in rate base is capitalized. This allowance is designed to enable a utility to capitalize financing costs during periods of construction of property subject to rate regulation. For operations that do not apply regulatory accounting, interest related only to debt is capitalized as a cost of construction in accordance with ASC 835, *Interest*. The interest capitalized that relates to debt reduces interest expense on the consolidated statements of operations. The AFUDC capitalized that relates to equity funds is recorded as interest and other income under income from long-term investments on the consolidated statements of operations.

Improvements that increase or prolong the service life or capacity of an asset are capitalized. Costs incurred for major expenditures or overhauls that occur at regular intervals over the life of an asset are capitalized and depreciated over the related interval. Maintenance and repair costs are expensed as incurred. Grants related to capital expenditures are recorded as a reduction to the cost of assets and are amortized at the rate of the related asset as a reduction to depreciation expense. Grants related to operating expenses such as maintenance and repairs costs are recorded as a reduction of the related expense. Contributions in aid of construction represent amounts contributed by customers, governments and developers to assist with the funding of some or all of the cost of utility capital assets. They also include amounts initially recorded as advances in aid of construction (note 12(c)) once the advance repayment period has expired. These contributions are recorded as a reduction in the cost of utility assets and are amortized at the rate of the related asset as a reduction to depreciation expense.

1. Significant accounting policies (continued)

(j) Property, plant and equipment (continued)

The Company's depreciation is based on the estimated useful lives of the depreciable assets in each category and is determined using the straight-line method with the exception of certain wind assets, as described below. The ranges of estimated useful lives and the weighted average useful lives are summarized below:

	Range of useful lives		Weighted average useful lives	
	2022	**2021**	**2022**	**2021**
Generation	**3-60**	3-60	**33**	33
Distribution	**1-100**	1-100	**39**	40
Equipment	**5-54**	5-50	**11**	11

The Company uses the unit-of-production method for certain components of its wind generating facilities where the useful life of the component is directly related to the amount of production. The benefits of components subject to wear and tear from the power generation process are best reflected through the unit-of-production method. The Company generally uses wind studies prepared by third parties to estimate the total expected production of each component.

In accordance with regulator-approved accounting policies, when depreciable property, plant and equipment of the Regulated Services Group are replaced or retired, the original cost plus any removal costs incurred (net of salvage) are charged to accumulated depreciation with no gain or loss reflected in results of operations. Gains and losses will be charged to results of operations in the future through adjustments to depreciation expense. In the absence of regulator-approved accounting policies, gains and losses on the disposition of property, plant and equipment are charged to earnings as incurred.

(k) Commonly owned facilities

The Regulated Services Group owns undivided interests in three electric generating facilities with ownership interest ranging from 7.52% to 60%, with a corresponding share of capacity and generation from the facility used to serve certain of its utility customers. The Company's investment in the undivided interest is recorded as plant in service and recovered through rate base. Commonly owned facilities represent cost of $559,630 (2021 - $557,954) and accumulated depreciation of $75,820 (2021 - $59,857). The Company's share of operating costs is recognized in operating, maintenance and fuel expenditures excluding depreciation expense. Total expenditures incurred on these facilities for the year ended December 31, 2022 were $110,268 (2021 - $143,255).

(l) Impairment of long-lived assets

AQN reviews property, plant and equipment and finite-life intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable.

As at September 30 of each year, the Company assesses qualitative factors to determine whether it is more likely than not that the indefinite-lived intangible is impaired. If it is more likely than not that the indefinite-lived intangible asset is impaired, the Company calculates the fair value of the intangible asset. If the carrying value of the intangible asset exceeds its fair value, the Company recognizes an impairment loss in an amount equal to that excess. Indefinite-life intangibles are tested for impairment between annual tests if an event occurs or circumstances change that would more likely than not reduces the fair value below its carrying amount.

Recoverability of assets expected to be held and used is measured by comparing the carrying amount of an asset to undiscounted expected future cash flows. If the carrying amount exceeds the recoverable amount, the asset is written down to its fair value. During the fourth quarter of 2022, the Company recorded an impairment charge of $159,568 to reduce the carrying value of the Senate Wind Facility and other smaller assets from $259,942 to $100,374 (note 5).

1. Significant accounting policies (continued)

(m) Variable interest entities

The Company performs analyses to assess whether its operations and investments represent VIEs. To identify potential VIEs, management reviews contracts under leases, long-term purchase power agreements and jointly owned facilities. VIEs for which the Company is deemed the primary beneficiary are consolidated. In circumstances where AQN is not deemed the primary beneficiary, the VIE is not consolidated (note 8).

The Company has equity and notes receivable interests in two power generating facilities. AQN has determined that these entities are considered VIEs mainly based on total equity at risk not being sufficient to permit the legal entity to finance its activities without additional subordinated financial support. The key decisions that affect the generating facilities' economic performance relate to siting, permitting, technology, construction, operations and maintenance and financing. As AQN has both the power to direct the activities of the entities that most significantly impact its economic performance and the right to receive benefits or the obligation to absorb losses of the entities that could potentially be significant to the entities, the Company is considered the primary beneficiary.

Total net book value of assets and long-term debt of these facilities amounts to $57,241 (2021 - $59,877) and $15,024 (2021 - 18,344), respectively. The financial performance of these entities reflected on the consolidated statements of operations includes non-regulated energy sales of $19,752 (2021 - 16,772), operating expenses and amortization of $5,834 (2021 - $5,410) and interest expense of $1,723 (2021 - $2,055).

(n) Long-term investments and notes receivable

Investments in which AQN has significant influence but not control are either accounted for using the equity method or at fair value. Equity-method investments are initially measured at cost including transaction costs and interest when applicable. AQN records its share in the income or loss of its equity-method investees in income from long-term investments in the consolidated statements of operations. AQN records in the consolidated statements of operations the fluctuations in the fair value of its investees held at fair value and dividend income when it is declared by the investee.

Notes receivable are financial assets with fixed or determined payments that are not quoted in an active market. Notes receivable are initially recorded at cost, which is generally face value. Subsequent to acquisition, the notes receivable are recorded at amortized cost using the effective interest method. The Company holds these notes receivable as long-term investments and does not intend to sell these instruments prior to maturity. Interest from long-term investments is recorded as earned and when collectability of both the interest and principal are reasonably assured.

If a loss in value of a long-term investment is considered other than temporary, an allowance for impairment on the investment is recorded for the amount of that loss. An allowance on notes receivable is recorded in order to present the net amount expected to be collected on the receivable. This allowance reflects the risk of loss over the remaining contractual life of the asset, taking into consideration historical experience, current conditions, and reasonable and supportable forecasts of future economic conditions. The impairment is measured based on the present value of expected future cash flows discounted at the note's effective interest rate. During the fourth quarter of 2022, the Renewable Energy Group recorded an impairment charge of $75,910 to reduce the carrying value of its equity investment in the Texas Coastal Wind Facilities (as defined herein) from $282,726 to 206,816 (note 8(c)).

1. Significant accounting policies (continued)

(o) Pension and other post-employment plans

The Company has established defined contribution pension plans, defined benefit pension plans, other post-employment benefit ("OPEB") plans, and supplemental retirement program ("SERP") plans for its various employee groups. Employer contributions to the defined contribution pension plans are expensed as employees render service. The Company recognizes the funded status of its defined benefit pension plans, OPEB and SERP plans on the consolidated balance sheets. The Company's expense and liabilities are determined by actuarial valuations, using assumptions that are evaluated annually as of December 31, including discount rates, mortality, assumed rates of return, compensation increases, turnover rates and healthcare cost trend rates. The impact of modifications to those assumptions and modifications to prior services are recorded as actuarial gains and losses in accumulated other comprehensive income ("AOCI") and amortized to net periodic cost over future periods using the corridor method. When settlements of the Company's pension plans occur, the Company recognizes associated gains or losses immediately in earnings if the cost of all settlements during the year is greater than the sum of the service cost and interest cost components of the pension plan for the year. The amount recognized is a pro rata portion of the gains and losses in AOCI equal to the percentage reduction in the projected benefit obligation as a result of the settlement.

The costs of the Company's pension for employees are expensed over the periods during which employees render service and the service costs are recognized as part of administrative expenses in the consolidated statements of operations. The components of net periodic benefit cost other than the service cost component are included in other net losses in the consolidated statements of operations.

(p) Asset retirement obligations

The Company recognizes a liability for asset retirement obligations based on the fair value of the liability when incurred, which is generally upon acquisition, during construction or through the normal operation of the asset. Concurrently, the Company also capitalizes an asset retirement cost, equal to the estimated fair value of the asset retirement obligation, by increasing the carrying value of the related long-lived asset. The asset retirement costs are depreciated over the asset's estimated useful life and are included in depreciation and amortization expense on the consolidated statements of operations. Increases in the asset retirement obligation resulting from the passage of time are recorded as accretion of asset retirement obligation in the consolidated statements of operations. Actual expenditures incurred are charged against the obligation.

(q) Leases

The Company accounts for leases in accordance with ASC Topic 842, *Leases*. The Company leases land, buildings, vehicles, rail cars, and office equipment for use in its day-to-day operations. The Company has options to extend the lease term of many of its lease agreements, with renewal periods ranging from one to five years. As at the consolidated balance sheet date, the Company is not reasonably certain that these renewal options will be exercised.

The Renewable Energy Group enters into land easement agreements for the operation of its generation facilities. In assessing whether these contracts contain leases, the Company considers whether it has exclusive use of the land. In the majority of situations, the landowner or grantor of the easement still has full access to the land and can use the land in any capacity, as long as it does not interfere with the Company's operations. Therefore, these land easement agreements do not contain leases. For land easement agreements that provide exclusive access to and use of the land, these agreements meet the definition of a lease and are within the scope of ASC 842.

The right-of-use assets are included in property, plant and equipment while lease liabilities are included in other liabilities on the consolidated balance sheets. The discount rates used in the measurement of the Company's right-of-use assets and liabilities are the discount rates at the date of lease inception. The Company's lease balances as at December 31, 2022 and its expected lease payments for the next five years and thereafter are not significant.

1. Significant accounting policies (continued)

(r) Share-based compensation

The Company has several share-based compensation plans: a share option plan; an employee share purchase plan ("ESPP"); a deferred share unit ("DSU") plan; and a restricted share unit ("RSU") and performance share unit ("PSU") plan. Equity-classified awards are measured at the grant date fair value of the award. The Company estimates grant date fair value of options using the Black-Scholes option pricing model. The fair value is recognized over the vesting period of the award granted, adjusted for estimated forfeitures. The compensation cost is recorded as administrative expenses in the consolidated statements of operations and additional paid-in capital in equity. Additional paid-in capital is reduced as the awards are exercised, and the amount initially recorded in additional paid-in capital is credited to common shares.

(s) Non-controlling interests

Non-controlling interests represent the portion of equity ownership in subsidiaries that is not attributable to the equity holders of AQN. Non-controlling interests are initially recorded at fair value and subsequently adjusted for the proportionate share of earnings and other comprehensive income ("OCI") attributable to the non-controlling interests and any dividends or distributions paid to the non-controlling interests.

If a transaction results in the acquisition of all, or part, of a non-controlling interest in a consolidated subsidiary, the acquisition of the non-controlling interest is accounted for as an equity transaction. No gain or loss is recognized in net earnings or comprehensive income as a result of changes in the non-controlling interest, unless a change results in the loss of control by the Company.

Certain of the Company's U.S. based wind and solar businesses are organized as limited liability corporations ("LLCs") and partnerships and have non-controlling membership equity investors ("tax equity partnership units", or "Tax Equity Investors"), which are entitled to allocations of earnings, tax attributes and cash flows in accordance with contractual agreements. These LLCs and partnership agreements have liquidation rights and priorities that are different from the underlying percentage ownership interests. In those situations, simply applying the percentage ownership interest to U.S. GAAP net income in order to determine earnings or losses would not accurately represent the income allocation and cash flow distributions that will ultimately be received by the investors. As such, the share of earnings attributable to the non-controlling interest holders in these entities is calculated using the Hypothetical Liquidation at Book Value ("HLBV") method of accounting (note 17).

The HLBV method uses a balance sheet approach. A calculation is prepared at each balance sheet date to determine the amount that Tax Equity Investors would receive if an equity investment entity were to liquidate all of its assets and distribute that cash to the investors based on the contractually defined liquidation priorities. The difference between the calculated liquidation distribution amounts at the beginning and the end of the reporting period is the Tax Equity Investors' share of the earnings or losses from the investment for that period.

Equity instruments subject to redemption upon the occurrence of uncertain events not solely within AQN's control are classified as temporary equity and presented as redeemable non-controlling interests on the consolidated balance sheets. The Company records temporary equity at issuance based on cash received less any transaction costs. As needed, the Company reevaluates the classification of its redeemable instruments, as well as the probability of redemption. If the redemption amount is probable or currently redeemable, the Company records the instruments at their redemption value. Increases or decreases in the carrying amount of a redeemable instrument are recorded within deficit. When the redemption feature lapses or other events cause the classification of an equity instrument as temporary equity to be no longer required, the existing carrying amount of the equity instrument is reclassified to permanent equity at the date of the event that caused the reclassification.

(t) Recognition of revenue

Revenue is recognized when control of the promised goods or services is transferred to the Company's customers in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services.

Refer to note 21, "Segmented information" for details of revenue disaggregation by business units.

1. Significant accounting policies (continued)

(t) Recognition of revenue (continued)

Regulated Services Group revenue

Regulated Services Group revenue derives primarily from the distribution of electricity, water and natural gas.

Revenue related to utility electricity and natural gas sales and distribution is recognized over time as the energy is delivered. At the end of each month, the electricity and natural gas delivered to the customers from the date of their last meter read to the end of the month is estimated and the corresponding unbilled revenue is recorded. These estimates of unbilled revenue and sales are based on the ratio of billable days versus unbilled days, amount of electricity or natural gas procured during that month, historical customer class usage patterns, weather, line loss, unaccounted-for natural gas and current tariffs. Unbilled receivables are typically billed within the next month. Some customers elect to pay their bill on an equal monthly plan.

As a result, in some months cash is received in advance of the delivery of electricity. Deferred revenue is recorded for that amount. The amount of revenue recognized in the period from the balance of deferred revenue is not significant.

Water reclamation and distribution revenue is recognized over time when water is processed or delivered to customers. At the end of each month, the water delivered and wastewater collected from the customers from the date of their last meter read to the end of the month are estimated and the corresponding unbilled revenue is recorded. These estimates of unbilled revenue are based on the ratio of billable days versus unbilled days, amount of water procured and collected during that month, historical customer class usage patterns and current tariffs. Unbilled receivables are typically billed within the next month.

On occasion, a utility is permitted to implement new rates that have not been formally approved by the regulatory commission, which are subject to refund. The Company recognizes revenue based on the interim rate and, if needed, establishes a reserve for amounts that could be refunded based on experience for the jurisdiction in which the rates were implemented.

Revenue for certain of the Company's regulated utilities is subject to alternative revenue programs approved by their respective regulators. Under these programs, the Company charges approved annual delivery revenue on a systematic basis over the fiscal year. As a result, the difference between delivery revenue calculated based on metered consumption and approved delivery revenue is disclosed as alternative revenue in note 21, "Segmented information" and is recorded as a regulatory asset or liability to reflect future recovery or refund, respectively, from customers (note 7). The amount subsequently billed to customers is recorded as a recovery of the regulatory asset.

Renewable Energy Group revenue

Renewable Energy Group's revenue derives primarily from the sale of electricity, capacity, and renewable energy credits.

Revenue related to the sale of electricity is recognized over time as the electricity is delivered. The electricity represents a single performance obligation that represents a promise to transfer to the customer a series of distinct goods that are substantially the same and that have the same pattern of transfer to the customer.

Revenue related to the sale of capacity is recognized over time as the capacity is provided. The nature of the promise to provide capacity is that of a stand-ready obligation. The capacity is generally expressed in monthly volumes and prices. The capacity represents a single performance obligation that represents a promise to transfer to the customer a series of distinct services that are substantially the same and that have the same pattern of transfer to the customer.

1. Significant accounting policies (continued)

(t) Recognition of revenue (continued)

Renewable Energy Group revenue (continued)

Qualifying renewable energy projects receive renewable energy credits ("RECs") and solar renewable energy credits ("SRECs") for the generation and delivery of renewable energy to the power grid. The energy credit certificates represent proof that 1 MW of electricity was generated from an eligible energy source. The RECs and SRECs can be traded and the owner of the RECs or SRECs can claim to have purchased renewable energy. RECs and SRECs are primarily sold under fixed contracts, and revenue for these contracts is recognized at a point in time, upon generation of the associated electricity. Any RECs or SRECs generated above contracted amounts are held in inventory, with the offset recorded as a decrease in operating expenses.

The Company applies the invoicing expedient to the electricity and capacity in the Renewable Energy Group contracts. As such, revenue is recognized at the amount to which the Company has the right to invoice for services performed. Revenue is recorded net of sales taxes.

(u) Foreign currency translation

AQN's reporting currency is the U.S. dollar. Within these consolidated financial statements, the Company denotes any amounts denominated in Canadian dollars with "C$", in Chilean pesos with "CLP" and in Chilean Unidad de Fomento with "CLF" immediately prior to the stated amounts.

Effective January 1, 2020, the functional currency of AQN, the non-consolidated parent entity, changed from the Canadian dollar to the U.S. dollar based on a balance of facts taking into consideration its operating, financing and investing activities. As a result of the entity's change of functional currency, changes were made to certain hedging relationships to mitigate the remaining Canadian dollar risk (note 24).

The Company's Canadian operations have the Canadian dollar as their functional currency since the preponderance of operating, financing and investing transactions are denominated in Canadian dollars. Similarly, the Company's Chilean and Bermudian operations' functional currency is the Chilean peso and the Bermudian dollar, respectively. The financial statements of these operations are translated into U.S. dollars using the current rate method, whereby assets and liabilities are translated at the rate prevailing at the balance sheet date, and revenue and expenses are translated using average rates for the period. Unrealized gains or losses arising as a result of the translation of the financial statements of these entities are reported as a component of OCI and are accumulated in a component of equity on the consolidated balance sheets, and are not recorded in income unless there is a complete or substantially complete sale or liquidation of the investment.

(v) Income taxes

Income taxes are accounted for using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance is recorded against deferred tax assets to the extent that it is considered more likely than not that the deferred tax asset will not be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in earnings in the period that includes the date of enactment. Investment tax credits for the rate regulated operations are deferred and amortized as a reduction to income tax expense over the estimated useful lives of the properties. Investment tax credits along with other income tax credits in the non-regulated operations are treated as a reduction to income tax expense in the year the credit arises.

The organizational structure of AQN and its subsidiaries is complex and the related tax interpretations, regulations and legislation in the tax jurisdictions in which they operate are continually changing. As a result, there can be tax matters that have uncertain tax positions. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

1. Significant accounting policies (continued)

(w) Financial instruments and derivatives

Accounts receivable and notes receivable are measured at amortized cost. Long-term debt and preferred shares, Series C are measured at amortized cost using the effective interest method, adjusted for the amortization or accretion of premiums or discounts.

Transaction costs that are directly attributable to the acquisition of financial assets are accounted for as part of the asset's carrying value at inception. Transaction costs related to a recognized debt liability are presented in the consolidated balance sheets as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts and premiums. Costs of arranging the Company's revolving credit facilities and intercompany loans are recorded in other assets. Deferred financing costs, premiums and discounts on long-term debt are amortized using the effective interest method while deferred financing costs relating to the revolving credit facilities and intercompany loans are amortized on a straight-line basis over the term of the respective instrument.

The Company uses derivative financial instruments as one method to manage exposures to fluctuations in exchange rates, interest rates and commodity prices. AQN recognizes all derivative instruments as either assets or liabilities on the consolidated balance sheets at their respective fair values. The fair value recognized on derivative instruments executed with the same counterparty under a master netting arrangement are presented on a gross basis on the consolidated balance sheets. The amounts that could net settle are not significant. The Company applies hedge accounting to some of its financial instruments used to manage its foreign currency risk, interest rate risk and price risk exposures associated with sales of generated electricity.

