



CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2022 and 2021



Independent auditor's report

To the Shareholders of Advantage Energy Ltd.

Our opinion

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of Advantage Energy Ltd. and its subsidiaries (together, the Corporation) as at December 31, 2022 and 2021, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards (IFRS).

What we have audited

The Corporation's consolidated financial statements comprise:

- the consolidated statements of financial position as at December 31, 2022 and 2021;
- the consolidated statements of comprehensive income (loss) for the years then ended;
- the consolidated statements of changes in shareholders' equity for the years then ended;
- the consolidated statements of cash flows for the years then ended; and
- the notes to the consolidated financial statements, which include significant accounting policies and other explanatory information.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Corporation in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the year ended December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

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"PwC" refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership.



Key audit matter

The impact of proved and probable reserves on natural gas and liquids properties within property, plant and equipment

Refer to note 3 – Significant accounting policies, note 4 – Significant accounting judgments, estimates and assumptions and note 10 – Property, plant and equipment to the consolidated financial statements.

The Corporation has \$1,921 million of net natural gas and liquids properties as at December 31, 2022. Depreciation expense for these properties was \$133.2 million for the year then ended. Natural gas and liquids properties are depreciated using the units-of-production method by reference to the ratio of production in the period to the related proved and probable reserves, taking into account estimated future development costs necessary to bring those reserves into production. Proved plus probable reserves are determined using key assumptions related to the estimated future cost of developing and extracting those reserves, recovery factors and future natural gas and liquids prices. The proved and probable reserves are estimated by the Corporation's independent qualified reserve evaluator ("management's expert").

We determined that this is a key audit matter due to (i) the judgments by management, including the use of management's expert, when estimating the proved plus probable reserves and (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures relating to the key assumptions used by management.

How our audit addressed the key audit matter

Our approach to addressing the matter included the following procedures, among others:

- Tested how management determined the total proved plus probable reserves, which included the following:
 - The work of management's expert was used in performing the procedures to evaluate the reasonableness of the proved and probable reserves used to determine depreciation expense. As a basis for using this work, the competence, capabilities and objectivity of management's expert were evaluated, the work performed was understood and the appropriateness of the work as audit evidence was evaluated. The procedures performed also included evaluation of the methods and assumptions used by management's expert, tests of the data used by management's expert and an evaluation of management's expert's findings.
 - Evaluated the reasonableness of key assumptions used by management in developing the estimates, including:
 - estimates of recovery factors and future costs of developing and extracting proved and probable reserves by considering the past performance of the Corporation and whether these assumptions were consistent with evidence obtained in other areas of the audit, as applicable.
 - future natural gas and liquids prices by comparing forecasts with other reputable third party industry forecasts.
- Recalculated the units-of-production rates used to calculate depreciation expense.



Other information

Management is responsible for the other information. The other information comprises the Management's Discussion and Analysis, which we obtained prior to the date of this auditor's report, and the information, other than the consolidated financial statements and our auditor's report thereon, included in the annual report, which is expected to be made available to us after that date.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard. When we read the information, other than the consolidated financial statements and our auditor's report thereon, included in the annual report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance.

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Corporation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Corporation or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Corporation's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards



will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Corporation's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Corporation's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Corporation to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Corporation to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.



From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Ryan Lundeen.

/s/PricewaterhouseCoopers LLP

Chartered Professional Accountants

Calgary, Alberta
February 23, 2023

Advantage Energy Ltd.

Consolidated Statements of Financial Position

(Expressed in thousands of Canadian dollars)