For derivatives designated in a cash flow hedge relationship, the change in fair value is recognized in OCI.

The amount recognized in AOCI is reclassified to earnings in the same period as the hedged cash flows affect earnings under the same line item in the consolidated statements of operations as the hedged item. If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The amount remaining in AOCI is transferred to the consolidated statements of operations in the same period that the hedged item affects earnings. If the forecasted transaction is no longer expected to occur, then the balance in AOCI is recognized immediately in earnings.

Foreign currency gain or loss on derivative or financial instruments designated as a hedge of the foreign currency exposure of a net investment in foreign operations that are effective as a hedge is reported in the same manner as the translation adjustment (in OCI) related to the net investment.

The Company's electric distribution and thermal generation facilities enter into power and natural gas purchase contracts for load serving and generation requirements. These contracts meet the exemption for normal purchase and normal sales and, as such, are not required to be recorded at fair value as derivatives and are accounted for on an accrual basis. Counterparties are evaluated on an ongoing basis for non-performance risk to ensure it does not impact the conclusion with respect to this exemption.

(x) Fair value measurements

The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date.
- Level 2 Inputs: Other than quoted prices included in level 1, inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

1. Significant accounting policies (continued)

(y) Commitments and contingencies

Liabilities for loss contingencies arising from environmental remediation, claims, assessments, litigation, fines, penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred.

(z) Use of estimates

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of these consolidated financial statements and the reported amounts of revenue and expenses during the year. Actual results could differ from those estimates. During the years presented, management has made a number of estimates and valuation assumptions, including the useful lives and recoverability of property, plant and equipment, intangible assets and goodwill; the recoverability of notes receivable and long-term investments; the recoverability of deferred tax assets; assessments of unbilled revenue; pension and OPEB obligations; timing effect of regulated assets and liabilities; contingencies related to environmental matters; the fair value of assets and liabilities acquired in a business combination; and the fair value of financial instruments. These estimates and valuation assumptions are based on present conditions and management's planned course of action, as well as assumptions about future business and economic conditions. Should the underlying valuation assumptions and estimates change, the recorded amounts could change by a material amount.

2. Recently issued accounting pronouncements

(a) Recently adopted accounting pronouncements

The Financial Accounting Standards Board ("FASB") issued ASU 2021-05, Leases (Topic 842): Lessors — Certain Leases with Variable Lease Payments to address concerns relating to day-one losses for sales-type or direct financing leases with variable payments that do not depend on a reference index or rate. The update amends the lease classification requirements for lessors to align them with past practice under Topic 840, Leases. The adoption of this update did not have an impact on the consolidated financial statements.

The FASB issued ASU 2020-06, Debt — Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity to address the complexity associated with accounting for certain financial instruments with characteristics of liabilities and equity. The number of accounting models for convertible debt instruments and convertible preferred stock is being reduced and the guidance has been amended for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. The adoption of this update did not have an impact on the consolidated financial statements.

The FASB issued ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting, which provides optional expedients and exceptions to ease the potential burden in accounting for reference rate reform. The amendments apply to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of the reference rate reform. The FASB issued updates to Topic 848 in ASU 2022-06 and 2021-01 to clarify that the scope of Topic 848 includes derivatives affected by the discounting transition and extend the relief in Topic 848 to December 31, 2024, respectively. The adoption of this update did not have an impact on the consolidated financial statements.

(b) Recently issued accounting guidance not yet adopted

The FASB issued ASU 2022-04, Liabilities — Supplier Finance Programs (Subtopic 405-50): Disclosure of Supplier Finance Program Obligations, which require that a buyer in a supplier finance program disclose sufficient information about the program to allow a user of financial statements to understand the program's nature, activity during the period, changes from period to period, and potential magnitude. The amendments in this update are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, except for the amendment on roll forward information, which is effective for fiscal years beginning after December 15, 2023. Early adoption is permitted. The Company is currently assessing the relevant disclosure.

3. Business acquisitions, development projects and disposition transactions

(a) Partial disposition of renewable assets

On December 29, 2022, the Company closed the sale of ownership interests in a portfolio of operating wind facilities in the United States and Canada. The transaction consisted of the sale of (1) a 49% ownership interest in three operating wind facilities in the United States totalling 551 MW of installed capacity: the Odell Wind Facility in Minnesota, the Deerfield Wind Facility in Michigan and the Sugar Creek Wind Facility in Illinois; and (2) an 80% ownership interest in the operating 175 MW Blue Hill Wind Facility in Saskatchewan. The Company retains control over the U.S. facilities. The Company will continue to oversee day-to-day operations and provide management services to each of the facilities.

The cash proceeds of $277,500 for the U.S. facilities, which continue to be consolidated, were recorded as non-controlling interest (subject to certain potential future post-closing adjustments). The investment in the Blue Hill Wind Facility continues to be recorded as an equity-method investee. Cash proceeds of C$108,610 were received for the Blue Hill Wind Facility (subject to certain potential future post-closing adjustments). A gain on disposition of $62,828 was recognized and included in gain on sale of renewable assets on the consolidated statements of operations.

(b) Pending acquisition of Kentucky Power Company and AEP Kentucky Transmission Company, Inc.

On October 26, 2021, Liberty Utilities Co., an indirect subsidiary of AQN, entered into an agreement (the "Kentucky Acquisition Agreement") with American Electric Power Company, Inc. ("AEP") and AEP Transmission Company, LLC to acquire Kentucky Power Company ("Kentucky Power") and AEP Kentucky Transmission Company, Inc. ("Kentucky TransCo") for a total purchase price of approximately $2,846,000, including the assumption of approximately $1,221,000 in debt (the "Kentucky Power Transaction"). On September 29, 2022, the parties entered into an amendment to the Kentucky Acquisition Agreement that, among other things, reduces the purchase price by $200,000.

Kentucky Power is a state rate-regulated electricity generation, distribution and transmission utility in 20 eastern Kentucky counties and operating under a cost of service framework. Kentucky TransCo is an electricity transmission business operating in the Kentucky portion of the transmission infrastructure that is part of the Pennsylvania – New Jersey – Maryland regional transmission organization, PJM Interconnection, L.L.C. Kentucky Power and Kentucky TransCo are both regulated by FERC.

Closing of the Kentucky Power Transaction remains subject to the satisfaction or waiver of certain conditions precedent, which include the approval of the Kentucky Power Transaction by FERC and clearance under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (as the clearance received previously has lapsed). On December 15, 2022, FERC issued an order denying, without prejudice, authorization for the proposed transaction. On February 14, 2023, a new application was filed with FERC for approval of the Kentucky Power Transaction. If the Kentucky Power Transaction has not closed by April 26, 2023, either party may, if certain requirements are met, terminate the Kentucky Acquisition Agreement in accordance with its terms.

(c) Acquisition of New York American Water Company, Inc.

Effective January 1, 2022, the Company completed the acquisition of New York American Water Company, Inc (subsequently renamed Liberty Utilities (New York Water) Corp. ("Liberty NY Water")). Liberty NY Water is a regulated water and wastewater utility, serving customers in eight counties in southeastern New York.

3. Business acquisitions, development projects and disposition transactions (continued)

(c) Acquisition of New York American Water Company, Inc. (continued)

A purchase price of $609,000 was paid for this acquisition. The acquisition related costs were expensed through the consolidated statement of operations (note 19). The following table summarizes the final allocation of the purchase price to the assets acquired and liabilities assumed when control was obtained.

Working capital	$	4,820
Property, plant and equipment (i)		499,252
Goodwill (ii)		116,254
Regulatory assets (iii)		65,621
Other assets		4,507
Pension and other post-employment benefits		(13,402)
Regulatory liabilities (iii)		(59,727)
Other liabilities		(8,028)
Total net assets acquired	**$**	**609,297**
Cash and cash equivalents acquired		49
Total net assets acquired, net of cash and cash equivalents	**$**	**609,248**

The determination of the fair value of assets acquired and liabilities assumed is based upon management's estimates and certain assumptions.

i. Property, plant and equipment, consist of regulated water distribution infrastructure and wastewater collection and treatment facilities. They are amortized in accordance with regulatory requirements over the estimated useful life of the assets using the straight-line method. The weighted average useful life of Liberty NY Water's assets is 64.74 years.

ii. Goodwill represents the excess of the purchase price over the aggregate fair value of net assets acquired. The contributing factors to the amount recorded as goodwill include future growth, potential synergies, and cost of savings in the delivery of certain shared administrative and other services. Goodwill is reported under the Regulated Services Group.

iii. The Company is subject to regulation by the New York State Public Service Commission ("NYPSC"), which has jurisdiction with respect to rates, service, accounting procedures, acquisitions, and other matters. Under ASC 980, regulatory assets and liabilities are recorded to the extent that they represent probable future revenue or expenses associated with certain charges or credits that will be recovered from or refunded to customers through the rate making process (note 7). As part of the approval of the acquisition of Liberty NY Water, a settlement agreement was approved which requires a full year of ownership prior to the filing of a new rate case. As a result, new rates would not come into effect until 2024.

Liberty NY Water was consolidated upon acquisition. In 2022, Liberty NY Water generated approximately $125,370 in revenue and $21,776 operating income.

(d) Acquisition of Mid-West Wind Facilities

In 2021, the Empire District Electric Company ("Empire Electric System"), a wholly owned subsidiary of the Company, acquired three wind farms generating up to 600 MW of wind energy located in Barton, Dade, Lawrence, and Jasper Counties in Missouri, and in Neosho County, Kansas (collectively, the "Mid-West Wind Facilities"). Up to that point, the Company had held an interest in the construction projects for the North Fork Ridge Wind Facility and the Kings Point Wind Facility. The Empire Electric System paid consideration to third-party developers of $97,760 and obtained control of the facilities. In 2021, subsequent to acquisition, the tax equity investors provided additional funding of $530,880 and third-party construction loans of $789,923 were repaid. The Company accounted for these transactions as asset acquisitions since substantially all of the fair value of gross assets acquired is concentrated in a group of similar identifiable assets.

3. Business acquisitions, development projects and disposition transactions (continued)

(d) Acquisition of Mid-West Wind Facilities (continued)

The following table summarizes the allocation of the aggregate purchase price to the assets acquired and liabilities assumed at the acquisition dates.

		Mid-West Wind
Working capital	$	(28,630)
Property, plant and equipment		1,141,884
Long-term debt		(789,804)
Asset retirement obligation		(27,053)
Deferred tax liability		(4,566)
Other liabilities		(104,129)
Non-controlling interest (tax equity investors)		(29,141)
Total net assets acquired		158,561
Cash and cash equivalents		15,860
Net assets acquired, net of cash and cash equivalents	**$**	**142,701**

(e) Altavista Solar Facility

Up to April 2021, the Company held a 50% interest in Altavista Solar SponsorCo, LLC, an entity that indirectly owns an 80 MW solar power facility located in Campbell County, Virginia. In April 2021, the Company acquired the remaining 50% interest in Altavista Solar SponsorCo, LLC for $6,735 and as a result, obtained control of the facility. Subsequent to acquisition, the third-party construction loan of $122,024 was repaid. The Company accounted for the transaction as an asset acquisition since substantially all of the fair value of gross assets acquired is concentrated in a group of similar identifiable assets.

The following table summarizes the allocation of the purchase price to the assets acquired and liabilities assumed at the acquisition date of the solar facility.

		Altavista Solar
Working capital	$	870
Property, plant and equipment		138,343
Long-term debt		(122,024)
Deferred tax liability		(421)
Asset retirement obligation		(3,332)
Total net assets acquired		13,436
Cash and cash equivalents		33
Net assets acquired, net of cash and cash equivalents	**$**	**13,403**

(f) Maverick Creek Wind Facility and Sugar Creek Wind Facility

Up to January 2021, the Company held 50% equity interests in Maverick Creek Wind SponsorCo, LLC and AAGES Sugar Creek Wind, LLC (note 8). The two entities indirectly own 492 MW and 202 MW wind development projects in the state of Texas and Illinois ("Maverick Creek Wind Facility" and "Sugar Creek Wind Facility"), respectively. In January 2021, the Company acquired the remaining 50% interests in Maverick Creek Wind SponsorCo, LLC and AAGES Sugar Creek Wind, LLC for $43,797 in aggregate and obtained control of the facilities. An amount of $18,641 was withheld from the consideration for the acquisition of AAGES Sugar Creek Wind, LLC and remains payable upon the satisfaction of certain conditions. The Company accounted for the transactions as asset acquisitions since substantially all of the fair value of gross assets acquired is concentrated in a group of similar identifiable assets.

3. Business acquisitions, development projects and disposition transactions (continued)

(f) Maverick Creek Wind Facility and Sugar Creek Wind Facility (continued)

The following table summarizes the allocation of the purchase price to the assets acquired and liabilities assumed at the acquisition date of the two wind facilities. The existing loans between the Company and the partnerships of $87,035 were treated as additional consideration incurred to acquire the partnerships.

		Maverick Creek and Sugar Creek
Working capital	$	(15,557)
Property, plant and equipment		1,062,613
Long-term debt		(855,409)
Asset retirement obligation		(23,402)
Deferred tax liability		(337)
Derivative instruments		7,575
Total net assets acquired		175,483
Cash and cash equivalents		4,241
Net assets acquired, net of cash and cash equivalents	**$**	**171,242**

Tax equity investors provided funding of $147,914 and $380,829 to the Sugar Creek Wind Facility and Maverick Creek Wind Facility, respectively, in 2021 and third-party construction loans of $284,829 and $570,578, respectively, were repaid subsequent to the acquisition of the remaining 50% interests in the facilities in 2021. A partial interest in the Sugar Creek Wind Facility was subsequently sold in December 2022 (note 3(a)).

4. Accounts receivable

Accounts receivable as of December 31, 2022 include unbilled revenue of $149,015 (December 31, 2021 - $102,693) from the Company's regulated utilities. Accounts receivable as of December 31, 2022 are presented net of allowance for doubtful accounts of $24,857 (December 31, 2021 - $19,327).

5. Property, plant and equipment

Property, plant and equipment consist of the following:

2022

	Cost	Accumulated depreciation	Net book value
Renewable generation facilities	$ 4,119,514	$ 1,016,784	$ 3,102,730
Utility plant	8,640,224	990,975	7,649,249
Land	113,153	—	113,153
Equipment	111,707	50,904	60,803
Construction in progress			
Generation	196,287	—	196,287
Distribution and transmission	822,663	—	822,663
	$ 14,003,548	$ 2,058,663	$ 11,944,885

5. Property, plant and equipment (continued)

2021

	Cost	Accumulated depreciation	Net book value
Renewable generation facilities	$ 4,187,197	$ 751,219	$ 3,435,978
Utility plant	7,468,236	780,537	6,687,699
Land	114,821	—	114,821
Equipment	101,971	56,464	45,507
Construction in progress			
Generation	148,302	—	148,302
Distribution and transmission	610,139	—	610,139
	$12,630,666	$ 1,588,220	$11,042,446

During the fourth quarter of 2022, the Company concluded that some assets in the Renewable Energy Group may not be recoverable due to declining forecasted energy prices in the Electric Reliability Council of Texas ("ERCOT") market, mainly affecting the results of the Senate Wind Facility (which began commercial operations in 2012). Accordingly, the Company performed fair value analysis based on the income approach and recorded an impairment charge of $159,568 to reduce the carrying value of the Senate Wind Facility and other smaller assets from $259,942 to $100,374. Changes in assumptions of revenue forecasts, driven by expected production, basis difference and resulting spot prices, projected operating and capital expenditures would affect the estimated fair value.

Renewable generation facilities include cost of $111,192 (2021 - $114,868) and accumulated depreciation of $46,666 (2021 - $46,649) related to facilities under financing lease or owned by consolidated VIEs. Depreciation expense of facilities under finance leases was $1,489 (2021 - $1,716). Utility plant includes cost of $3,076 (2021 - $3,076) and accumulated depreciation of $2,041 (2021 - $1,665) related to assets under finance lease.

Utility plant includes cost of $2,033,391 (2021 - $2,018,039) and accumulated depreciation of $133,644 (2021 - $72,484) related to regulated generation assets.

For the year ended December 31, 2022, contributions received in aid of construction of $1,299 (2021 - $6,376) have been credited to the cost of the assets.

Interest and AFUDC capitalized to the cost of the assets in 2022 and 2021 are as follows:

	2022	2021
Interest capitalized on non-regulated property	**$ 4,762**	$ 3,313
AFUDC capitalized on regulated property:		
Allowance for borrowed funds	**6,040**	3,208
Allowance for equity funds	**1,901**	829
	$ 12,703	$ 7,350

6. Intangible assets and goodwill

Intangible assets consist of the following:

2022	Cost	Accumulated amortization	Net book value
Power sales contracts	**$ 56,926**	**$ 42,818**	**$ 14,108**
Customer relationships	**77,850**	**13,709**	**64,141**
Interconnection agreements	**10,098**	**1,851**	**8,247**
Other [(a)]	**10,338**	**151**	**10,187**
	$ 155,212	**$ 58,529**	**$ 96,683**

2021	Cost	Accumulated amortization	Net book value
Power sales contracts	$ 58,112	$ 43,118	$ 14,994
Customer relationships	78,140	12,337	65,803
Interconnection agreements	15,072	1,721	13,351
Other [(a)]	10,968	—	10,968
	$ 162,292	$ 57,176	$ 105,116

[(a)] Other includes brand names, water rights and miscellaneous intangibles

Estimated amortization expense for intangible assets for each of the next year is $2,580 and $2,572 for years two to five.

All goodwill pertains to the Regulated Services Group.

	2022	2021
Opening balance	**$ 1,201,244**	$ 1,208,390
Business acquisitions (note 3)	**123,751**	5,535
Foreign exchange	**(4,416)**	(12,681)
Closing balance	**$ 1,320,579**	$ 1,201,244

7. Regulatory matters

The operating companies within the Regulated Services Group are subject to regulation by the respective Regulators of the jurisdictions in which they operate. The respective Regulators have jurisdiction with respect to rate, service, accounting policies, issuance of securities, acquisitions and other matters. Except for ESSAL, these utilities operate under cost-of-service regulation as administered by these authorities. The Company's regulated utility operating companies are accounted for under the principles of ASC 980, *Regulated Operations*. Under ASC 980, regulatory assets and liabilities that would not be recorded under U.S. GAAP for non-regulated entities are recorded to the extent that they represent probable future revenue or expenses associated with certain charges or credits that will be recovered from or refunded to customers through the rate setting process.

7. Regulatory matters (continued)

At any given time, the Company can have several regulatory proceedings underway. The financial effects of these proceedings are reflected in the consolidated financial statements based on regulatory approval obtained to the extent that there is a financial impact during the applicable reporting period. The following regulatory proceedings were recently completed:

Utility	State, Province or Country	Regulatory Proceeding Type	Details
BELCO	Bermuda	General rate review	On March 18, 2022, the Regulatory Authority ("RA") approved an annual increase of $22,800, for a revenue allowance of $224,056 and $226,160 in revenue for 2022 and 2023, respectively. The RA authorized a rate of return of 7.16%, comprised of a 62% equity and an 8.92% return on equity. The new rates are effective from April 1, 2022. In April, 2022, BELCO filed an appeal in the Supreme Court of Bermuda challenging the decisions made by the RA through the recent Retail Tariff Review.
Empire Electric	Missouri	General Rate Case (GRC) and Securitization	On April 6, 2022, the Missouri Public Service Commission (the "MPSC") approved an annual base rate increase of $35,516, as well as another $4,000 in revenues associated with the Empire Wind Facilities. The new rates became effective in June 2022. On January 19, 2022, Empire Electric filed a petition for securitization of the costs associated with the impact of the Midwest Extreme Weather Event. On March 21, 2022, Empire Electric filed a petition for securitization of the costs associated with the retirement of the Asbury generating plant. On August 18, 2022, and September 22, 2022, the MPSC issued and amended, respectively, a Report and Order authorizing Empire Electric to securitize approximately $290,383 in qualified extraordinary costs (Midwest Extreme Weather Event), energy transition costs (Asbury) and upfront financing costs associated with the proposed securitization. The amounts authorized by the securitization order are generally consistent with the costs deferred by the Company in relation to these matters. Empire Electric filed an appeal of the MPSC order on November 10, 2022 (note 7(a) and (b)). Briefing of the case is expected to be completed in April 2023.

7. Regulatory matters (continued)

Utility	State, Province or Country	Regulatory Proceeding Type	Details
Empire Electric	Kansas	GRC	On May 27, 2021, Empire Electric submitted an abbreviated rate review seeking to recover costs associated with the addition of the Empire Wind Facilities, the retirement of Asbury and non-growth related plant investments since the 2019 rate review. In May 2022, the Commission approved the unanimous partial settlement resolving the rate treatment of the Asbury retirement and the non-wind investments resulting in a base rate decrease of $636, and granted Empire Electric's motion to withdraw its request to recover cost associated with the Empire Wind Facilities. New rates became effective in July 2022.
Empire District Gas Company	Missouri	GRC	In June 2022, the Commission approved an annual increase of $1,000 in base rate revenues. New rates became effective in August 2022.
Empire Electric	Oklahoma	GRC	On December 29, 2022 the Commission approved a joint stipulation and agreement filed by the Company and Staff authorizing an annual base rate revenue increase of $5,100.
New Brunswick Gas	Canada	GRC	On November 22, 2021, New Brunswick Gas filed its 2022 general rate application for a revenue decrease based on the Energy & Utilities Board's recent decision authorizing a capital structure of 45% equity and an ROE of 8.5%. In January 2022, New Brunswick Natural Gas appealed the Energy & Utilities Board's cost of capital decision. In May 2022, the Energy & Utilities Board issued a partial decision approving a decrease in annual revenues of $1,041 to become effective in July 2022. In June 2022, the Court of Appeal found in favour of New Brunswick Gas and remanded the cost of capital case back to the Energy & Utilities Board. On December 22, 2022 the Board issued a Final Order and approved an annual revenue increase of $1,265 based on an ROE of 9.8%. New rates became effective January 1, 2023.
Apple Valley Ranchos Water System	California	GRC	Subsequent to year-end, on February 3, 2023, the Commission issued a Final Order authorizing an annual revenue increase of $1,412. New rates are retroactive to July 1, 2022.
Park Water System	California	GRC	Subsequent to year-end, on February 3, 2023, the Commission issued a Final Order authorizing an annual revenue increase of $1,105. New rates are retroactive to July 1, 2022.

7. Regulatory matters (continued)

Regulatory assets and liabilities consist of the following:

	December 31, 2022	December 31, 2021
Regulatory assets		
Fuel and commodity cost adjustments (a)	**$ 388,294**	$ 339,900
Retired generating plant (b)	**174,609**	185,073
Rate adjustment mechanism (c)	**136,198**	117,309
Income taxes (d)	**97,414**	79,472
Deferred capitalized costs (e)	**90,121**	62,599
Pension and post-employment benefits (f)	**80,736**	134,287
Environmental remediation (g)	**70,529**	81,802
Wildfire mitigation and vegetation management (h)	**66,156**	35,726
Clean energy and other customer programs (i)	**28,145**	25,857
Asset retirement obligation (j)	**27,172**	26,810
Debt premium (k)	**24,888**	34,204
Cost of removal (l)	**11,084**	—
Rate review costs (m)	**9,481**	9,167
Long-term maintenance contract (n)	**6,504**	9,134
Other (o)	**60,170**	26,285
Total regulatory assets	**$ 1,271,501**	$ 1,167,625
Less: current regulatory assets	**(190,393)**	(158,212)
Non-current regulatory assets	**$ 1,081,108**	$ 1,009,413
Regulatory liabilities		
Income taxes (d)	**$ 312,671**	$ 295,720
Cost of removal (l)	**191,173**	191,981
Pension and post-employment benefits (f)	**68,085**	34,468
Fuel and commodity cost adjustments (a)	**24,991**	18,175
Clean energy and other customer programs (i)	**11,572**	14,829
Rate adjustment mechanism (c)	**343**	3,316
Other	**19,347**	17,700
Total regulatory liabilities	**$ 628,182**	$ 576,189
Less: current regulatory liabilities	**(69,865)**	(65,809)
Non-current regulatory liabilities	**$ 558,317**	$ 510,380

As recovery of regulatory assets is subject to regulatory approval, if there were any changes in regulatory positions that indicate recovery is not probable, the related cost would be charged to earnings in the period of such determination. The Company generally does not earn a return on the regulatory balances except for carrying charges on fuel and commodity cost adjustments (a), rate adjustment mechanism (c), clean energy and other customer programs (i), and rate review costs of some jurisdictions (m). Carrying charges on regulatory balances are recognized on the consolidated statement of operations under Interest and other income (note 8) and are computed using only the debt component of the allowed returned.

7. Regulatory matters (continued)

(a) Fuel and commodity cost adjustments

The revenue from the utilities includes a component that is designed to recover the cost of electricity and natural gas through rates charged to customers. To the extent actual costs of power or fuel purchased differ from power or fuel costs recoverable through current rates, that difference is deferred and recorded as a regulatory asset or liability on the consolidated balance sheets. These differences are reflected in adjustments to rates and recorded as an adjustment to cost of electricity and fuel in future periods ranging mostly from 6 to 24 months, subject to regulatory review. Derivatives are often utilized to manage the price risk associated with natural gas purchasing activities in accordance with the expectations of state regulators. The gains and losses associated with these derivatives (note 24(b)(i)) are recoverable through the commodity costs adjustment.

In February 2021, the Company's operations were impacted by extreme winter storm conditions experienced in Texas and parts of the central U.S. ("Midwest Extreme Weather Event"). As a result of the Midwest Extreme Weather Event, the Company incurred incremental commodity costs during the period of record high pricing and elevated consumption. The Company has commodity cost mechanisms that allow for the recovery of prudently incurred expenses.

In early 2022, pursuant to the securitization statute, Empire Electric sought authorization for the issuance of $221,646 in securitized utility tariff bonds associated with the Midwest Extreme Weather Event and $140,774, in securitized utility tariff bonds for its Asbury costs, which included $21,283 in asset retirement obligations, which are estimates of costs that Empire Electric will recover from the Asbury retirement but which have not yet been incurred. On April 27, 2022, the MPSC issued an order consolidating, for purposes of hearing, these two cases regarding the quantum financeable through securitization, which hearing was held the week of June 13, 2022. On August 18, 2022, and September 22, 2022, the MPSC issued and amended, respectively, a Report and Order authorizing Empire Electric to securitize $290,383 in qualified extraordinary costs (Midwest Extreme Weather Event), energy transition costs (Asbury) and upfront financing costs associated with the proposed securitization. The amounts authorized by the securitization order are generally consistent with the costs deferred by the Company in relation to these matters. Empire Electric filed a request for rehearing seeking reconsideration of the MPSC's denial of recovery of five percent of the Midwest Extreme Weather Event costs, its calculation of accumulated deferred income taxes, and the exclusion of certain carrying charges associated with the Asbury plant, among other issues. On October 12, 2022, the MPSC denied all rehearing motions. Empire Electric appealed to the Missouri Court of Appeals - Western District on November 10, 2022. Briefing of the case is expected to be completed in April 2023.

(b) Retired generating plant

On March 1, 2020, the Company's 200 MW coal generation facility located in Asbury, Missouri, ceased operations. The Company transferred the remaining net book value of Asbury's plant retired from plant in-service to a regulatory asset. The net book value that may be retained as an asset on the balance sheet for the retired plant is dependent upon amounts that may be recovered through regulated rates, including any return. An impairment charge, if any, would equal the difference between the remaining net book value of the asset and the present value of the future revenues expected from the asset. The ultimate valuation of the regulatory asset will be determined in future commission orders. The Company is also assessing the decommissioning requirements associated with the retirement of the facility.

Per commission orders in its jurisdictions, the Company is required to track the impact of Asbury's retirement on operating and capital expenses in Missouri for consideration in the next rate case. The Company recorded a regulatory liability for the estimated amount of revenues collected from customers for Asbury from March 1, 2020 to May 2022 that AQN determined was probable of refund. This regulatory liability did not include revenues collected related to the return on investment in Asbury as AQN determined that they were not probable of refund to customers based on the relevant facts and circumstances. AQN believes it is probable that the Asbury regulatory liability will be offset for recovery purposes against its unrecovered investment in Asbury and as a result, has netted its regulatory liability against its retired generation facilities regulatory asset.

As noted above under (a) *Fuel and commodity cost adjustments*, in March 2022, Empire Electric filed petitions for securitization of the impact of the Midwest Extreme Weather Event and the retirement of Asbury.

7. Regulatory matters (continued)

(c) Rate adjustment mechanism

Revenue for CalPeco Electric System, New England Gas System, Midstates Gas system, EnergyNorth Gas System, Granite State Electric System, Peach State Gas System and BELCO is subject to a revenue decoupling mechanism approved by their respective regulator, which allows revenue decoupling from sales. As a result, the difference between delivery revenue calculated based on metered consumption and approved delivery revenue is recorded as a regulatory asset or liability to reflect future recovery or refund, respectively, from customers over periods ranging from one to five years. The revenue from BELCO includes a component that is designed to recover budgeted capital and operating expenses for the current year. To the extent actual capital and operating expenditures are lower than the budgeted amounts, 80% of the shortfall is refundable to customers and is recorded as a regulatory liability. Retroactive rate adjustments for services rendered but to be collected over a period not exceeding 24 months are accrued upon approval of the final order. The difference between New Brunswick Gas' regulated revenues and its regulated cost of service in past years is also recorded as a regulatory asset and is recovered on a straight-line basis over 26 years. The Liberty NY Water System has similar trackers which are recovered over periods ranging from one to two years.

(d) Income taxes

The income taxes regulatory assets and liabilities represent income taxes recoverable through future revenues required to fund flow-through deferred income tax liabilities over the life of the plants and amounts owed to customers for deferred taxes collected at a higher rate than the current statutory rates.

(e) Deferred capitalized costs

Deferred capitalized costs reflect deferred construction costs and fuel-related costs of specific generating facilities of the Empire Electric System. These amounts are being recovered over the life of the plants. The amount also includes capitalized operating and maintenance costs of New Brunswick Gas, and these amounts are being recovered at a rate of 2.43% annually.

In 2020, the Empire Electric System made an election under Missouri law to apply the plant-in-service accounting ("PISA") regulatory mechanism, which permits the Empire Electric System to defer, on a Missouri jurisdictional basis, 85% of the depreciation expense and carrying costs at the applicable WACC on certain property, plant, and equipment placed in service after the election date and not included in base rates. The portions of regulatory asset balances that are not yet being recovered through rates shall include carrying costs at the WACC, plus applicable federal, state, and local income or excise taxes. Regulatory asset balances included in rate base shall be recovered in rates through a 20-year amortization beginning on the effective date of new rates. The Company recognizes the cost of debt on PISA deferrals as reduction of interest expense. The difference between the WACC and cost of debt will be recognized in revenue when recovery of such deferrals is reflected in customer rates.

(f) Pension and post-employment benefits

To the extent pension and OPEB costs incurred differ from the costs recoverable through current rates, that difference is deferred and recorded as a regulatory asset or liability as approved by the applicable Regulators and is recovered through rates over a period of 3 to 8 years. In addition, the annual movements in AOCI for pension and OPEB for Empire Electric System, Empire Gas Systems, St. Lawrence Gas System and Liberty NY Water System (note 10(a)) are reclassified to regulatory accounts in accordance with ASC 980, *Regulated Operations*. The balance is recovered through rates consistent with the treatment of OCI under ASC 712, *Compensation Non-retirement Post-employment Benefits* and ASC 715, *Compensation Retirement Benefits.* As part of certain business acquisitions, the regulators authorized a regulatory asset or liability being set up for the amounts of pension and post-employment benefits that had not yet been recognized in net periodic cost and were presented as AOCI prior to the acquisition. These balances are recovered through rates over the future service years of the employees (an average of 10 years) or consistent with the treatment of OCI under ASC 712, *Compensation Non-retirement Post-employment Benefits* and ASC 715, *Compensation Retirement Benefits* before the transfer to regulatory asset occurred.

7. Regulatory matters (continued)

(g) Environmental remediation

Actual expenditures incurred for the clean-up of certain former natural gas manufacturing facilities (note 12(d)) are recovered through rates over a period of 7 years and are subject to an annual cap.

(h) Wildfire mitigation and vegetation management

The regulatory asset includes incremental wildfire liability insurance premium costs approved for tracking in the Company's California operations as well as the difference between actual and adopted spending related to dead trees program, to prevent future forest fires and general vegetation management. The assets are recovered over two years.

(i) Clean energy and other customer programs

The regulatory asset for clean energy and customer programs includes initiatives related to solar rebate applications processed and resulting rebate-related costs. The amount also includes other energy efficiency programs. The assets are generally included in rate base and recovered over periods of six to ten years.

(j) Asset retirement obligation

Asset retirement obligations are recorded for legally required removal costs of property, plant and equipment. The costs of retirement of assets as well as the on-going liability accretion and asset depreciation expense are expected to be recovered through rates once expenditures are made.

(k) Debt premium

Debt premium on acquired debt is recovered as a component of the weighted average cost of debt.

(l) Cost of removal

Rates charged to customers cover for costs that are expected to be incurred in the future to retire the utility plant. A regulatory liability (or asset) tracks the amounts that have been collected from customers net of costs incurred to date.

(m) Rate review costs

The cost to file, prosecute and defend rate review applications is referred to as rate review costs. These costs are capitalized and amortized over the period of rate recovery granted by the Regulator ranging from one to five years

(n) Long-term maintenance contract

To the extent actual costs of long-term maintenance incurred for one of Empire Electric System's power plants differ from the costs recoverable through current rates, that difference is generally included in rate base and recovered over five years.

(o) Other

The Company’s regulated utilities incur other miscellaneous costs such as storm costs, property taxes, financing costs, and equipment costs, which are probable of recovery under existing mechanisms.

8. Long-term investments

Long-term investments consist of the following:

	December 31, 2022	December 31, 2021
Long-term investments carried at fair value		
Atlantica (a)	**$ 1,268,140**	$ 1,750,914
Atlantica Yield Energy Solutions Canada Inc. (b)	**74,083**	95,246
Other	**1,984**	2,296
	$ 1,344,207	$ 1,848,456
Other long-term investments		
Equity-method investees (c)	**$ 381,802**	$ 433,850
Development loans receivable from equity-method investees (d)	**52,923**	31,468
San Antonio Water System and other (e)	**27,600**	30,508
	$ 462,325	$ 495,826

Fair value change, income (loss) and impairment expense related to long-term investments from the years ended December 31 is as follows:

	Year ended December 31, 2022	2021
Fair value gain (loss) on investments carried at fair value		
Atlantica	**$ (482,774)**	$ (107,030)
Atlantica Yield Energy Solutions Canada Inc.	**(16,018)**	(15,915)
Other	**(333)**	526
	$ (499,125)	$ (122,419)
Dividend and interest income from investments carried at fair value		
Atlantica	**$ 86,664**	$ 83,971
Atlantica Yield Energy Solutions Canada Inc.	**20,443**	17,222
Other	**36**	330
	$ 107,143	$ 101,523
Other long-term investments		
Equity method loss (c)	**$ (21,416)**	$ (26,337)
Impairment of equity-method investee (c)	**(75,910)**	—
Interest and other income	**24,102**	20,776
	$ (73,224)	$ (5,561)
Fair value change, income (loss) and impairment expense related to long-term investments	**$ (465,206)**	$ (26,457)

(a) Investment in Atlantica

Liberty (AY Holdings) B.V. ("AY Holdings"), an entity controlled and consolidated by AQN, has a share ownership in Atlantica Sustainable Infrastructure PLC ("Atlantica") of approximately 42% (2021 - 44%). AQN has the flexibility, subject to certain conditions, to increase its ownership of Atlantica up to 48.5%. The total cost for the Atlantica shares as of December 31, 2022 is $1,167,444 (2021 - $1,167,444).

The Company has elected the fair value option under ASC 825, *Financial Instruments* to account for its investment in Atlantica, with changes in fair value reflected in the consolidated statements of operations.

8. Long-term investments (continued)

(b) Investment in AYES Canada

AQN and Atlantica own Atlantica Yield Energy Solutions Canada Inc. ("AYES Canada"), a vehicle to channel co-investment opportunities in which Atlantica holds the majority of voting rights. AYES Canada invested in Windlectric Inc. ("Windlectric"). The investment by AYES Canada in Windlectric is presented as a non-controlling interest held by a related party (notes 17).

AYES Canada is considered to be a VIE based on the disproportionate voting and economic interests of the shareholders. Atlantica is considered to be the primary beneficiary of AYES Canada. Accordingly, AQN's investment in AYES Canada is considered an equity method investment. Under the AYES Canada shareholders agreement, AQN has the option to exchange approximately 3,500,000 shares of AYES Canada into ordinary shares of Atlantica on a one-for-one basis, subject to certain conditions. Consistent with the treatment of the Atlantica shares, the Company has elected the fair value option under ASC 825, *Financial Instruments* to account for its investment in AYES Canada, with changes in fair value reflected in the consolidated statements of operations.

As at December 31, 2022, the Company's maximum exposure to loss is $74,083 (2021 - $95,246), which represents the fair value of the investment.

(c) Equity-method investees

The Renewable Energy Group has non-controlling interests in operating renewable energy facilities and projects under construction with a total carrying value of $310,103 (2021 - $375,460). The Regulated Services Group has non-controlling interest of $56,199 (2021 - 37,492) in a power transmission line project under construction and other non-regulated operating entities owned by its utilities. The Liberty Development JV Inc. platform for non-regulated renewable energy, water and other sectors has a carrying value of $15,500 and (2021 - $20,898) is reported under Corporate.

Operating entities: The Company has interests in the operating entities listed below. The Company is not considered the primary beneficiary as the two partners have joint control and all key decisions must be unanimous. As such, the Company accounts for its interests using the equity method.

	Economic interest	Capacity
Texas Coastal Wind Facilities	51%	861 MW
Blue Hill Wind Facility	20%	175 MW
Red Lily Wind Facility	75%	26.4 MW
Val-Eo Wind Facility	50%	24 MW

During 2021, the Company acquired a 51% interest in four wind facilities located in Texas ("Texas Coastal Wind Facilities") for $344,883. All facilities achieved commercial operations in 2021. As at December 31, 2022, the Company had issued $113,630 (2021 - $119,750) in letters of credit and guarantees of performance obligations under energy purchase agreements and decommissioning obligations on behalf of the Texas Coastal Wind Facilities. During the fourth quarter of 2022, the Company concluded that primarily as a result of continued challenges with congestion at the facilities, the carrying value of the interest in the Texas Coastal Wind Facilities was other-than-temporarily impaired. Accordingly, the Company performed a fair value analysis based on the income approach and recorded an impairment charge of $75,910 to reduce the carrying value of its equity investment in the Texas Coastal Wind Facilities from $282,726 to 206,816. Changes in assumptions of revenue forecasts, driven by expected production, basis difference and resulting spot prices, projected operating and capital expenditures would affect the estimated fair value.

Development: Pursuant to an agreement between AQN and funds managed by the Infrastructure and Power strategy of Ares Management, LLC ("Ares"), in November 2021 Ares became AQN's new partner in its non-regulated development platform for renewable energy, water and other sectors as both parties contributed cash or assets of $19,688 to Liberty Development JV Inc. The Company is not considered the primary beneficiary as the two partners have joint control and all key decisions must be unanimous. As such, the Company accounts for its interests using the equity method.