	Notes	December 31 2022	December 31 2021
ASSETS			
Current assets			
Cash and cash equivalents	5	48,940	25,238
Trade and other receivables	6	92,816	54,769
Prepaid expenses and deposits		14,613	3,483
Derivative asset	11	22,357	282
Total current assets		178,726	83,772
Non-current assets			
Derivative asset	11	93,993	57,699
Exploration and evaluation assets	7	15,791	20,713
Right-of-use assets	8	1,844	1,879
Intangible assets	9	4,011	2,991
Property, plant and equipment	10	1,922,593	1,827,936
Total non-current assets		2,038,232	1,911,218
Total assets		2,216,958	1,994,990
LIABILITIES			
Current liabilities			
Trade and other accrued liabilities		84,805	76,625
Derivative liability	11	2,197	2,765
Current portion of non-current liabilities	13, 15	20,800	11,224
Total current liabilities		107,802	90,614
Non-current liabilities			
Derivative liability	11	-	12,315
Bank indebtedness	12	177,200	167,345
Financing Liability	13	90,436	89,792
Unsecured debentures	14	15,700	-
Unsecured debentures – derivative liability	14	9,744	-
Provisions and other liabilities	15	49,976	78,522
Deferred income tax liability	16	201,422	96,284
Total non-current liabilities		544,478	444,258
Total liabilities		652,280	534,872
SHAREHOLDERS' EQUITY			
Share capital	17	2,105,013	2,370,716
Contributed surplus		142,817	110,315
Deficit		(684,577)	(1,023,244)
Total shareholders' equity attributable to Advantage shareholders		1,563,253	1,457,787
Non-controlling interest	18	1,425	2,331
Total shareholders' equity		1,564,678	1,460,118
Total liabilities and shareholders' equity		2,216,958	1,994,990

Commitments (note 26)

See accompanying Notes to the Consolidated Financial Statements

On behalf of the Board of Directors of Advantage Energy Ltd.:

Paul G. Haggis, Director: (signed) "Paul G. Haggis"

Michael Belenkie, Director: (signed) "Michael Belenkie"

Advantage Energy Ltd.

Consolidated Statements of Comprehensive Income (Loss)

(Expressed in thousands of Canadian dollars, except per share amounts)

		Year ended December 31	
	Notes	2022	2021
Revenues			
Natural gas and liquids sales	21	950,458	492,035
Sales of purchased natural gas	21	4,826	-
Processing and other income	21	9,082	-
Royalty expense		(106,257)	(27,530)
Natural gas and liquids revenue		858,109	464,505
Losses on derivatives	11	(76,847)	(5,578)
Total revenues		781,262	458,927
Expenses			
Operating expense		64,269	44,893
Transportation expense		90,093	70,440
Natural gas purchases	21	4,756	-
General and administrative expense	22	22,283	19,860
Share-based compensation expense	19	5,524	4,053
Depreciation expense	8,10	133,917	106,786
Impairment recovery	10	-	(340,653)
Exploration and evaluation expense	7	-	84
Finance expense	23	20,427	21,189
Foreign exchange gain		(2,906)	(171)
Total expenses (recovery)		338,363	(73,519)
Income before taxes and non-controlling interest		442,899	532,446
Income tax expense	16	(105,138)	(121,092)
Net income and comprehensive income before non-controlling interest		337,761	411,354
Net income (loss) and comprehensive income (loss) attributable to:			
Advantage shareholders		338,667	411,523
Non-controlling interest	18	(906)	(169)
		337,761	411,354
Net income per share attributable to Advantage shareholders			
Basic	20	\$ 1.81	\$ 2.17
Diluted	20	\$ 1.75	\$ 2.07

See accompanying Notes to the Consolidated Financial Statements

Advantage Energy Ltd.

Consolidated Statements of Changes in Shareholders' Equity

(Expressed in thousands of Canadian dollars)

	Share capital	Contributed surplus	Deficit	Non- controlling interest	Total shareholders' equity
Balance, December 31, 2021	2,370,716	110,315	(1,023,244)	2,331	1,460,118
Net income and comprehensive income	-	-	338,667	(906)	337,761
Share-based compensation (note 19(b))	-	7,766	-	-	7,766
Settlement of Performance Share Units	6,948	(6,948)	-	-	-
Common shares repurchased (note 17)	(272,651)	31,684	-	-	(240,967)
Balance, December 31, 2022	2,105,013	142,817	(684,577)	1,425	1,564,678