8. Long-term investments (continued)

(c) Equity-method investees (continued)

Construction: The Renewable Energy Group has 50% equity interests in several wind and solar power electric construction projects. AQN and Ares have formed Liberty Construction (US) JV LLC ("Liberty Construction JV") to jointly construct projects under the Renewable Energy Group. During the year, the Company contributed several projects to joint entities. The transfers resulted in a gain of $nil (2021 - $26,182). The Company holds an option to acquire the remaining interest in most construction projects at a pre-agreed price. The Company is not considered the primary beneficiary as the partners have joint control and all key decisions must be unanimous. As such, the Company accounts for its interests using the equity method.

Changes in the carrying value of equity method investees were as follows:

	2022	2021
Carrying value, January 1	**$ 433,850**	$ 186,452
Additional Investments	**110,441**	418,434
Net loss attributable to AQN	**(21,416)**	(26,337)
Other comprehensive income (loss) attributable to AQN (a)	**(67,110)**	7,733
Operating projects bought back by AQN	**—**	(129,075)
Dividend received	**(1,183)**	(2,981)
Impairment	**(75,910)**	—
Reclassification during the period (note 8(e))	**—**	(25,634)
Other	**3,130**	5,258
Carrying value, December 31	**$ 381,802**	$ 433,850

(a) Other comprehensive loss represents the Company's proportion of the change in fair value, recorded in OCI at the investee level, on energy derivative financial instruments designated as a cash flow hedge,

Summarized combined information for AQN's equity method investees as at December 31 is as follows:

	2022	2021
Total assets	**$ 2,740,132**	$ 2,126,934
Total liabilities	**1,507,079**	945,971
Net assets	**1,233,053**	1,180,963
AQN's ownership interest in the entities	**332,663**	327,555
Difference between investment carrying amount and underlying equity in net assets(a)	**49,139**	106,295
Total carrying value	**$ 381,802**	$ 433,850

(a) The difference between the investment carrying amount and the underlying equity in net assets relates primarily to interest capitalized while the projects are under construction, the fair value of guarantees provided by the Company in regards to the investments, development fees and transaction costs.

8. Long-term investments (continued)

(c) Equity-method investees (continued)

Summarized combined information for AQN's equity method investees for the year ended December 31 (presented at 100%) is as follows:

	2022	2021
Revenue	**$ 65,025**	$ 20,262
Net loss	**$ (31,070)**	$ (46,293)
Other comprehensive income (loss) [(a)]	**$ (130,729)**	$ 15,177
Net loss attributable to AQN	**$ (21,416)**	$ (26,337)
Other comprehensive loss attributable to AQN [(a)]	**$ (67,110)**	**$ 7,733**

[(a)] Other comprehensive loss represents the Company's proportion of the change in fair value, recorded in OCI at the investee level, on energy derivative financial instruments designated as a cash flow hedge,

Except for Liberty Global Energy Solutions B.V. (formerly Abengoa-Algonquin Global Energy Solutions B.V.) ("Liberty Global Energy Solutions"), Liberty Development JV Inc. and all construction projects are considered VIEs due to the level of equity at risk and the disproportionate voting and economic interests of the shareholders. The Company has committed loan and credit support facilities with some of its equity investees. During construction, the Company has agreed to provide cash advances and credit support for the continued development and construction of the equity investees' projects. As of December 31, 2022, the Company had issued letters of credit and guarantees of performance obligations: under a security of performance for a development opportunity; wind turbine or solar panel supply agreements; engineering, procurement, and construction agreements; interconnection agreements; energy purchase agreements; renewable energy credit agreements; and construction loan agreements. The fair value of the support provided recorded as at December 31, 2022 amounts to $8,824 (2021 - $4,612).

Summarized combined information for AQN's VIEs as at December 31 is as follows:

	2022	2021
AQN's maximum exposure in regards to VIEs		
Carrying amount	**$ 122,752**	$ 86,202
Development loans receivable (d)	**52,923**	31,468
Performance guarantees and other commitments on behalf of VIEs	**658,224**	409,232
	$ 833,899	$ 526,902

The commitments are presented on a gross basis assuming no recoverable value in the assets of the VIEs. The majority of the amounts committed on behalf of VIEs in the above relate to wind turbine or solar panel supply agreements as well as engineering, procurement, and construction agreements.

(d) Development loans receivable from equity investees

The Renewable Energy Group has committed loan and credit support facilities with some of its equity investees. During construction, the Company has agreed to provide cash advances and credit support (in the form of letters of credit, escrowed cash, guarantees or indemnities) in amounts necessary for the continued development and construction of the equity investees' projects. The loans generally mature on the twelfth anniversary of the development agreement or commercial operation date.

(e) San Antonio Water System and other

The Company no longer has significant influence over its 20% interest in the San Antonio Water System ("SAWS"), and therefore has discontinued the equity method of accounting in 2021. The investment is accounted for using the cost method prospectively.

9. Long-term debt

Long-term debt consists of the following:

Borrowing type	Weighted average coupon	Maturity	Par value	December 31, 2022	December 31, 2021
Senior unsecured revolving credit facilities (a)	—	2024-2027	N/A	**$ 351,786**	$ 368,806
Senior unsecured bank credit facilities and delayed draw term facility (b)	—	2023-2031	N/A	**773,643**	141,956
Commercial paper	—	2023	N/A	**407,000**	338,700
U.S. dollar borrowings					
Senior unsecured notes (Green Equity Units) (c)	1.18 %	2026	$ 1,150,000	**1,142,814**	1,140,801
Senior unsecured notes (d)	3.39 %	2023-2047	$ 1,505,000	**1,496,101**	1,689,792
Senior unsecured utility notes	6.34 %	2023-2035	$ 142,000	**154,271**	155,571
Senior secured utility bonds	4.71 %	2026-2044	$ 556,209	**554,822**	558,177
Canadian dollar borrowings					
Senior unsecured notes (e)	3.68 %	2027-2050	C$1,200,000	**882,899**	1,099,403
Senior secured project notes	10.21 %	2027	C$ 20,349	**15,024**	18,344
Chilean Unidad de Fomento borrowings					
Senior unsecured utility bonds	4.05 %	2028-2040	CLF 1,637	**77,206**	77,963
				$ 5,855,566	$ 5,589,513
Subordinated U.S. dollar borrowings					
Subordinated unsecured notes (f)	5.25 %	2082	C$ 400,000	**291,238**	—
Subordinated unsecured notes (f)	5.56 %	2078-2082	$ 1,387,500	**1,365,213**	621,862
				$ 7,512,017	$ 6,211,375
Less: current portion				**(423,274)**	(356,397)
				$ 7,088,743	$ 5,854,978

Short-term obligations of $705,386 that are expected to be refinanced using the long-term credit facilities are presented as long-term debt.

Long-term debt issued at a subsidiary level (project notes or utility bonds) relating to a specific operating facility is generally collateralized by the respective facility with no other recourse to the Company. Long-term debt issued at a subsidiary level whether or not collateralized generally has certain financial covenants, which must be maintained on a quarterly basis. Non-compliance with the covenants could restrict cash distributions/dividends to the Company from the specific facilities.

9. Long-term debt (continued)

The following table sets out the bank credit facilities available to AQN and its operating groups as at December 31, 2022:

	December 31, 2022	December 31, 2021
Revolving and term credit facilities	**$ 4,513,300**	$ 3,217,000
Funds drawn on facilities/ commercial paper issued	**(1,532,500)**	(849,600)
Letters of credit issued	**(465,200)**	(317,200)
Liquidity available under the facilities	**2,515,600**	2,050,200
Undrawn portion of uncommitted letter of credit facilities	**(226,900)**	(224,000)
Cash on hand	**57,623**	125,157
Total liquidity and capital reserves	**$ 2,346,323**	$ 1,951,357

Recent financing activities:

(a) Senior unsecured revolving credit facilities

Regulated Services Group

On April 29, 2022, the Regulated Services Group entered into two new senior unsecured revolving credit facilities: a $1,000,000 senior unsecured revolving credit facility with an initial maturity date of April 29, 2027 (the "Long-Term Regulated Services Credit Facility") and a $500,000 short-term senior unsecured revolving credit facility maturing originally on March 31, 2023 and extended to February 28, 2024, subsequent to year-end. Subject to the terms and conditions therein, the Long-Term Regulated Services Credit Facility may be extended for two additional one-year periods. In conjunction with the new facilities, the Regulated Services Group's $500,000 senior unsecured syndicated revolving credit facility was cancelled.

On December 23, 2022, the Regulated Services Group amended and restated its $75,000 senior unsecured revolving credit facility in Bermuda with a new maturity date of December 31, 2024. On June 24, 2022, the Regulated Services Group entered into a new $25,000 senior unsecured bilateral revolving credit facility in Bermuda that matures on June 24, 2024.

Renewable Energy Group

On July 22, 2022, the Renewable Energy Group amended and restated its $500,000 senior unsecured syndicated revolving credit facility (the "Renewable Energy Credit Facility") with a new maturity date of July 22, 2027. Subject to the terms and conditions therein, the Renewable Energy Credit Facility may be extended for additional one-year periods.

On July 22, 2022, the Renewable Energy Group entered into a new $250,000 uncommitted bilateral letter of credit facility. On November 8, 2022, the Renewable Energy Group's $350,000 uncommitted letter of credit facility was amended and restated with a new maturity date of June 30, 2024.

(b) Senior unsecured bank credit facilities

On November 30, 2022, the Regulated Services Group amended and restated its $1,100,000 senior unsecured delayed draw term facility ("the "Regulated Services Delayed Draw Term Facility") with the new maturity date of November 29, 2023.

(c) U.S dollar senior unsecured notes (Green Equity Units)

In June 2021, the Company sold 23,000,000 equity units (the "Green Equity Units") for total gross proceeds of $1,150,000. Each Green Equity Unit was issued in a stated amount of $50, at issuance, consisted of a contract to purchase AQN common shares (the "share purchase contract") and a 5% undivided beneficial ownership interest in a remarketable senior note of AQN due June 15, 2026, issued in the principal amount of $1,000.

9. Long-term debt (continued)

Recent financing activities (continued):

(c) U.S dollar senior unsecured notes (Green Equity Units) (continued)

Total annual distributions on the Green Equity Units are at a rate of 7.75%, consisting of interest on the notes (1.18% per year) and payments under the share purchase contract (6.57% per year). The interest rate on the notes will be reset following a successful marketing, which would occur in 2024. The present value of the contract adjustment payments was estimated at $222,378 and is recorded against additional paid-in capital ("APIC") to the extent of the APIC balance and against retained earnings (deficit) for the remainder. The corresponding amount of $222,378 was recorded in other liabilities and is accreted over the three-year period (note 12(a)).

Each share purchase contract requires the holder to purchase by no later than June 15, 2024 for a price of $50 in cash, a number of AQN common shares ("common shares") based on the applicable market value to be determined using the volume-weighted average price of the common shares over a 20-day trading period ending June 14, 2024. The minimum settlement rate under the purchase contracts is 2.7778 common shares, which is approximately equal to the $50 stated amount per Green Equity Unit, divided by the threshold appreciation price of $18 per common share. The maximum settlement rate under the purchase contracts is 3.3333 common shares, which is approximately equal to the $50 stated amount per Green Equity Unit, divided by $15 per common share.

The common share purchase obligation of holders of Green Equity Units will be satisfied by the proceeds raised from a successful remarketing of the notes, unless a holder has elected to settle with separate cash. Holders' beneficial ownership interest in each note has been pledged to AQN to secure the holders' obligation to purchase common shares under the related share purchase contract.

Prior to the issuance of common shares, the share purchase contracts, if dilutive, will be reflected in the Company's diluted earnings per share calculations using the treasury stock method.

(d) U.S. dollar senior unsecured notes

On April 30, 2022, the Company repaid a $80,000 senior unsecured note on its maturity.

On August 1, 2022, the Company repaid a $115,000 senior unsecured note on its maturity.

Subsequent to year end, the Company repaid a $15,000 senior unsecured note on its maturity.

(e) Canadian dollar senior unsecured notes

On February 15, 2022, the Company repaid a C$200,000 senior unsecured note on its maturity. On February 15, 2021, the Renewable Energy Group repaid a C$150,000 unsecured note upon its maturity. Concurrent with the repayments, the Renewable Energy Group unwound and settled the related cross-currency fixed-for-fixed interest rate swap (note 24(b)(iii)).

On April 9, 2021, the Renewable Energy Group issued C$400,000 senior unsecured debentures bearing interest at 2.85% with a maturity date of July 15, 2031. The notes were sold at a price of C$999.92 per C$1,000.00 principal amount. Concurrent with the offering, the Renewable Energy Group entered into a fixed-for-fixed cross-currency interest rate swap to convert the Canadian-dollar-denominated coupon and principal payments from the offering into U.S. dollars (note 24(b)(iii)).

9. Long-term debt (continued)

Recent financing activities (continued):

(f) Subordinated unsecured notes

On January 18, 2022, the Company closed (i) an underwritten public offering in the United States (the "U.S. Offering") of $750,000 aggregate principal amount of 4.75% fixed-to-fixed reset rate junior subordinated notes series 2022-B due January 18, 2082 (the "U.S. Notes"); and (ii) an underwritten public offering in Canada (the "Canadian Offering" and, together with the U.S. Offering, the "Offerings") of C$400,000 (approximately $320,000) aggregate principal amount of 5.25% fixed-to-fixed reset rate junior subordinated notes series 2022-A due January 18, 2082 (the "Canadian Notes" and, together with the U.S. Notes, the "Notes"). Concurrent with the pricing of the Offerings, the Company entered into a cross currency interest rate swap to convert the Canadian dollar denominated proceeds from the Canadian Offering into U.S. dollars, and a forward starting swap to fix the interest rate for the second five year term of the U.S. Notes, resulting in an anticipated effective interest rate to the Company of approximately 4.95% throughout the first ten-year period of the Notes.

As of December 31, 2022, the Company had accrued $70,274 in interest expense (2021 - $49,806). Interest expense for the years ended December 31 consists of the following:

	2022	2021
Long-term debt	**$ 261,535**	$ 217,123
Commercial paper, credit facility draws and related fees	**43,015**	17,065
Accretion of fair value adjustments	**(16,547)**	(18,174)
Capitalized interest and AFUDC capitalized on regulated property	**(10,802)**	(6,521)
Other	**1,373**	61
	$ 278,574	$ 209,554

Principal payments due in the next five years and thereafter are as follows:

2023	2024	2025	2026	2027	Thereafter	Total
$ 1,128,660	$ 359,371	$ 45,262	$ 1,265,711	$ 719,144	$ 4,019,166	$ 7,537,314

10. Pension and other post-employment benefits

The Company provides defined contribution pension plans to substantially all of its employees. The Company's contributions for 2022 were $12,126 (2021 - $10,836).

The Company provides a defined benefit cash balance pension plan under which employees are credited with a percentage of base pay plus a prescribed interest rate credit. In conjunction with the utility acquisitions, the Company also assumes defined benefit pension, SERP and OPEB plans for qualifying employees in the related acquired businesses. The legacy plans are non-contributory defined pension plans covering substantially all employees of the acquired businesses. Benefits are based on each employee's years of service and compensation. The Company permanently freezes the accrual of benefits for participants in legacy plans. Thereafter, employees accrue benefits under the Company's cash balance plan. The OPEB plans provide health care and life insurance coverage to eligible retired employees. Eligibility is based on age and length of service requirements and, in most cases, retirees must cover a portion of the cost of their coverage.

10. Pension and other post-employment benefits (continued)

(a) Net pension and OPEB obligation

The following table sets forth the projected benefit obligations, fair value of plan assets, and funded status of the Company's plans as of December 31:

	Pension benefits		OPEB	
	2022	**2021**	**2022**	**2021**
Change in projected benefit obligation				
Projected benefit obligation, beginning of year	**$ 765,618**	$ 834,913	**$ 292,646**	$ 306,524
Projected benefit obligation assumed from business combination	**87,933**	—	**5,195**	—
Plan Settlements	**(112)**	(1,294)	**—**	—
Service cost	**16,309**	14,673	**6,277**	7,307
Interest cost	**24,787**	20,676	**9,146**	8,048
Actuarial gain	**(198,074)**	(36,597)	**(82,991)**	(18,977)
Contributions from retirees	**—**	—	**2,220**	2,040
Plan amendments	**—**	237	**(2,452)**	310
Medicare Part D	**—**	—	**367**	373
Benefits paid	**(68,197)**	(66,800)	**(13,078)**	(12,979)
Foreign exchange	**(129)**	(190)	**—**	—
Projected benefit obligation, end of year	**$ 628,135**	$ 765,618	**$ 217,330**	$ 292,646
Change in plan assets				
Fair value of plan assets, beginning of year	**648,864**	629,157	**192,375**	176,616
Plan assets acquired in business combination	**74,532**	—	**8,577**	—
Actual return on plan assets	**(109,118)**	58,721	**(30,105)**	15,200
Employer contributions	**23,296**	29,058	**11,811**	11,178
Plan Settlements	**(112)**	(1,294)	**—**	—
Contributions from retirees	**—**	—	**2,220**	1,988
Medicare Part D subsidy receipts	**—**	—	**367**	372
Benefits paid	**(68,197)**	(66,800)	**(13,078)**	(12,979)
Foreign exchange	**(10)**	22	**—**	—
Fair value of plan assets, end of year	**$ 569,255**	$ 648,864	**$ 172,167**	$ 192,375
Unfunded status	**$ (58,880)**	$ (116,754)	**$ (45,163)**	$ (100,271)
Amounts recognized in the consolidated balance sheets consist of:				
Non-current assets (note 11)	**12,264**	11,751	**14,218**	11,879
Current liabilities	**(1,907)**	(1,902)	**(3,039)**	(699)
Non-current liabilities	**(69,237)**	(126,603)	**(56,342)**	(111,451)
Net amount recognized	**$ (58,880)**	$ (116,754)	**$ (45,163)**	$ (100,271)

The accumulated benefit obligation for the pension and OPEB plans was $815,589 and $1,080,685 as of December 31, 2022 and 2021, respectively.

10. Pension and other post-employment benefits (continued)

(a) Net pension and OPEB obligation (continued)

Information for pension and OPEB plans with an accumulated benefit obligation in excess of plan assets:

	Pension		OPEB	
	2022	**2021**	**2022**	**2021**
Accumulated benefit obligation	**$ 413,041**	$ 489,043	**$ 198,463**	$ 274,649
Fair value of plan assets	**$ 364,229**	$ 396,679	**$ 139,368**	$ 162,592

Information for pension and OPEB plans with a projected benefit obligation in excess of plan assets:

	Pension		OPEB	
	2022	**2021**	**2022**	**2021**
Projected benefit obligation	**$ 489,140**	$ 580,841	**$ 198,463**	$ 274,649
Fair value of plan assets	**$ 417,994**	$ 452,333	**$ 139,368**	$ 162,592

(b) Pension and post-employment actuarial changes

Change in AOCI, before tax	**Pension**		**OPEB**	
	Actuarial losses (gains)	**Past service gains**	**Actuarial losses (gains)**	**Past service losses (gains)**
Balance, January 1, 2021	$ 57,231	$ (5,306)	$ (4,299)	$ —
Additions to AOCI	(59,754)	237	(24,126)	(24)
Amortization in current period	(13,130)	1,626	(2,021)	334
Amortization due to plan settlements	(210)	—	—	—
Reclassification to regulatory accounts	31,670	(752)	14,816	—
Balance, December 31, 2021	**$ 15,807**	**$ (4,195)**	**$ (15,630)**	**$ 310**
Additions to AOCI	**(47,473)**	**—**	**(41,527)**	**(24)**
Amortization in current period	**(3,429)**	**1,584**	**56**	**(2,476)**
Amortization due to plan settlements	**15**	**—**	**—**	**—**
Reclassification to regulatory accounts	**34,409**	**(752)**	**23,551**	**—**
Balance, December 31, 2022	**$ (671)**	**$ (3,363)**	**$ (33,550)**	**$ (2,190)**

The movements related to pension and OPEB in AOCI for Empire Electric System, Empire Gas Systems, St. Lawrence Gas System and Liberty NY Water System are reclassified to regulatory accounts since it is probable the unfunded amount of these plans will be afforded rate recovery (note 7(f)).

10. Pension and other post-employment benefits (continued)

(c) Assumptions

Weighted average assumptions used to determine net benefit obligation for 2022 and 2021 were as follows:

	Pension benefits		OPEB	
	2022	**2021**	**2022**	**2021**
Discount rate	**5.48 %**	2.94 %	**5.49 %**	3.00 %
Interest crediting rate (for cash balance plans)	**4.50 %**	4.00 %	**N/A**	N/A
Rate of compensation increase	**3.70 %**	4.00 %	**N/A**	N/A
Health care cost trend rate				
Before age 65			**6.00 %**	5.88 %
Age 65 and after			**6.00 %**	5.88 %
Assumed ultimate medical inflation rate			**4.75 %**	4.75 %
Year in which ultimate rate is reached			**2033**	2031

The mortality assumption for December 31, 2022 uses the Pri-2012 mortality table and the projected generationally scale MP-2021, adjusted to reflect the ultimate improvement rates in the 2021 Social Security Administration intermediate assumptions for plans in the United States. The mortality assumption for the Bermuda plan as of December 31, 2022 uses the 2014 Canadian Pensioners' Mortality Table combined with mortality improvement scale CPM-B.

In selecting an assumed discount rate, the Company uses a modelling process that involves selecting a portfolio of high-quality corporate debt issuances (AA- or better) whose cash flows (via coupons or maturities) match the timing and amount of the Company's expected future benefit payments. The Company considers the results of this modelling process, as well as overall rates of return on high-quality corporate bonds and changes in such rates over time, to determine its assumed discount rate.

The rate of return assumptions are based on projected long-term market returns for the various asset classes in which the plans are invested, weighted by the target asset allocations.

Weighted average assumptions used to determine net benefit cost for 2022 and 2021 were as follows:

	Pension benefits		OPEB	
	2022	**2021**	**2022**	**2021**
Discount rate	**2.94 %**	2.49 %	**3.00 %**	2.58 %
Expected return on assets	**6.19 %**	6.20 %	**6.48 %**	4.79 %
Rate of compensation increase	**3.91 %**	3.99 %	**n/a**	n/a
Health care cost trend rate				
Before Age 65			**5.88 %**	5.12 %
Age 65 and after			**5.88 %**	5.12 %
Assumed ultimate medical inflation rate			**4.75 %**	4.05 %
Year in which ultimate rate is reached			**2031**	2031

10. Pension and other post-employment benefits (continued)

(d) Benefit costs

The following table lists the components of net benefit cost for the pension and OPEB plans. Service cost is recorded as part of operating expenses and non-service costs are recorded as part of other net losses in the consolidated statements of operations. The employee benefit costs related to businesses acquired are recorded in the consolidated statements of operations from the date of acquisition.

	Pension benefits		OPEB	
	2022	**2021**	**2022**	**2021**
Service cost	**$ 16,309**	$ 14,673	**$ 6,277**	$ 7,307
Non-service costs				
Interest cost	**24,787**	20,676	**9,146**	8,048
Expected return on plan assets	**(41,226)**	(35,972)	**(11,359)**	(10,052)
Amortization of net actuarial loss	**3,452**	13,126	**(56)**	2,021
Amortization of prior service credits	**(1,584)**	(1,626)	**24**	11
Amortization due to plan settlements	**(15)**	198	**—**	—
Amortization of regulatory accounts	**22,951**	19,665	**4,829**	218
	$ 8,365	$ 16,067	**$ 2,584**	$ 246
Net benefit cost	**$ 24,674**	$ 30,740	**$ 8,861**	$ 7,553

(e) Plan assets

The Company's investment strategy for its pension and post-employment plan assets is to maintain a diversified portfolio of assets with the primary goal of meeting long-term cash requirements as they become due.

The Company's target asset allocation is as follows:

Asset class	**Target (%)**	**Range (%)**
Equity securities	**41 %**	**30% -100%**
Debt securities	**49 %**	**20% - 60%**
Other	**10 %**	**0% - 20%**
	100 %	

The fair values of investments as of December 31, 2022, by asset category, are as follows:

Asset class	**2022**	**Percentage**
Equity securities	**$ 317,088**	**43 %**
Debt securities	**356,654**	**48 %**
Other	**67,680**	**9 %**
	$ 741,422	**100 %**

As of December 31, 2022, the plan assets do not include any material investments in AQN.

10. Pension and other post-employment benefits (continued)

(e) Plan assets (continued)

All investments as of December 31, 2022 were valued using level 1 inputs except for 21,904 of institutional private equity investments using level 3 fair value measurement. These private equity funds invest in the private equity secondary market and in the credit markets. These funds are not traded in the open market, and are valued based on the underlying securities within the funds. The underlying securities are valued at fair value by the fund managers by using securities exchange quotations, pricing services, obtaining broker-dealer quotations, reflecting valuations provided in the most recent financial reports, or at a good faith estimate using fair market value principles.

The following table summarizes the changes fair value of these level 3 assets as of December 31:

		Level 3
Balance, January 1, 2022	**$**	**17,314**
Contributions into funds		**4,781**
Return on assets		**2,094**
Distributions		**(2,285)**
Balance, December 31, 2022	**$**	**21,904**

(f) Cash flows

The Company expects to contribute $22,386 to its pension plans and $9,819 to its post-employment benefit plans in 2023.

The expected benefit payments over the next ten years are as follows:

	2023	**2024**	**2025**	**2026**	**2027**	**2028-2032**
Pension plan	$ 48,174	$ 47,428	$ 49,794	$ 50,585	$ 50,433	$ 259,082
OPEB	$ 11,483	$ 12,025	$ 12,548	$ 12,925	$ 13,479	$ 72,684

11. Other assets

Other assets consist of the following:

		2022		**2021**
Restricted cash	**$**	**43,562**	$	36,232
Pension and OPEB plan assets (note 10(a))		**26,482**		23,630
Long-term deposits and cash collateral		**22,537**		14,713
Income taxes recoverable		**7,100**		7,649
Deferred financing costs (a)		**28,586**		30,544
Other (b)		**21,596**		10,913
	$	**149,863**	$	123,681
Less: current portion		**(22,564)**		(16,153)
	$	**127,299**	$	107,528

(a) Deferred financing costs

Deferred financing costs represent costs of arranging the Company's revolving credit facilities and intercompany loans as well as the portion of transactions costs related to the Green Equity Units (note 9(c)) that will be recorded against the common shares when issued.

(b) Other

Other includes various deferred charges that are expected to be transferred to utility plant upon reaching certain milestones as well as prepaid long-term service contracts.

12. Other long-term liabilities

Other long-term liabilities consist of the following:

	2022	2021
Contract adjustment payments (a)	**$ 113,876**	$ 187,580
Asset retirement obligations (b)	**116,584**	142,147
Advances in aid of construction (c)	**88,546**	82,584
Environmental remediation obligation (d)	**42,457**	55,224
Customer deposits (e)	**34,675**	32,629
Unamortized investment tax credits (f)	**17,649**	17,439
Deferred credits and contingent consideration (g)	**39,498**	43,495
Preferred shares, Series C (h)	**12,072**	13,348
Hook up fees (i)	**32,463**	21,904
Lease liabilities (note 1(q))	**21,834**	22,512
Contingent development support obligations (j)	**8,824**	4,615
Note payable to related party (k)	**25,808**	25,808
Other	**41,156**	34,534
	$ 595,442	$ 683,819
Less: current portion	**(134,212)**	(167,908)
	$ 461,230	$ 515,911

(a) Contract adjustment payment

In June 2021, the Company sold 23,000,000 Green Equity Units for total gross proceeds of $1,150,000 (note 9(c)). Total annual distributions on the Green Equity Units are at a rate of 7.75%, consisting of interest on the notes (1.18% per year) and payments under the share purchase contract (6.57% per year). The present value of the contract adjustment payments was estimated at $222,378 and recorded in other liabilities. The contract adjustment payments amount is accreted over the three-year period.

(b) Asset retirement obligations

Asset retirement obligations mainly relate to legal requirements to: (i) remove wind farm facilities upon termination of land leases; (ii) cut (disconnect from the distribution system), purge (cleanup of natural gas and polychlorinated biphenyls ("PCB") contaminants) and cap natural gas mains within the natural gas distribution and transmission system when mains are retired in place, or sections of natural gas main are removed from the pipeline system; (iii) clean and remove storage tanks containing waste oil and other waste contaminants; (iv) remove certain river water intake structures and equipment; (v) dispose of coal combustion residuals and PCB contaminants; (vi) remove asbestos upon major renovation or demolition of structures and facilities; and (vii) decommission and restore power generation engines and related facilities.

Changes in the asset retirement obligations are as follows:

	2022	2021
Opening balance	**$ 142,147**	$ 79,968
Obligation assumed	**793**	57,067
Retirement activities	**(27,980)**	(4,133)
Accretion	**4,589**	4,381
Change in cash flow estimates	**(2,965)**	4,864
Closing balance	**$ 116,584**	$ 142,147

12. Other long-term liabilities (continued)

(b) Asset retirement obligations (continued)

As the cost of retirement of utility assets in the United States is expected to be recovered through rates, a corresponding regulatory asset is recorded for liability accretion and asset depreciation expense (note 7(j)).

(c) Advances in aid of construction

The Company's regulated utilities have various agreements with real estate development companies (the "developers") conducting business within the Company's utility service territories, whereby funds are advanced to the Company by the developers to assist with funding some or all of the costs of the development.

In many instances, developer advances can be subject to refund, but the refund is non-interest bearing. Refunds of developer advances are made over periods generally ranging from 5 to 40 years. Advances not refunded within the prescribed period are usually not required to be repaid. After the prescribed period has lapsed, any remaining unpaid balance is transferred to contributions in aid of construction and recorded as an offsetting amount to the cost of property, plant and equipment. In 2022, $1,299 (2021 - $6,376) was transferred from advances in aid of construction to contributions in aid of construction.

(d) Environmental remediation obligation

A number of the Company's regulated utilities were named as potentially responsible parties for remediation of several sites at which hazardous waste is alleged to have been disposed as a result of historical operations of manufactured natural gas plants ("MGP") and related facilities. The Company is currently investigating and remediating, as necessary, those MGP and related sites in accordance with plans submitted to the agency with authority for each of the respective sites.

The Company estimates the remaining undiscounted, unescalated cost of the environmental cleanup activities will be $48,346 (2021 - $57,167), which at discount rates ranging from 3.4% to 4.2% represents the recorded accrual of $42,457 as of December 31, 2022 (2021 - $55,224). Approximately $27,410 is expected to be incurred over the next three years, with the balance of cash flows to be incurred over the following 30 years.

Changes in the environmental remediation obligation are as follows:

	2022	2021
Opening balance	**$ 55,224**	$ 69,383
Remediation activities	**(5,243)**	(9,865)
Accretion	**2,167**	1,025
Changes in cash flow estimates	**1,344**	2,265
Revision in assumptions	**(11,035)**	(7,584)
Closing balance	**$ 42,457**	$ 55,224

The Regulators for the New England Gas System and Energy North Gas System provide for the recovery of actual expenditures for site investigation and remediation over a period of 7 years and, accordingly, as of December 31, 2022, the Company has reflected a regulatory asset of $70,529 (2021 - $81,802) for the MGP and related sites (note 7(g)).

(e) Customer deposits

Customer deposits result from the Company's obligation by Regulators to collect a deposit from customers of its facilities under certain circumstances when services are connected. The deposits are refundable as allowed under the facilities' regulatory agreement.

12. Other long-term liabilities (continued)

(f) Unamortized investment tax credits

The unamortized investment tax credits were assumed in connection with the acquisition of the Empire Electric System. The investment tax credits are associated with an investment made in a generating station. The credits are being amortized over the life of the generating station.

(g) Deferred credits and contingent consideration

Deferred credits and contingent consideration include unresolved contingent consideration related to prior acquisitions which is expected to be paid. In 2021, the Company recorded contingent consideration related to the acquisition of AAGES Sugar Creek Wind, LLC in an amount of $18,641 (note 3(f)).

(h) Preferred shares, Series C

AQN has 100 redeemable preferred shares, Series C issued and outstanding. The preferred shares are mandatorily redeemable in 2031 for C$53,400 per share and have a contractual cumulative cash dividend paid quarterly until the date of redemption based on a prescribed payment schedule indexed in proportion to the increase in CPI over the term of the shares. The preferred shares, Series C are convertible into common shares at the option of the holder and the Company, at any time after May 20, 2031 and before June 19, 2031, at a conversion price of C$53,400 per share.

As these shares are mandatorily redeemable for cash, they are classified as liabilities in the consolidated financial statements. The preferred shares, Series C are accounted for under the effective interest method, resulting in accretion of interest expense over the term of the shares. Dividend payments are recorded as a reduction of the preferred shares, Series C carrying value.

Estimated dividend payments due in the next five years and dividend and redemption payments thereafter are as follows:

2023	$	1,245
2024		1,443
2025		1,459
2026		1,316
2027		1,262
Thereafter to 2031		4,654
Redemption amount		3,943
	$	15,322
Less: amounts representing interest		(3,250)
	$	12,072
Less current portion		(1,245)
	$	10,827

(i) Hook up fees

Hook up fees result from the collection from customers of funds for installation and connection to the utility's infrastructure. The fees are refundable as allowed under the facilities' regulatory agreement.

(j) Contingent development support obligations

The Company provides credit support necessary for the continued development and construction of its equity investees' wind and solar power electric development projects and infrastructure development projects. The contingent development support obligations represent the fair value of the support provided (note 8(c)).

12. Other long-term liabilities (continued)

(k) Note payable to related party

In 2020, a subsidiary of the Company made a tax equity investment into Altavista Solar Subco, LLC, an equity investee of the Company and indirect owner of the Altavista Solar Project. Following the closing of the construction financing facility for the Altavista Solar Project, certain excess funds were distributed to the Company and in return the Company issued a promissory note payable of $30,493 to Altavista Solar Subco, LLC. The promissory note bears an interest rate of 0.675%, compounded annually. The note was repaid in full during the second quarter of 2021.

In 2021, a subsidiary of the Company made a tax equity investment into New Market Solar Investco, LLC, an equity investee of the Company and indirect owner of the New Market Solar Project (note 8(c)). Following the closing of the construction financing facility for the New Market Solar Project, certain excess funds were distributed to the Company and in return the Company issued a promissory note of $25,808 payable to New Market Solar Investco, LLC. The promissory note bears an interest rate of 4% annually and has a maturity date of December 16, 2031.

13. Shareholders' capital

(a) Common shares

Number of common shares

	2022	2021
Common shares, beginning of year	**671,960,276**	597,142,219
Public offering	**2,861,709**	67,611,465
Dividend reinvestment plan	**7,676,666**	6,184,686
Exercise of share-based awards (c)	**1,115,398**	1,020,020
Conversion of convertible debentures	**754**	1,886
Common shares, end of year	**683,614,803**	671,960,276

Authorized

AQN is authorized to issue an unlimited number of common shares. The holders of the common shares are entitled to dividends if, as and when declared by the board of directors of AQN (the "Board"); to one vote per share at meetings of the holders of common shares; and upon liquidation, dissolution or winding up of AQN to receive pro rata the remaining property and assets of AQN, subject to the rights of any shares having priority over the common shares.

The Company has a shareholders' rights plan (the "Rights Plan"), which expires in 2025. Under the Rights Plan, one right is issued with each issued share of the Company. The rights remain attached to the shares and are not exercisable or separable unless one or more certain specified events occur. If a person or group acting in concert acquires 20 percent or more of the outstanding shares (subject to certain exceptions) of the Company, the rights will entitle the holders thereof (other than the acquiring person or group) to purchase shares at a 50 percent discount from the then-current market price. The rights provided under the Rights Plan are not triggered by any person making a "Permitted Bid", as defined in the Rights Plan.

(i) Public offering

On November 8, 2021, AQN issued 44,080,000 common shares at a price of $14.63 (C$18.15)per share for total gross proceeds of $642,664 (C$800,052) before issuance costs of $26,173 (C$32,583), which AQN intends to use to partially finance the Kentucky Power Transaction; provided that, in the short-term, prior to the closing of the Kentucky Power Transaction, the Company has used the net proceeds to repay certain indebtedness of AQN and its subsidiaries (note 3(b)). Forward contracts were used to manage the Canadian dollar risk (note 24(b)(iv)).

13. Shareholders' capital (continued)

(a) Common shares (continued)

(ii) At-the-market equity program

On August 15, 2022, AQN re-established its at-the-market equity program ("ATM program") which allows the Company to issue up to $500,000 (or the equivalent in Canadian dollars) of common shares from treasury to the public from time to time, at the Company's discretion, at the prevailing market price when issued on the Toronto Stock Exchange ("TSX"), the New York Stock Exchange ("NYSE"), or any other existing trading market for the common shares of the Company in Canada or the United States. During the year ended December 31, 2022, the Company issued 2,861,709 common shares under the ATM program at an average price of $13.94 per common share for gross proceeds of $38,923 ($38,534 net of commissions). Other related costs were $558.

The Company has issued since the inception of the ATM program in 2019 a cumulative total of 36,814,536 common shares at an average price of $15.00 per share for gross proceeds of $551,086 ($544,295 net of commissions). Other related costs, primarily related to the establishment and subsequent re-establishments of the ATM program, were $4,843.

(iii) Dividend reinvestment plan

The Company has a common shareholder dividend reinvestment plan, which, when the plan is active, provides an opportunity for holders of AQN's common shares who reside in Canada, the United States, or, subject to AQN's consent, other jurisdictions, to reinvest the cash dividends paid on their common shares in additional common shares which, at AQN's election, are either purchased on the open market or newly issued from treasury. Effective March 3, 2022, common shares purchased under the plan were issued at a 3% discount (previously at 5%) to the prevailing market price (as determined in accordance with the terms of the plan). Subsequent to year-end, AQN issued an additional 4,370,289 common shares under the dividend reinvestment plan. Effective March 16, 2023, AQN suspended the dividend reinvestment plan. Dividends will only be paid in cash while the reinvestment plan is suspended.

(b) Preferred shares

AQN is authorized to issue an unlimited number of preferred shares, issuable in one or more series, containing terms and conditions as approved by the Board.

The Company has the following preferred shares, Series A and preferred shares, Series D issued and outstanding as at December 31, 2022 and 2021:

Preferred shares	Number of shares	Price per share	Carrying amount C$	Carrying amount $
Series A	4,800,000	C$ 25	C$ 116,546	$ 100,463
Series D	4,000,000	C$ 25	C$ 97,259	$ 83,836
				$ 184,299

The holders of preferred shares, Series A are entitled to receive quarterly fixed cumulative preferential cash dividends, if, as and when declared by the Board. The dividend for each year up to, but excluding, December 31, 2023 will be an annual amount of C$1.2905 per share. The Series A dividend rate will reset on December 31, 2023 and every five years thereafter at a rate equal to the then five-year Government of Canada bond yield plus 2.94%. The preferred shares, Series A are redeemable at C$25 per share at the option of the Company on December 31, 2023 and every fifth year thereafter. The holders of preferred shares, Series A have the right to convert their shares into cumulative floating rate preferred shares, Series B, subject to certain conditions, on December 31, 2023, and every fifth year thereafter.

The holders of preferred shares, Series D are entitled to receive fixed cumulative preferential dividends as and when declared by the Board at an annual amount of C$1.2728 per share for each year up to, but excluding, March 31, 2024. The Series D dividend will reset on March 31, 2024 and every five years thereafter at a rate equal to the then five-year Government of Canada bond plus 3.28%. The preferred shares, Series D are redeemable at C$25 per share at the option of the Company on March 31, 2024 and every fifth year thereafter. The holders of preferred shares, Series D have the right to convert their shares into cumulative floating rate preferred shares, Series E, subject to certain conditions, on March 31, 2024, and every fifth year thereafter.