	Share capital	Contributed surplus	Deficit	Non- controlling interest	Total shareholders' equity
Balance, December 31, 2020	2,360,647	114,280	(1,434,767)	-	1,040,160
Net income and comprehensive income	-	-	411,523	(169)	411,354
Share-based compensation (note 19(b))	-	6,786	-	-	6,786
Settlement of Performance Share Units	10,069	(10,751)	-	-	(682)
Issuance of Entropy common shares to non-controlling interest (note 18)	-	-	-	-	-
	-	-	-	2,500	2,500
Balance, December 31, 2021	2,370,716	110,315	(1,023,244)	2,331	1,460,118

See accompanying Notes to the Consolidated Financial Statements

Advantage Energy Ltd.
Consolidated Statements of Cash Flows

(Expressed in thousands of Canadian dollars)

		Year ended December 31	
	Notes	2022	2021
Operating Activities			
Income before taxes and non-controlling interest		442,899	532,446
Add (deduct) items not requiring cash:			
Unrealized gains on derivatives	11	(67,287)	(69,000)
Share-based compensation expense	19(b)	5,524	4,053
Depreciation expense	8,10	133,917	106,786
Impairment recovery	10	-	(340,653)
Exploration and evaluation expense	7	-	84
Accretion of decommissioning liability	15(d)	1,420	1,108
Accretion of unsecured debentures	14	317	-
Expenditures on decommissioning liability	15(d)	(2,215)	(1,033)
Changes in non-cash working capital	25	(12,197)	(10,639)
Cash provided by operating activities		502,378	223,152
Financing Activities			
Common shares repurchased	17	(240,967)	-
Increase (decrease) in bank indebtedness	12	9,855	(79,760)
Net proceeds from unsecured debentures	14	21,162	-
Net proceeds from financing liability	13	5,000	-
Principal repayment of lease liability	15(c)	(358)	(275)
Principal repayment of financing liability	13	(3,783)	(3,376)
Cash used in financing activities		(209,091)	(83,411)
Investing Activities			
Exploration and evaluation assets additions	7	-	(677)
Intangible assets additions	9	(1,020)	(491)
Property, plant and equipment additions	10	(240,770)	(148,235)
Project funding received	15(b)	5	20,057
Changes in non-cash working capital	25	(27,800)	11,564
Cash used in investing activities		(269,585)	(117,782)
Increase in cash and cash equivalents		23,702	21,959
Cash and cash equivalents, beginning of year		25,238	3,279
Cash and cash equivalents, end of year		48,940	25,238

See accompanying Notes to the Consolidated Financial Statements

Advantage Energy Ltd.

Notes to the Consolidated Financial Statements

For the years ended December 31, 2022 and 2021

All tabular amounts expressed in thousands of Canadian dollars, except as otherwise indicated.

1. Business and structure of Advantage Energy Ltd.

Advantage Energy Ltd. and its subsidiaries (together "Advantage" or the "Corporation") is an energy producer with a significant position in the Montney resource play located in Western Canada. Additionally, the Corporation provides carbon capture and storage solutions to emitters of carbon dioxide through its subsidiary, Entropy Inc. ("Entropy"). Advantage is domiciled and incorporated in Canada under the Business Corporations Act (Alberta). Advantage's head office address is 2200, 440 – 2nd Avenue SW, Calgary, Alberta, Canada. The Corporation's common shares are listed on the Toronto Stock Exchange under the symbol "AAV".

2. Basis of preparation

(a) Statement of compliance

The Corporation prepares its consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS"). Certain information provided for the prior year has been reclassified to conform to the presentation adopted for the year ended December 31, 2022.

The accounting policies applied in these consolidated financial statements are based on IFRS issued and outstanding as of February 23, 2023, the date the Board of Directors approved the statements.

(b) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except as detailed in the Corporation's accounting policies in note 3.

The methods used to measure fair values of derivative instruments are discussed in note 11. The methods used to measure the fair value of the Corporation's natural gas and liquids properties are discussed in note 10.

(c) Functional and presentation currency

These consolidated financial statements are presented in Canadian dollars, which is the Corporation's functional currency.

3. Significant accounting policies

The accounting policies set out below have been applied consistently to all years presented in these financial statements and notes.

(a) Cash and cash equivalents

Cash consists of balances held with banks, and other short-term highly liquid investments with original maturities of three months or less from inception.