13. Shareholders' capital (continued)

(b) Preferred shares (continued)

The Company has 100 redeemable preferred shares, Series C issued and outstanding. The mandatorily redeemable preferred shares, Series C are recorded as a liability on the consolidated balance sheets as they are mandatorily redeemable for cash (note 12(h)).

(c) Share-based compensation

For the year ended December 31, 2022, AQN recorded $10,920 (2021 - $8,395) in total share-based compensation expense as follows:

	2022	2021
Share options	**$ 980**	$ 939
Director deferred share units	**960**	821
Employee share purchase	**562**	592
Performance and restricted share units	**8,418**	6,043
Total share-based compensation	**$ 10,920**	$ 8,395

The compensation expense is recorded with operating expenses in the consolidated statements of operations. The portion of share-based compensation costs capitalized as cost of construction is insignificant.

As of December 31, 2022, total unrecognized compensation costs related to non-vested share-based awards was $10,732 and is expected to be recognized over a period of 1.8 years.

(i) Share option plan

The Company's share option plan (the "Plan") permits the grant of share options to officers, directors, employees and selected service providers. The aggregate number of shares that may be reserved for issuance under the Plan must not exceed 8% of the number of shares outstanding at the time the options are granted.

The number of shares subject to each option, the option price, the expiration date, the vesting and other terms and conditions relating to each option shall be determined by the Board (or the compensation committee of the Board ("Compensation Committee")) from time to time. Dividends on the underlying shares do not accumulate during the vesting period. Option holders may elect to surrender any portion of the vested options that is then exercisable in exchange for the "In-the-Money Amount". In accordance with the Plan, the "In-The-Money Amount" represents the excess, if any, of the market price of a share at such time over the option price, in each case such "In-the-Money Amount" being payable by the Company in cash or common shares at the election of the Company. As the Company does not expect to settle these instruments in cash, these options are accounted for as equity awards.

The Compensation Committee may accelerate the vesting of the unvested options then held by the optionee at the Compensation Committee's discretion. In the event that the Company restates its financial results, any unpaid or unexercised options may be cancelled at the discretion of the Compensation Committee in accordance with the terms of the Company's clawback policy.

The estimated fair value of options, including the effect of estimated forfeitures, is recognized as expense on a straight-line basis over the options' vesting periods while ensuring that the cumulative amount of compensation cost recognized at least equals the value of the vested portion of the award at that date. The Company determines the fair value of options granted using the Black-Scholes option-pricing model. The risk-free interest rate is based on the zero-coupon Canada Government bond with a similar term to the expected life of the options at the grant date. Expected volatility was estimated based on the historical volatility of the Company's common shares. The expected life was based on experience to date. The dividend yield rate was based upon recent historical dividends paid on AQN common shares.

13. Shareholders' capital (continued)

(c) Share-based compensation (continued)

(ii) Share option plan (continued)

The following assumptions were used in determining the fair value of share options granted:

	2022	2021
Risk-free interest rate	**1.9 %**	1.1 %
Expected volatility	**23 %**	23 %
Expected dividend yield	**4.3 %**	4.1 %
Expected life	**5.50 years**	5.50 years
Weighted average grant date fair value per option	**C$ 2.44**	C$ 2.46

Share option activity during the years is as follows:

	Number of awards	Weighted average exercise price	Weighted average remaining contractual term (years)	Aggregate intrinsic value
Balance, January 1, 2021	2,110,448	C$ 15.45	6.55	C$ 11,604
Granted	437,006	19.64	7.22	—
Exercised	(506,926)	13.92	5.95	1,453
Forfeited	—	—	—	—
Balance, December 31, 2021	**2,040,528**	**C$ 15.45**	**6.11**	**C$ 3,145**
Granted	**646,090**	**19.11**	**7.22**	**—**
Exercised	**(40,074)**	**13.92**	**5.95**	**103**
Forfeited	**(19,764)**	**19.11**	**—**	**—**
Balance, December 31, 2022	**2,626,780**	**C$ 16.02**	**5.63**	**C$ —**
Exercisable, December 31, 2022	**2,052,946**	**C$ 17.35**	**5.63**	**C$ —**

(iii) Employee share purchase plan

Under the Company's ESPP, eligible employees may have a portion of their earnings withheld to be used to purchase the Company's common shares. The Company will match 20% of the employee contribution amount for the first five thousand dollars per employee contributed annually and 10% of the employee contribution amount for contributions over five thousand dollars up to ten thousand dollars annually. Common shares purchased through the Company match portion shall not be eligible for sale by the participant for a period of one year following the purchase date on which such shares were acquired. At the Company's option, the common shares may be (i) issued to participants from treasury at the average share price or (ii) acquired on behalf of participants by purchases through the facilities of the TSX or NYSE by an independent broker. The aggregate number of common shares reserved for issuance from treasury by AQN under the ESPP shall not exceed 4,000,000 common shares.

13. Shareholders' capital (continued)

(c) Share-based compensation (continued)

(iii) Employee share purchase plan (continued)

The Company uses the fair value based method to measure the compensation expense related to the Company's contribution. For the year ended December 31, 2022, a total of 414,338 common shares (2021 - 355,096) were issued to employees under the ESPP.

(iv) Director's deferred share units

Under the Company's DSU plan, non-employee directors of the Company may elect annually to receive all or any portion of their compensation in DSUs in lieu of cash compensation. Directors' fees are paid on a quarterly basis and at the time of each payment of fees, the applicable amount is converted to DSUs. A DSU has a value equal to one of the Company's common shares. Dividends accumulate in the DSU account and are converted to DSUs based on the market value of the shares on that date. DSUs cannot be redeemed until the director retires, resigns, or otherwise leaves the Board. The DSUs provide for settlement in cash or common shares at the election of the Company. As the Company does not expect to settle these instruments in cash, these options are accounted for as equity awards. For the year ended December 31, 2022, a total of 120,513 DSUs (2021 - 73,467) were issued and 5,176 DSUs (2021 - 87,582) were settled in exchange for 2,403 common shares issued from treasury, and 2,773 DSUs were settled at their cash value as payment for tax withholding related to the settlement of the awards. As of December 31, 2022, 645,714 (2021 - 530,378) DSUs were outstanding pursuant to the election of the directors to defer a percentage of their director's fee in the form of DSUs. The aggregate number of common shares reserved for issuance from treasury by AQN under the DSU plan shall not exceed 1,000,000 common shares.

(v) Performance and restricted share units

The Company offers a PSU and RSU plan to its employees as part of the Company's long-term incentive program. PSUs have been granted annually for three-year overlapping performance cycles. The PSUs vest at the end of the three-year cycle and are calculated based on established performance criteria. At the end of the three-year performance periods, the number of common shares issued can range from 2.5% to 237% of the number of PSUs granted. RSU vesting conditions and dates vary by grant and are outlined in each award letter. RSUs are not subject to performance criteria. Dividends accumulating during the vesting period are converted to PSUs and RSUs based on the market value of the shares on that date and are recorded in equity as the dividends are declared. None of the PSUs or RSUs have voting rights. Any PSUs or RSUs not vested at the end of a performance period will expire. The PSUs and RSUs provide for settlement in cash or common shares at the election of the Company. As the Company does not expect to settle these instruments in cash, these units are accounted for as equity awards. The aggregate number of common shares reserved for issuance from treasury by AQN under the PSU and RSU plan shall not exceed 7,000,000 common shares.

Compensation expense associated with PSUs is recognized rateably over the performance period. Achievement of the performance criteria is estimated at the consolidated balance sheet dates. Compensation cost recognized is adjusted to reflect the performance conditions estimated to date.

13. Shareholders' capital (continued)

(c) Share-based compensation (continued)

(v) Performance and restricted share units (continued)

A summary of the PSUs and RSUs follows:

	Number of awards	Weighted average grant-date fair value	Weighted average remaining contractual term (years)	Aggregate intrinsic value
Balance, January 1, 2021	2,721,207	C$ 16.58	0.93	C$ 54,560
Granted, including dividends	805,433	19.94	2.77	12,881
Exercised	(865,067)	13.79	—	17,005
Forfeited	(217,901)	18.64	—	3,981
Balance, December 31, 2021	**2,443,672**	**C$ 18.07**	**1.72**	**C$ 44,646**
Granted, including dividends	**1,090,457**	**17.99**	**2.00**	**17,524**
Exercised	**(1,221,620)**	**12.62**	**—**	**23,636**
Forfeited	**(202,799)**	**18.94**	**—**	**418**
Balance, December 31, 2022	**2,109,710**	**C$ 18.38**	**1.76**	**C$ 18,608**
Exercisable, December 31, 2022	**769,458**	**C$ 18.70**	**0.10**	**C$ 6,787**

(vi) Bonus deferral RSUs

Eligible employees have the option to receive a portion or all of their annual bonus payment in RSUs in lieu of cash. These RSUs provide for settlement in shares, and therefore these RSUs are accounted for as equity awards. The RSUs granted are 100% vested and, therefore, compensation expense associated with these RSUs is recognized immediately upon issuance.

During the year ended December, 31, 2022, 55,445 (2021 - 56,686) bonus deferral RSUs were granted to employees of the Company. In addition, the Company settled 178,368 (2021 - 152,564) bonus deferral RSUs in exchange for 82,886 (2021 - 70,571) common shares issued from treasury, and 95,482 (2021- 81,993) RSUs were settled at their cash value as payment for tax withholdings related to the settlement of the RSUs. As of December 31, 2022, 158,486 (2021 - 281,411) bonus deferral RSUs were outstanding.

14. Accumulated other comprehensive income (loss)

AOCI consists of the following balances, net of tax:

	Foreign currency cumulative translation	Unrealized gain on cash flow hedges	Pension and post-employment actuarial changes	Total
Balance, January 1, 2021	$ (39,725)	$ 50,817	$ (33,599)	$ (22,507)
Other comprehensive income (loss)	(25,982)	(97,103)	32,247	(90,838)
Amounts reclassified from AOCI to the consolidated statement of operations	(4,288)	42,772	9,804	48,288
Net current period OCI	$ (30,270)	$ (54,331)	$ 42,051	$ (42,550)
OCI attributable to the non-controlling interests	(249)	—	—	(249)
Net current period OCI attributable to shareholders of AQN	$ (30,519)	$ (54,331)	$ 42,051	$ (42,799)
Amount reclassified from AOCI to non-controlling interest	(6,371)	—	—	(6,371)
Balance, December 31, 2021	$ (76,615)	$ (3,514)	$ 8,452	$ (71,677)
Other comprehensive income (loss)	**(18,013)**	**(128,838)**	**23,722**	**(123,129)**
Amounts reclassified from AOCI to the consolidated statement of operations	**(5,489)**	**34,543**	**4,039**	**33,093**
Net current period OCI	**$ (23,502)**	**(94,295)**	**27,761**	**$ (90,036)**
OCI attributable to the non-controlling interests	**1,650**	**—**	**—**	**1,650**
Net current period OCI attributable to shareholders of AQN	**$ (21,852)**	**(94,295)**	**27,761**	**$ (88,386)**
Balance, December 31, 2022	**$ (98,467)**	**$ (97,809)**	**$ 36,213**	**$ (160,063)**

Amounts reclassified from AOCI for foreign currency cumulative translation affected interest expense and derivative gain (loss); those for unrealized gain (loss) on cash flow hedges affected revenue from non-regulated energy sales, interest expense and derivative gain (loss) while those for pension and post-employment actuarial changes affected pension and post-employment non-service costs.

15. Dividends

All dividends of the Company are made on a discretionary basis as determined by the Board. The Company declares and pays the dividends on its common shares in U.S. dollars. Dividends declared were as follows:

	2022		2021	
	Dividend	Dividend per share	Dividend	Dividend per share
Common shares	**$ 486,043**	**$ 0.7130**	$ 423,023	$ 0.6669
Preferred shares, Series A	**C$ 6,194**	**C$ 1.2905**	C$ 6,194	C$ 1.2905
Preferred shares, Series D	**C$ 5,091**	**C$ 1.2728**	C$ 5,091	C$ 1.2728

16. Related party transactions

(a) Equity-method investments

The Company provides administrative and development services to its equity-method investees and is reimbursed for incurred costs. To that effect, during 2022, the Company charged its equity-method investees $63,861 (2021 - $25,778). Additionally, Liberty Development JV Inc., an equity-method investee (note 8(c)) provides development services to the Company on specified projects, for which it earns a development fee upon reaching certain milestones. During the year, the development fees charged to the Company were $12,628 (2021 - $2,036).

Investment and acquisition transactions with equity-method investments are described in note 8(c). In addition, during 2021, the Company paid $1,500 to Abengoa S.A. ("Abengoa") to purchase all of Abengoa's interests in the AAGES, AAGES Development Canada Inc., and AAGES Development Spain, S.A. joint ventures. The assets acquired for AAGES Development Spain S.A. included project development assets for $2,662 and working capital of $1,507. The loan at that date between the Company and AAGES Development Spain S.A. of $3,089 was treated as additional consideration paid to acquire the partnership.

In 2020, the Company issued a promissory note of $30,493 payable to Altavista Solar Subco, LLC, an equity investee of the Company at the time. The note was repaid in full during the second quarter of 2021. During the fourth quarter of 2021, the Company issued a promissory note of $25,808 payable to New Market Solar Investco, LLC, an equity investee of the Company (note 12(k)).

(b) Non-controlling interest and redeemable non-controlling interest held by related party

Non-controlling interest and redeemable non-controlling interest held by related party are described in note 17.

(c) Transactions with Atlantica

During 2021, the Company sold Colombian solar assets to Atlantica for consideration of $23,863, with a gain on sale of $878, and contingent consideration of $2,600. The contingency was resolved in 2022 and, as a result, an additional gain of $1,200 was recognized.

The above related party transactions have been recorded at the exchange amounts agreed to by the parties to the transactions.

17. Non-controlling interests and redeemable non-controlling interests

Net effect attributable to non-controlling interests for the years ended December 31 consists of the following:

	2022	2021
HLBV and other adjustments attributable to:		
Non-controlling interests - tax equity partnership units	**$ 108,695**	$ 88,417
Non-controlling interests - redeemable tax equity partnership units	**6,298**	6,902
Other net earnings attributable to:		
Non-controlling interests	**(3,670)**	(5,682)
	$ 111,323	$ 89,637
Redeemable non-controlling interest, held by related party	**(15,157)**	(10,435)
Net effect of non-controlling interests	**$ 96,166**	$ 79,202

The non-controlling tax equity investors ("tax equity partnership units") in the Company's U.S. wind power and solar power generating facilities are entitled to allocations of earnings, tax attributes and cash flows in accordance with contractual agreements. The share of earnings attributable to the non-controlling interest holders in these subsidiaries is calculated using the HLBV method of accounting as described in note 1(s).

17. Non-controlling interests and redeemable non-controlling interests (continued)

Non-controlling interests

	Non-controlling interests - tax equity partnership units (a)		Other non-controlling interests (b)		Non-controlling interests held by related parties (c)	
	2022	2021	**2022**	2021	**2022**	2021
Opening balance	**$ 1,377,117**	$ 388,253	**$ 64,807**	$ 11,234	**$ 81,158**	$ 59,125
Net earnings attributable to NCI	**(105,371)**	(87,422)	**345**	3,354	**—**	—
Contributions received, net	**6,182**	1,058,929	**267,515**	51,451	**—**	39,376
Dividends and distributions declared	**(40,086)**	(11,795)	**—**	(1,021)	**(20,978)**	(17,793)
Repurchase of non-controlling interest	**(12,249)**	—	**—**	—	**—**	—
Non-controlling interest assumed on asset acquisition	**—**	29,141	**—**	—	**—**	—
OCI	**15**	11	**695**	(211)	**(2,358)**	450
Closing balance	**$ 1,225,608**	$ 1,377,117	**$ 333,362**	$ 64,807	**$ 57,822**	$ 81,158

(a) Non-controlling interests - tax equity partnership units

The Company obtained control of the three Mid-West Wind Facilities, Sugar Creek Wind Facility and Maverick Creek Wind Facility in 2021 (notes 3(d) and 3(f)), assuming non-controlling interest of $29,141. Post acquisition in 2021, third-party tax equity investors funded $530,880, $380,829 and $147,914, to the Mid-West Wind Facilities, the Sugar Creek Wind Facility and the Maverick Creek Wind Facility, respectively, in exchange for Class A partnership units in the entities.

(b) Other non-controlling interests

On December 29, 2022, the Company sold a 49% non-controlling interest in three operating wind facilities in the United States totalling 551 MW of installed capacity: the Odell Wind Facility in Minnesota, the Deerfield Wind Facility in Michigan and the Sugar Creek Wind Facility in Illinois. The consideration of $277,500 was recorded as an increase to non-controlling interest, except for a portion of $5,000, which is subject to refund if some conditions are met and as such was recorded as redeemable non-controlling interest.

In January 2021, the Company sold a 32% interest in Eco Acquisitionco SpA, the holding company through which AQN's interest in ESSAL is held, to a third party for consideration of $51,750. This represents an interest of 30% in the aggregate interest in ESSAL, which was reflected by a corresponding increase in non-controlling interest. This transaction resulted in no gain or loss. Following this transaction, AQN indirectly owns approximately 64% of the outstanding shares of ESSAL and continues to consolidate ESSAL's operations.

(c) Non-controlling interest held by related parties

In November 2021, Liberty Development JV Inc. invested $39,376 in Algonquin (AY Holdco) B.V., a consolidated subsidiary of the Company. In May 2019, AYES Canada acquired an interest in a consolidated subsidiary of the Company for $96,752 (C$130,103) (note 8(b)). The investment by AYES Canada and Liberty Development JV Inc. are presented as a non-controlling interest held by related parties.

17. Non-controlling interests and redeemable non-controlling interests (continued)

Redeemable non-controlling interests

Non-controlling interests in subsidiaries that are redeemable upon the occurrence of uncertain events not solely within AQN's control are classified as temporary equity on the consolidated balance sheets. If the redemption is probable or currently redeemable, the Company records the instruments at their redemption value. Redemption is not considered probable as of December 31, 2022.

Liberty Global Energy Solutions (note 8(c)), an equity investee of the Company, has a secured credit facility in the amount of $306,500 maturing on January 26, 2024. It is collateralized through a pledge of Atlantica ordinary shares held by AY Holdings. A collateral shortfall would occur if the net obligation (as defined in the credit agreement) would equal or exceed 50% of the market value of such Atlantica shares, in which case the lenders would have the right to sell Atlantica shares to eliminate the collateral shortfall. The Liberty Global Energy Solutions secured credit facility is repayable on demand if Atlantica ceases to be a public company or if certain other events are announced or completed that could restrict AY Holdings' ability to sell or transfer its Atlantica ordinary shares. Liberty Global Energy Solutions has a preference share ownership in AY Holdings which AQN reflects as redeemable non-controlling interest held by related party.

Changes in redeemable non-controlling interests are as follows:

	Redeemable non-controlling interests held by related party		Redeemable non-controlling interests	
	2022	**2021**	**2022**	**2021**
Opening balance	**$ 306,537**	$ 306,316	**$ 12,989**	$ 20,859
Net earnings attributable to NCI	**15,157**	10,435	**(6,298)**	(6,902)
Contributions, net of costs	**—**	—	**5,000**	—
Dividends and distributions declared	**(13,838)**	(10,214)	**(171)**	(968)
Closing balance	**$ 307,856**	$ 306,537	**$ 11,520**	$ 12,989

18. Income taxes

The provision for income taxes in the consolidated statements of operations represents an effective tax rate different than the Canadian enacted statutory rate of 26.5% (2021 - 26.5%). The differences are as follows:

	2022	**2021**
Expected income tax expense at Canadian statutory rate	**$ (97,962)**	$ 37,691
Increase (decrease) resulting from:		
Effect of differences in tax rates on transactions in and within foreign jurisdictions and change in tax rates	**(55,315)**	(47,600)
Adjustments from investments carried at fair value	**51,314**	2,709
Non-controlling interests share of income	**30,025**	25,135
Change in valuation allowance	**41,702**	(118)
Non-deductible acquisition costs	**1,341**	3,733
Acquisition related state deferred tax adjustments	**5,998**	—
Capital gain rate differential on disposal of renewable assets	**(7,340)**	—
Tax credits	**(18,440)**	(49,415)
Adjustment relating to prior periods	**(1,390)**	1,333
Deferred income taxes on regulated income recorded as regulatory assets	**(2,155)**	(3,807)
Amortization and settlement of excess deferred income tax	**(14,855)**	(16,778)
Other	**5,564**	3,692
Income tax recovery	**$ (61,513)**	$ (43,425)

18. Income taxes (continued)

For the years ended December 31, 2022 and 2021, earnings (loss) before income taxes consist of the following:

	2022	2021
Canada [(1)]	**$ (363,050)**	$ (60,848)
U.S.	**(37,322)**	153,719
Other regions	**30,704**	49,361
	$ (369,668)	$ 142,232

[(1)] Inclusive of fair value gain (loss) on investments carried at fair value (note 8)

Income tax expense (recovery) attributable to income (loss) consists of:

	Current	Deferred	Total
Year ended December 31, 2022			
Canada	**$ 4,184**	**$ (74,595)**	**$ (70,411)**
United States	**1,579**	**6,183**	**7,762**
Other regions	**2,080**	**(944)**	**1,136**
	$ 7,843	**$ (69,356)**	**$ (61,513)**
Year ended December 31, 2021			
Canada	$ 4,560	$ (33,993)	$ (29,433)
United States	1,024	(19,772)	(18,748)
Other regions	1,653	3,103	4,756
	$ 7,237	$ (50,662)	$ (43,425)

18. Income taxes (continued)

The tax effect of temporary differences between the financial statement carrying amounts of assets and liabilities and their respective tax bases that give rise to significant portions of the deferred tax assets and deferred tax liabilities as of December 31, 2022 and 2021 are presented below:

	2022	2021
Deferred tax assets:		
Non-capital loss, investment tax credits, currently non-deductible interest expenses, and financing costs	**$ 878,000**	$ 761,666
Pension and OPEB	**16,845**	46,580
Environmental obligation	**12,118**	15,271
Regulatory liabilities	**156,285**	166,939
Other	**61,917**	64,460
Total deferred income tax assets	**$ 1,125,165**	$ 1,054,916
Less: valuation allowance	**(107,583)**	(27,471)
Total deferred tax assets	**$ 1,017,582**	$ 1,027,445
Deferred tax liabilities:		
Property, plant and equipment	**$ 846,331**	$ 782,829
Outside basis differentials	**315,581**	412,665
Regulatory accounts	**303,059**	300,072
Other	**33,834**	30,471
Total deferred tax liabilities	**$ 1,498,805**	$ 1,526,037
Net deferred tax liabilities	**$ (481,223)**	$ (498,592)
Consolidated balance sheets classification:		
Deferred tax assets	**$ 84,416**	$ 31,595
Deferred tax liabilities	**(565,639)**	(530,187)
Net deferred tax liabilities	**$ (481,223)**	$ (498,592)

The valuation allowance for deferred tax assets as of December 31, 2022 was $107,583 (2021 - $27,471). The valuation allowance primarily relates to operating losses that, in the judgment of management, are not more likely than not to be realized. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities (including the impact of available carryback and carryforward periods), projected future taxable income, and tax-planning strategies in making this assessment. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased or if objective negative evidence in the form of cumulative losses is no longer present and additional weight is given to subjective evidence such as Management projections for growth.

Primarily as a result of the impairment charges discussed in notes 5 and 8(c), the U.S. entities in the Renewable Energy Group, which have historically been in an overall deferred tax liability position, are in an overall deferred tax asset position as at December 31, 2022. In the course of assessing the U.S. deferred tax assets in the Renewable Energy Group, management concluded that, during the fourth quarter of 2022, it was no longer probable that the Renewable Energy Group would generate sufficient taxable income to realize the benefit of the deferred tax assets of such group. AQN's conclusion is based on the balance of all available positive and negative evidence applicable to the Renewable Energy Group, including material impairment charges recorded on certain assets, insufficient taxable temporary differences to allow the full utilization of the deferred tax asset, insufficient forecasted taxable income and a historical 3 year cumulative loss position.

18. Income taxes (continued)

The following table illustrates the annual movement in the deferred tax valuation allowance:

	2022	2021
Beginning balance	**$ 27,471**	$ 29,824
Charged to income tax expense (recovery)	**41,702**	(118)
Charged (reduction) to OCI	**40,613**	(1,707)
Reductions to other accounts	**(2,203)**	(528)
Ending balance	**$ 107,583**	$ 27,471

As of December 31, 2022, the Company had non-capital losses carried forward and tax credits available to reduce future years' taxable income, which expire as follows:

Non-capital loss carryforward and credits	2023—2027	2028+	Total
Canada	$ 3,261	$ 728,529	$ 731,790
US	9,962	1,707,139	1,717,101
Total non-capital loss carryforward	$ 13,223	$ 2,435,668	$ 2,448,891
Tax credits	$ 4,428	$ 151,676	$ 156,104

The Company has provided for deferred income taxes for the estimated tax cost of distributed earnings of certain of its subsidiaries. Deferred income taxes have not been provided on approximately $824,052 of undistributed earnings of certain foreign subsidiaries, as the Company has concluded that such earnings are indefinitely reinvested and should not give rise to additional tax liabilities. A determination of the amount of the unrecognized tax liability relating to the remittance of such undistributed earnings is not practicable.

19. Other net losses

Other net losses consist of the following:

	2022	2021
Acquisition and transition-related costs	**$ 17,442**	$ 14,507
Other (a)	**3,949**	8,442
	$ 21,391	$ 22,949

(a) Other

Other losses primarily consist of costs pertaining to a condemnation proceeding, and miscellaneous asset write-downs, net of miscellaneous gains. Other losses in 2021 also included an adjustment to a regulatory liability pertaining to the true-up of prior period tracking accounts.

20. Basic and diluted net earnings (loss) per share

Basic and diluted earnings per share have been calculated on the basis of net earnings attributable to the common shareholders of the Company and the weighted average number of common shares and bonus deferral restricted share units outstanding. Diluted net earnings per share is computed using the weighted-average number of common shares, additional shares issued subsequent to year-end under the dividend reinvestment plan, PSUs, RSUs and DSUs outstanding during the year and, if dilutive, potential incremental common shares related to the convertible debentures or resulting from the application of the treasury stock method to outstanding share options and Green Equity Units (note 9(c)).

The reconciliation of the net earnings and the weighted average shares used in the computation of basic and diluted earnings per share are as follows:

		2022		2021
Net earnings (loss) attributable to shareholders of AQN	**$**	**(211,989)**	$	264,859
Preferred shares, Series A dividend		**4,786**		4,942
Preferred shares, Series D dividend		**3,934**		4,061
Net earnings (loss) attributable to common shareholders of AQN – basic and diluted	**$**	**(220,709)**	$	255,856
Weighted average number of shares				
Basic		**677,862,207**		622,347,677
Effect of dilutive securities		**—**		6,600,185
Diluted		**677,862,207**		628,947,862

This calculation of diluted shares excludes the potential impact of the Green Equity Units and all potential incremental shares that may become issuable pursuant to outstanding securities of the Company for the year ended December 31, 2022, as they are antidilutive. The common shares potentially issuable for the year ended December 31, 2021, as a result of 437,006 share options are excluded from this calculation as they are anti-dilutive.

21. Segmented information

The Company is managed under two primary business units consisting of the Regulated Services Group and the Renewable Energy Group. The two business units are the two segments of the Company.

The Regulated Services Group, the Company's regulated operating unit, owns and operates a portfolio of electric, water distribution and wastewater collection, and natural gas utility systems and transmission operations in the United States, Canada, Bermuda and Chile; the Renewable Energy Group, the Company's non-regulated operating unit, owns and operates, or has investments in, a diversified portfolio of renewable and thermal energy generation assets.

For purposes of evaluating the performance of the business units, the Company allocates the realized portion of any gains or losses on financial instruments to the specific business units. Dividend income from Atlantica and AYES Canada are included in the operations of the Renewable Energy Group, while interest income from SAWS is included in the operations of the Regulated Services Group. Equity method gains and losses are included in the operations of the Regulated Services Group or Renewable Energy Group based on the nature of the activities of the investees. The change in value of investments carried at fair value and unrealized portion of any gains or losses on derivative instruments not designated in a hedging relationship are not considered in management's evaluation of divisional performance and are therefore allocated and reported under corporate.

	Year ended December 31, 2022			
	Regulated Services Group	Renewable Energy Group	Corporate	Total
Revenue [1][2]	$ 2,328,536	$ 350,939	$ —	$ 2,679,475
Other revenue	55,732	28,447	1,501	85,680
Fuel, power and water purchased	824,670	41,826	—	866,496
Net revenue	1,559,598	337,560	1,501	1,898,659
Operating expenses	736,515	114,463	511	851,489
Administrative expenses	46,484	26,424	7,324	80,232
Depreciation and amortization	317,300	137,203	1,017	455,520
Asset impairment expense	—	159,568	—	159,568
Loss on foreign exchange	—	—	13,833	13,833
	459,299	(100,098)	(21,184)	338,017
Gain on sale of renewable assets	—	64,028	—	64,028
Operating income (loss)	459,299	(36,070)	(21,184)	402,045
Interest expense	(113,482)	(64,285)	(100,807)	(278,574)
Income (loss) from long-term investments	21,884	15,254	(502,344)	(465,206)
Other	(14,765)	(570)	(12,598)	(27,933)
Earnings (loss) before income taxes	$ 352,936	$ (85,671)	$ (636,933)	$ (369,668)
Property, plant and equipment	$ 8,554,938	$ 3,360,687	$ 29,260	$ 11,944,885
Investments carried at fair value	1,984	1,342,223	—	1,344,207
Equity-method investees	56,199	310,103	15,500	381,802
Total assets	12,109,575	5,251,933	266,105	17,627,613
Capital expenditures	$ 908,676	$ 180,348	$ —	$ 1,089,024

[1] Renewable Energy Group revenue includes $63,717 related to net hedging loss from energy derivative contracts and availability credits for the year ended December 31, 2022 that do not represent revenue recognized from contracts with customers.

[2] Regulated Services Group revenue includes $21,640 related to alternative revenue programs for the year ended December 31, 2022 that do not represent revenue recognized from contracts with customers.

21. Segmented information (continued)

	Year ended December 31, 2021			
	Regulated Services Group	**Renewable Energy Group**	**Corporate**	**Total**
Revenue [1][2]	$ 1,944,171	$ 256,633	$ —	$ 2,200,804
Other revenue	53,441	18,339	1,558	73,338
Fuel and power purchased	682,602	31,313	—	713,915
Net revenue	1,315,010	243,659	1,558	1,560,227
Operating expenses	597,850	104,262	16	702,128
Administrative expenses	37,179	28,298	1,249	66,726
Depreciation and amortization	280,452	121,414	1,097	402,963
Loss on foreign exchange	—	—	4,371	4,371
	399,529	(10,315)	(5,175)	384,039
Gain on sale of renewable assets	—	29,063	—	29,063
Operating income (loss)	399,529	18,748	(5,175)	413,102
Interest expense	(93,411)	(71,598)	(44,545)	(209,554)
Income (loss) from long-term investments	18,306	84,046	(128,809)	(26,457)
Other	(24,177)	(2,956)	(7,726)	(34,859)
Earnings (loss) before income taxes	$ 300,247	$ 28,240	$ (186,255)	$ 142,232
Property, plant and equipment	$ 7,394,151	$ 3,615,915	$ 32,380	$11,042,446
Investments carried at fair value	2,296	1,846,160	—	1,848,456
Equity-method investees	37,492	375,460	20,898	433,850
Total assets	10,524,466	6,123,888	149,149	16,797,503
Capital expenditures	$ 998,855	$ 338,637	$ 7,553	$ 1,345,045

[1] Renewable Energy Group revenue includes $57,018 related to net hedging loss from energy derivative contracts for the year ended December 31, 2021 that do not represent revenue recognized from contracts with customers.

[2] Regulated Services Group revenue includes $19,043 related to alternative revenue programs for the year ended December 31, 2021 that do not represent revenue recognized from contracts with customers.

The majority of non-regulated energy sales are earned from contracts with large public utilities. The Company has sought to mitigate its credit risk by selling energy to large utilities in various North American locations. None of the utilities contribute more than 10% of total revenue.

21. Segmented information (continued)

AQN operates in the independent power and utility industries in the United States, Canada and other regions. Information on operations by geographic area is as follows:

	2022	2021
Revenue		
United States	**$ 2,232,959**	$ 1,790,539
Canada	**175,005**	157,854
Other regions	**357,191**	325,749
	$ 2,765,155	$ 2,274,142
Property, plant and equipment		
United States	**$ 10,351,736**	$ 9,464,716
Canada	**848,560**	882,454
Other regions	**744,589**	695,276
	$ 11,944,885	$11,042,446
Intangible assets		
United States	**$ 18,818**	$ 23,575
Canada	**19,038**	21,780
Other regions	**58,827**	59,761
	$ 96,683	$ 105,116

Revenue is attributed to the regions based on the location of the underlying generating and utility facilities.

22. Commitments and contingencies

(a) Contingencies

AQN and its subsidiaries are involved in various claims and litigation arising out of the ordinary course and conduct of its business. Although such matters cannot be predicted with certainty, management does not consider AQN's exposure to such litigation to be material to these consolidated financial statements. Accruals for any contingencies related to these items are recorded in the consolidated financial statements at the time it is concluded that its occurrence is probable and the related liability is estimable.

Condemnation expropriation proceedings
On January 7, 2016, the Town of Apple Valley filed a lawsuit seeking to condemn the utility assets of Liberty Utilities (Apple Valley Ranchos Water) Corp. ("Liberty Apple Valley"). On May 7, 2021, the Court issued a Tentative Statement of Decision denying the Town of Apple Valley's attempt to take the Apple Valley Water System by eminent domain. The ruling confirmed that Liberty Apple Valley's continued ownership and operation of the water system is in the best interest of the community. On October 14, 2021, the Court issued the Final Statement of Decision. The Court signed and entered an Order of Dismissal and Judgment on November 12, 2021. On January 7, 2022, the Town filed a notice of appeal of the judgment entered by the Court. On August 2, 2022, the Court issued a ruling awarding Liberty Apple Valley approximately $13,222 in attorney's fees and litigation costs. The Town filed a notice of appeal of the fee award on August 22, 2022. The Town's appeal of the condemnation judgment and fee award have been consolidated into one appellate docket. The Company has not recorded the possible recovery of these attorney's fees and litigation costs.

Mountain View fire

On November 17, 2020, a wildfire now known as the Mountain View Fire occurred in the territory of Liberty Utilities (CalPeco Electric) LLC ("Liberty CalPeco"). The cause of the fire remains under investigation, and CAL FIRE has not yet released its final report. There are currently 17 active lawsuits that name certain subsidiaries of the Company as defendants in connection with the Mountain View Fire, as well as one non-litigation claim brought by the U.S. Department of Agriculture seeking reimbursement for alleged fire suppression costs. Twelve lawsuits are brought by groups of individual plaintiffs alleging causes of action including negligence, inverse condemnation, nuisance, trespass, and violations of Cal. Pub. Util. Code 2106 and Cal. Health and Safety Code 13007 (one of these twelve lawsuits also alleges the wrongful death of an individual and various subrogation claims on behalf of insurance companies). In another lawsuit, County of Mono, Antelope Valley Fire Protection District, Toiyabe Indian Health Project, and Bridgeport Indian Colony allege similar causes of action and seek damages for fire suppression costs, law enforcement costs, property and infrastructure damage, and other costs. In four other lawsuits, insurance companies allege inverse condemnation and negligence and seek recovery of amounts paid and to be paid to their insureds. The likelihood of success in these lawsuits cannot be reasonably predicted. Liberty CalPeco intends to vigorously defend them. The Company has wildfire liability insurance that is expected to apply up to applicable policy limits.

(b) Commitments

In addition to the commitments related to the proposed acquisitions and development projects disclosed in notes 3(b) and 8, the following significant commitments exist as of December 31, 2022.

AQN has outstanding purchase commitments for power purchases, natural gas supply and service agreements, service agreements, capital project commitments and land easements.

22. Commitments and contingencies (continued)

(b) Commitments (continued)

Detailed below are estimates of future commitments under these arrangements:

	Year 1	Year 2	Year 3	Year 4	Year 5	Thereafter	Total
Power purchase (i)	$ 89,846	$ 32,490	$ 32,726	$ 12,274	$ 12,520	$ 142,586	$ 322,442
Natural gas supply and service agreements (ii)	113,775	81,719	57,014	40,372	31,457	188,138	512,475
Service agreements	67,477	57,886	55,835	49,596	46,511	298,516	575,821
Capital projects	7,163	—	—	—	—	—	7,163
Land easements	13,295	13,316	13,503	13,667	13,837	463,785	531,403
Total	$291,556	$185,411	$159,078	$115,909	$104,325	$ 1,093,025	$ 1,949,304

(i) Power purchase: AQN's electric distribution facilities have commitments to purchase physical quantities of power for load serving requirements. The commitment amounts included in the table above are based on market prices as of December 31, 2022. However, the effects of purchased power unit cost adjustments are mitigated through a purchased power rate-adjustment mechanism.

(ii) Natural gas supply and service agreements: AQN's natural gas distribution facilities and thermal generation facilities have commitments to purchase physical quantities of natural gas under contracts for purposes of load serving requirements and of generating power.