3. Significant accounting policies (continued)

(b) Basis of consolidation

(i) Subsidiaries

Subsidiaries are entities controlled by the Corporation. Control exists when the Corporation has power to govern the financial and operating policies of the entity so as to obtain benefits from its activities. In assessing control, potential voting rights that currently are exercisable are taken into account. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

These consolidated financial statements include the accounts of the Corporation and all subsidiaries over which it has control, including Entropy, a private Canadian corporation of which Advantage owns 90% (note 18). All inter-corporate balances, income and expenses resulting from inter-corporate transactions are eliminated.

(ii) Joint arrangements

A portion of the Corporation's natural gas and liquids activities involve joint operations. The consolidated financial statements include the Corporation's share of these joint operations and a proportionate share of the relevant revenue and costs.

(c) Financial instruments

Financial instruments are classified as amortized cost, fair value through other comprehensive income (loss) or fair value through profit and loss. The Corporation's classification of each identified financial instrument is provided below:

Financial Instrument	Measurement Category
Cash and cash equivalents	Amortized cost
Trade and other receivables	Amortized cost
Prepaid expenses and deposits	Amortized cost
Derivative assets and liabilities	Fair value through profit and loss
Trade and other accrued liabilities	Amortized cost
Bank indebtedness	Amortized cost
Performance Awards	Amortized cost
Deferred Share Units	Fair value through profit and loss
Deferred revenue	Amortized cost
Lease liability	Amortized cost
Financing liability	Amortized cost
Unsecured debentures	Amortized cost
Unsecured debentures – derivative liability	Fair value through profit and loss

3. Significant accounting policies (continued)

(c) Financial instruments (continued)

Derivative assets and liabilities

Derivative instruments executed by the Corporation to manage risk are classified as fair value through profit and loss and are recorded on the Consolidated Statement of Financial Position as derivatives asset and liabilities measured at fair value. Embedded derivatives are separated from the host contract and accounted for separately if the economic characteristics, risks of the host contract and the embedded derivative are not closely related; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the combined instrument is not measured at fair value through profit and loss. Gains and losses on derivative instruments are recorded as gains and losses on derivatives in the Consolidated Statement of Comprehensive Income (Loss) in the period they occur. Gains and losses on derivative instruments are comprised of cash receipts and payments associated with periodic settlement that occurs over the life of the instrument, and non-cash gains and losses associated with changes in the fair values of the instruments, which are remeasured at each reporting date.

The Corporation's unsecured debentures include an embedded derivative due to the equity conversion features. The unsecured debentures are initially measured at fair value and are separated out into their liability and derivative components. The unsecured debentures liability is recorded on the Statement of Financial Position at amortized cost. The unsecured debentures derivative liability, which represents the equity conversion feature, is separately valued with changes in fair value recognized through profit and loss.

Impairment of Financial Assets

The Corporation applies an expected credit loss ("ECL") to financial assets measured at amortized cost and debt investments measured at fair value through other comprehensive income (loss). For the Corporation's financial assets measured at amortized cost, loss allowances are determined based on the ECL over the asset's lifetime. ECLs are a probability-weighted estimate of credit losses, considering possible default events over the expected life of a financial asset. ECLs are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the Corporation in accordance with the contract and the cash flows that the Corporation expects to receive) over the life of the financial asset, discounted at the effective interest rate specific to the financial asset.

(d) Property, plant and equipment and exploration and evaluation assets

(i) Recognition and measurement

Exploration and evaluation costs

Pre-license costs are recognized in the Consolidated Statement of Comprehensive Income (Loss) as incurred.

All exploratory costs incurred subsequent to acquiring the right to explore for natural gas and liquids before technical feasibility and commercial viability of the area have been established are capitalized. Such costs can typically include costs to acquire land rights, geological and geophysical costs and exploration well costs.

Exploration and evaluation costs are not depreciated and are accumulated by well, field or exploration area and carried forward pending determination of technical feasibility and commercial viability.