23. Non-cash operating items

The changes in non-cash operating items consist of the following:

	2022	2021
Accounts receivable	**$ (124,631)**	$ (56,751)
Fuel and natural gas in storage	**(21,140)**	(43,642)
Supplies and consumables inventory	**(24,088)**	445
Income taxes recoverable	**549**	(3,025)
Prepaid expenses	**(4,269)**	(1,189)
Accounts payable	**24,395**	(33,399)
Accrued liabilities	**127,076**	31,845
Current income tax liability	**(2,741)**	4,363
Asset retirements and environmental obligations	**(22,342)**	(1,185)
Net regulatory assets and liabilities	**(174,427)**	(419,484)
	$ (221,618)	$ (522,022)

24. Financial instruments

(a) Fair value of financial instruments

December 31, 2022	Carrying amount	Fair value	Level 1	Level 2	Level 3
Long-term investments carried at fair value	$ 1,344,207	$ 1,344,207	$ 1,270,138	$ —	$ 74,083
Development loans and other receivables	53,680	50,300	—	50,300	—
Derivative instruments:					
Energy contracts not designated as cash flow hedge	393	393	—	—	393
Interest rate swap designated as a hedge	69,188	69,188	—	69,188	—
Interest rate cap not designated as a hedge	2,659	2,659	—	2,659	—
Congestion revenue rights not designated as a cash flow hedge	10,110	10,110	—	—	10,110
Cross currency swap designated as a net investment hedge	1,267	1,267	—	1,267	—
Commodity contracts for regulated operations	283	283	—	283	—
Total derivative instruments	83,900	83,900	—	73,397	10,503
Total financial assets	$ 1,481,787	$ 1,478,407	$ 1,270,138	$ 123,697	$ 84,586
Long-term debt	$ 7,512,017	$ 6,699,031	$ 2,623,628	$ 4,075,403	$ —
Notes payable to related	25,808	15,180	—	15,180	—
Convertible debentures	245	276	276	—	—
Preferred shares, Series C	12,072	11,675	—	11,675	—
Derivative instruments:					
Energy contracts designated as a cash flow hedge	120,284	120,284	—	—	120,284
Energy contracts not designated as a cash flow hedge	8,617	8,617	—	—	8,617
Cross-currency swap designated as a net investment hedge	24,371	24,371	—	24,371	—
Cross currency swap designated as a cash flow hedge	15,435	15,435	—	15,435	—
Commodity contracts for regulated operations	1,614	1,614	—	1,614	—
Total derivative instruments	170,321	170,321	—	41,420	128,901
Total financial liabilities	$ 7,720,463	$ 6,896,483	$ 2,623,904	$ 4,143,678	$ 128,901

24. Financial instruments (continued)

(a) Fair value of financial instruments (continued)

December 31, 2021	Carrying amount	Fair value	Level 1	Level 2	Level 3
Long-term investment carried at fair value	$ 1,848,456	$ 1,848,456	$ 1,753,210	$ —	$ 95,246
Development loans and other receivables	32,261	33,286	—	33,286	—
Derivative instruments:					
Energy contracts designated as a cash flow hedge	15,362	15,362	—	—	15,362
Interest rate swap designated as a hedge	1,581	1,581	—	1,581	—
Cross-currency swap designated as a net investment hedge	1,958	1,958	—	1,958	—
Commodity contracts for regulated operations	1,721	1,721	—	1,721	—
Total derivative instruments	20,622	20,622	—	5,260	15,362
Total financial assets	$ 1,901,339	$ 1,902,364	$ 1,753,210	$ 38,546	$ 110,608
Long-term debt	$ 6,211,375	$ 6,543,933	$ 2,418,580	$ 4,125,352	$ —
Notes payable to related party	25,808	25,808	—	25,808	—
Convertible debentures	277	519	519	—	—
Preferred shares, Series C	13,348	14,580	—	14,580	—
Derivative instruments:					
Energy contracts designated as a cash flow hedge	60,462	60,462	—	—	60,462
Energy contracts not designated as a cash flow hedge	1,169	1,169	—	—	1,169
Cross-currency swap designated as a net investment hedge	50,258	50,258	—	50,258	—
Interest rate swaps designated as a hedge	7,008	7,008	—	7,008	—
Commodity contracts for regulated operations	1,348	1,348	—	1,348	—
Total derivative instruments	120,245	120,245	—	58,614	61,631
Total financial liabilities	$ 6,371,053	$ 6,705,085	$ 2,419,099	$ 4,224,354	$ 61,631

The Company has determined that the carrying value of its short-term financial assets and liabilities approximates fair value as of December 31, 2022 and 2021 due to the short-term maturity of these instruments.

24. Financial instruments (continued)

(a) Fair value of financial instruments (continued)

The fair value of the investment in Atlantica (level 1) is measured at the closing price on the NASDAQ stock exchange.

The fair value of development loans and other receivables (level 2) is determined using a discounted cash flow method, using estimated current market rates for similar instruments adjusted for estimated credit risk as determined by management.

The Company's level 1 fair value of long-term debt is measured at the closing price on the NYSE and the Canadian over-the-counter closing price. The Company's level 2 fair value of long-term debt at fixed interest rates, notes payable to related party and preferred shares Series C has been determined using a discounted cash flow method and current interest rates. The Company's level 2 fair value of convertible debentures has been determined as the greater of their face value and the quoted value of AQN's common shares on a converted basis.

The Company's level 2 fair value derivative instruments primarily consist of swaps, options, rights, caps, subscription agreements and forward physical derivatives where market data for pricing inputs are observable. Level 2 pricing inputs are obtained from various market indices and utilize discounting based on quoted interest rate curves, which are observable in the marketplace.

The Company's level 3 instruments consist of energy contracts for electricity sales, congestion revenue rights ("CRRs") and the fair value of the Company's investment in AYES Canada. The significant unobservable inputs used in the fair value measurement of energy contracts are the internally developed forward market prices ranging from $23.32 to $109.91 with a weighted average of $44.76 as of December 31, 2022. The weighted average forward market prices are developed based on the quantity of energy expected to be sold monthly and the expected forward price during that month. The change in the fair value of the energy contracts is detailed in notes 24(b)(ii) and 24(b)(iv). The significant unobservable inputs used in the fair value measurement of CRRs are recent CRR auction prices ranging from $nil to $23.20 with a weighted average of $7.83 as at December 31, 2022. The fair value of the investment in AYES Canada is determined using a discounted cash flow approach combined with a binomial tree approach. The significant unobservable inputs used in the fair value measurement of the Company's AYES Canada investment are the expected cash flows, the discount rates applied to these cash flows ranging from 8.00% to 8.50% with a weighted average of 8.34%, and the expected volatility of Atlantica's share price ranging from 26.99% to 34.89% as of December 31, 2022. Significant increases (decreases) in expected cash flows or increases (decreases) in discount rate in isolation would have resulted in a significantly lower (higher) fair value measurement.

(b) Derivative instruments

Derivative instruments are recognized on the consolidated balance sheets as either assets or liabilities and measured at fair value at each reporting period.

(i) Commodity derivatives – regulated accounting

The Company uses derivative financial instruments to reduce the cash flow variability associated with the purchase price for a portion of future natural gas purchases associated with its regulated natural gas and electric service territories. The Company's strategy is to minimize fluctuations in natural gas sale prices to regulated customers.

The following are commodity volumes, in dekatherms ("dths"), associated with the above derivative contracts:

		2022
Financial contracts:	Swaps	**1,687,217**
	Options	**35,824**
		1,723,041

24. Financial instruments (continued)

(b) Derivative instruments (continued)

(i) Commodity derivatives – regulated accounting (continued)

The accounting for these derivative instruments is subject to guidance for rate regulated enterprises. Therefore, the fair value of these derivatives is recorded as current or long-term assets and liabilities, with offsetting positions recorded as regulatory assets and regulatory liabilities in the consolidated balance sheets. Most of the gains or losses on the settlement of these contracts are included in the calculation of the fuel and commodity costs adjustments (note 7(a)). As a result, the changes in fair value of these natural gas derivative contracts and their offsetting adjustment to regulatory assets and liabilities had no earnings impact.

(ii) Cash flow hedges

The Company reduces the price risk on the expected future sale of power generation by entering into the following long-term energy derivative contracts. Upon the acquisition of the Sugar Creek Wind Facility in 2021 (note 3(f)), the Company redesignated a long-term energy derivative contract to mitigate the price risk on the expected future sale of power generation. The fair value of the derivative on the redesignation date will be amortized into earnings over the remaining life of the contract.

Notional quantity (MW-hrs)	Expiry	Receive average prices (per MW-hr)	Pay floating price (per MW-hr)
4,059,905	September 2030	$24.54	Illinois Hub
413,620	December 2028	$29.15	PJM Western HUB
1,977,766	December 2027	$22.05	NI HUB
1,665,318	December 2027	$36.46	ERCORT North HUB

The Company is party to two interest rate swap contracts as cash flow hedges to mitigate the risk that interest rates will increase over the life of certain term loan facilities. Under the terms of the interest rate swap contracts, the Company has fixed its interest rate expense on such term loan facilities. The fair value of the derivative on the designation date is amortized into earnings over the remaining life of the contract.

The Company is party to a forward-starting interest rate swap in order to reduce the interest rate risk related to the quarterly interest payments between July 1, 2024 and July 1, 2029 on the $350,000 subordinated unsecured notes. The Company designated the entire notional amount of the pay-variable and receive-fixed interest rate swaps as a hedge of the future quarterly variable-rate interest payments associated with the subordinated unsecured notes.

In January 2022, the Company entered into a cross-currency interest rate swap, coterminous with the Canadian Notes, to effectively convert the C$400,000 Canadian Offering into U.S. dollars. The change in the carrying amount of the Canadian Notes due to changes in spot exchange rates is recognized each period in the consolidated statements of operations as loss (gain) on foreign exchange. The Company designated the entire notional amount of the cross-currency fixed-for-fixed interest rate swap as a hedge of the foreign currency exposure related to cash flows for the interest and principal repayments on the Canadian Notes. An offsetting portion of the AOCI balance related to changes in fair value of the cross-currency fixed-for-fixed interest rate swap attributable to changes in the spot exchange rates is also immediately reclassified into the consolidated statements of operations as an offsetting (gain) loss on foreign exchange.

24. Financial instruments (continued)

(b) Derivative instruments (continued)

(ii) Cash flow hedges (continued)

The following table summarizes OCI attributable to derivative financial instruments designated as a cash flow hedge:

	2022	2021
Effective portion of cash flow hedge	**$ (128,838)**	$ (97,103)
Amortization of cash flow hedge	**(12,180)**	(2,132)
Amounts reclassified from AOCI	**46,723**	44,904
OCI attributable to shareholders of AQN	**$ (94,295)**	$ (54,331)

The Company expects $32,467 of unrealized losses currently in AOCI to be reclassified, net of taxes into non-regulated energy sales, investment loss, interest expense and derivative gains, respectively, within the next 12 months, as the underlying hedged transactions settle.

(iii) Foreign exchange hedge of net investment in foreign operation

The functional currency of most of AQN's operations is the U.S. dollar. The Company designates obligations denominated in Canadian dollars as a hedge of the foreign currency exposure of its net investment in its Canadian investments and subsidiaries. The related foreign currency transaction gain or loss designated as, and effective as, a hedge of the net investment in a foreign operation is reported in the same manner as the translation adjustment (in OCI) related to the net investment. A foreign currency gain of $2,262 for the year ended December 31, 2022 (2021 - loss of $168) was recorded in OCI.

On May 23, 2019, the Company entered into a cross-currency swap, coterminous with the subordinated unsecured notes issued on such date, to effectively convert the $350,000 U.S. dollar denominated offering into Canadian dollars. The change in the carrying amount of the notes due to changes in spot exchange rates is recognized each period in the consolidated statements of operations as loss (gain) on foreign exchange. The Company designated the entire notional amount of the cross-currency fixed-for-fixed interest rate swap as a hedge of the foreign currency exposure related to cash flows for the interest and principal repayments on the notes. Upon the change in functional currency of AQN to the U.S. dollar on January 1, 2020, this hedge was dedesignated. The OCI related to this hedge will be amortized into earnings in the period that future interest payments affect earnings over the remaining life of the original hedge. The Company redesignated this swap as a hedge of AQN's net investment in its Canadian subsidiaries.

The related foreign currency transaction gain or loss designated as a hedge of the net investment in a foreign operation is reported in the same manner as the translation adjustment (in OCI) related to the net investment. The fair value of the derivative on the redesignation date will be amortized over the remaining life of the original hedge. A foreign currency gain of $22,091 for the year ended December 31, 2022 (2021 - loss of $4,232 was recorded in OCI).

Canadian operations

The Company is exposed to currency fluctuations from its Canadian-based operations. AQN manages this risk primarily through the use of natural hedges by using Canadian long-term debt to finance its Canadian operations and a combination of foreign exchange forward contracts and spot purchases.

The Company's Canadian operations are determined to have the Canadian dollar as their functional currency and are exposed to currency fluctuations from their U.S. dollar transactions. The Company designates obligations denominated in U.S. dollars as a hedge of the foreign currency exposure of its net investment in its U.S. investments and subsidiaries. The related foreign currency transaction gain or loss designated as, and effective as, a hedge of the net investment in a foreign operation is reported in the same manner as the translation adjustment (in OCI) related to the net investment. A foreign currency loss of $18,561 for the year ended December 31, 2022 (2021 - gain of $1,595) was recorded in OCI.

24. Financial instruments (continued)

(b) Derivative instruments (continued)

(iii) Foreign exchange hedge of net investment in foreign operation (continued)

Canadian operations (continued)

The Company is party to C$300,000 (December 31, 2021 - $500,000) fixed-for-fixed cross-currency cross currency swaps to effectively convert Canadian dollar debentures into U.S. dollars. In February 2022, the Company settled the cross-currency swap related to its C$200,000 (2021 - C$150,000) debenture that was repaid. The Company designated the entire notional amount of the cross-currency fixed-for-fixed interest rate swap and related short-term U.S. dollar payables created by the monthly accruals of the swap settlement as a hedge of the foreign currency exposure of its net investment in the Renewable Energy Group's U.S. operations. The gain or loss related to the fair value changes of the swap and the related foreign currency gains and losses on the U.S. dollar accruals that are designated as, and are effective as, a hedge of the net investment in a foreign operation are reported in the same manner as the translation adjustment (in OCI) related to the net investment. A loss of $11,082 for the year ended December 31, 2022 (2021 - gain of $7,824) was recorded in OCI.

On April 9, 2021, the Renewable Energy Group entered into a fixed-for-fixed cross-currency interest rate swap, coterminous with the senior unsecured debentures issued on such date (note 9(g)), to effectively convert the C$400,000 Canadian-dollar-denominated offering into U.S. dollars. The Renewable Energy Group designated the entire notional amount of the fixed-for-fixed cross-currency interest rate swap and related short-term U.S. dollar payables created by the monthly accruals of the swap settlement as a hedge of the foreign currency exposure of its net investment in the Renewable Energy Group's U.S. operations. The gain or loss related to the fair value changes of the swap and the related foreign currency gains and losses on the U.S. dollar accruals that are designated as, and are effective as, a hedge of the net investment in a foreign operation are reported in the same manner as the translation adjustment (in OCI) related to the net investment. A loss of $13,374 for the year ended December 31, 2022 (2021 - loss of $1,925) was recorded in OCI.

Chilean operations

The Company is exposed to currency fluctuations from its Chilean-based operations. The Company's Chilean operations are determined to have the Chilean peso as their functional currency. Chilean long-term debt used to finance the operations is denominated in Chilean Unidad de Fomento.

(iv) Other derivatives and risk management

In the normal course of business, the Company is exposed to financial risks that potentially impact its operating results. The Company employs risk management strategies with a view to mitigating these risks to the extent possible on a cost-effective basis. Derivative financial instruments are used to manage certain exposures to fluctuations in exchange rates, interest rates and commodity prices. The Company does not enter into derivative financial agreements for speculative purposes. For derivatives that are not designated as hedges, the changes in the fair value are immediately recognized in earnings.

The Company mitigates the volatility of energy congestion charges at the ERCOT transmission grid by entering into CRRs, which as of December 31, 2022 had notional quantity of 1,328,510 MW-hours at prices ranging from $1.58 per MW-hr to $19.06 per MW-hr with a weighted average of $7.80 per MW-hr for January 2023 to April 2025. These CRRs are not designated as an accounting hedge.

On December 17, 2022, the Company entered into an interest rate cap agreement in the amount of $390,000 for the period between January 15, 2023 and January 15, 2024. The Company was party to an interest rate swap to mitigate the interest rate risk related to debt at its Blue Hill Wind Facility. The contract was novated upon the sale of the Blue Hill Wind Facility. The loss recognized on the derivative was recorded as a reduction of the gain on sale of renewable assets on the consolidated statements of operations (note 3(a)).

24. Financial instruments (continued)

(b) Derivative instruments (continued)

(iv) Other derivatives and risk management (continued)

The Company mitigates the price risk on the expected future sale of power generation of one of its solar facilities through a long-term energy derivative contract with a notional quantity of 516,202 MW-hours, a price of $25.15 per MW-hr and expiring in August 2030 as an economic hedge to the price of energy sales. The derivative contract is not designated as an accounting hedge.

During 2021, the Company executed on currency forward contracts to manage the currency exposure to the Canadian dollar shares issuance (note 13(a)). A foreign currency gain of $2,329 was recorded in 2021 as a result of the settlement.

The effects on the consolidated statements of operations of derivative financial instruments not designated as hedges consist of the following:

		2022		2021
Unrealized gain (loss) on derivative financial instruments:				
Energy derivative contracts	**$**	**(945)**	$	(5,353)
Commodity contracts		**185**		—
Total unrealized loss on derivative financial instruments	**$**	**(760)**	$	(5,353)
Realized gain (loss) on derivative financial instruments:				
Energy derivative contracts	**$**	**6,939**	$	(108)
Currency forward contract		**—**		2,329
Interest rate swaps		**(7,185)**		—
Total realized gain (loss) on derivative financial instruments	**$**	**(246)**	$	2,221
Loss on derivative financial instruments not accounted for as hedges		**(1,006)**		(3,132)
Amortization of AOCI gains frozen as a result of hedge dedesignation		**3,465**		3,712
	$	**2,459**	$	580
Consolidated statements of operations classification:				
Gain on derivative financial instruments	**$**	**4,408**	$	4,403
Gain on foreign exchange		**—**		2,329
Renewable energy sales		**5,236**		(6,152)
Reduction to gain on sale of renewable assets		**(7,185)**		—
	$	**2,459**	$	580

24. Financial instruments (continued)

(c) Risk management (continued)

In addition to the risk management strategies described above, the Company manages exposure to risks arising from financial instruments, including credit risk and liquidity risk.

Credit risk

Credit risk is the risk of an unexpected loss if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Company's financial instruments that are exposed to concentrations of credit risk are primarily cash and cash equivalents, accounts receivable, notes receivable and derivative instruments. The Company limits its exposure to credit risk with respect to cash equivalents by ensuring available cash is deposited with its senior lenders, all of which have a credit rating of A or better. The Company does not consider the risk associated with the accounts receivable to be significant as the majority of revenue from power generation is earned from large utility customers having a credit rating of Baa2 or better by Moody's, or BBB or higher by S&P, or BBB or higher by DBRS. Revenue is generally invoiced and collected within 45 days.

The remaining revenue is primarily earned by the Regulated Services Group, which consists of electric, water distribution and wastewater, and natural gas utilities in the United States, Canada, Bermuda and Chile. In this regard, the credit risk related to Regulated Services Group accounts receivable balances of $404,258 is spread over hundreds of thousands of customers. The Company has processes in place to monitor and evaluate this risk on an ongoing basis including background credit checks and security deposits from new customers. In addition, most of the Regulators of the Regulated Services Group allow for a reasonable bad debt expense to be incorporated in the rates and therefore recovered from rate payers.

As of December 31, 2022, the Company's maximum exposure to credit risk for these financial instruments was as follows:

		2022
Cash and cash equivalents and restricted cash	$	**101,185**
Accounts receivable		**552,914**
Allowance for doubtful accounts		**(24,857)**
Notes receivable		**53,680**
	$	**682,922**

In addition, the Company monitors the creditworthiness of the counterparties to its foreign exchange, interest rate, and energy derivative contracts and assesses each counterparty's ability to perform on the transactions set forth in the contracts. The counterparties consist primarily of financial institutions. This concentration of counterparties may impact the Company's overall exposure to credit risk, either positively or negatively, in that the counterparties may be similarly affected by changes in economic, regulatory or other conditions.

Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company's approach to managing liquidity risk is to take steps to ensure, to the extent possible, that it will have sufficient liquidity to meet liabilities when due. As of December 31, 2022, in addition to cash on hand of $57,623, the Company had $2,288,765 available to be drawn on its revolving and term credit facilities. Each of the Company's revolving credit facilities contain covenants that may limit amounts available to be drawn.

24. Financial instruments (continued)

(c) Risk management (continued)

Liquidity risk (continued)

The Company's liabilities mature as follows:

	Due less than 1 year	Due 2 to 3 years	Due 4 to 5 years	Due after 5 years	Total
Long-term debt obligations	$1,128,660	$ 404,633	$1,984,855	$4,019,166	$ 7,537,314
Interest on long-term debt	310,863	447,227	386,560	3,936,205	5,080,855
Purchase obligations	741,888	—	—	—	741,888
Environmental obligation	9,326	18,084	1,915	19,021	48,346
Advances in aid of construction	1,554	—	—	86,992	88,546
Derivative financial instruments:					
Cross-currency swap	3,205	5,541	6,279	24,781	39,806
Energy derivative and commodity contracts	29,286	49,865	29,896	21,468	130,515
Contract adjustment payments on Green Equity Units	76,208	37,668	—	—	113,876
Other obligations	37,209	6,392	5,080	271,962	320,643
Total obligations	$2,338,199	$ 969,410	$2,414,585	$8,379,595	$14,101,789

25. Comparative figures

Certain of the comparative figures have been reclassified to conform to the consolidated financial statement presentation adopted in the current year.