3. Significant accounting policies (continued)

(d) Property, plant and equipment and exploration and evaluation assets (continued)

The technical feasibility and commercial viability of extracting a mineral resource from exploration and evaluation assets is considered to be generally determinable when proved or probable reserves are determined to exist. Upon determination of proved or probable reserves, exploration and evaluation assets attributable to those reserves are first tested for impairment and then reclassified from exploration and evaluation assets to property, plant and equipment, net of any impairment loss.

Management reviews and assesses exploration and evaluation assets to determine if technical feasibility and commercial viability exist. If Management decides not to continue the exploration and evaluation activity, the unrecoverable costs are charged to exploration and evaluation expense in the period in which the determination occurs.

Property, plant and equipment

Items of property, plant and equipment, which include natural gas and liquids properties, are measured at cost less accumulated depreciation and accumulated impairment losses. Costs include lease acquisition, drilling and completion, production facilities, decommissioning costs, geological and geophysical costs and directly attributable general and administrative costs and share-based compensation related to development and production activities, net of any government incentive programs.

(ii) Subsequent costs

Costs incurred subsequent to development and production that are significant are recognized as natural gas and liquids properties only when they increase the future economic benefits embodied in the specific asset to which they relate. All other expenditures are recognized in comprehensive income (loss) as incurred. Such capitalized natural gas and liquids costs generally represent costs incurred in developing proved and probable reserves and producing or enhancing production from such reserves, and are accumulated on a field or area basis. The carrying amount of any replaced or sold component is derecognized in accordance with our policies. The costs of the day-to-day servicing of property, plant and equipment are recognized in the Consolidated Statement of Comprehensive Income (Loss) as incurred.

(iii) Depletion and depreciation

The net carrying value of natural gas and liquids properties is depreciated using the units-of-production ("UOP") method by reference to the ratio of production in the period to the related proved and probable reserves, taking into account estimated future development costs necessary to bring those reserves into production. Future development costs are estimated taking into account the level of development required to produce the reserves.

Significant natural gas processing plants included in natural gas and liquids properties and furniture and equipment are depreciated using the straight-line method over the expected useful life. The estimated useful lives for depreciable assets are as follows:

Natural gas processing plants	50 years
Furniture & equipment	5 years

Depreciation methods, useful lives and residual values are reviewed at each reporting date by Management.

3. Significant accounting policies (continued)

(d) Property, plant and equipment and exploration and evaluation assets (continued)

(iv) Dispositions

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposition with the carrying amount of property, plant and equipment and are recognized net within other income (expenses) in the Consolidated Statement of Comprehensive Income (Loss).

(v) Impairment and impairment reversal

The carrying amounts of the Corporation's property, plant and equipment are reviewed at each reporting date to determine whether there is any indication of impairment or impairment reversal. If any such indication exists, the asset's recoverable amount is estimated. For the purpose of impairment and impairment reversal testing of property, plant and equipment, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or groups of assets (the "cash-generating unit" or "CGU").

Exploration and evaluation assets are assessed for impairment if sufficient data exists to determine technical feasibility and commercial viability, and facts and circumstances suggest that the carrying amount exceeds the recoverable amount. Exploration and evaluation assets are allocated to CGUs or groups of CGUs for the purposes of assessing such assets for impairment.

The recoverable amount of an asset or a CGU is the greater of its "value-in-use" and its "fair value less costs of disposition". In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Value-in-use is generally computed by reference to the present value of the future cash flows expected to be derived from production of proved and probable reserves. Fair value less costs of disposition is assessed utilizing market valuation based on an arm's length transaction between active participants. In the absence of any such transactions, fair value less costs of disposition is estimated by discounting the expected after-tax cash flows of the CGUs at an after-tax discount rate that reflects the risk of the properties in the CGUs. The discounted cash flow calculation is then increased by a tax-shield calculation, which is an estimate of the amount that a prospective buyer of the CGU would be entitled. The carrying value of the CGUs is reduced by the deferred tax liability associated with its property, plant and equipment.

Impairment losses and reversals of previous impairments on property, plant and equipment are recognized in the Consolidated Statement of Comprehensive Income (Loss) as impairment expense or recovery and are separately disclosed. An impairment of exploration and evaluation assets is recognized as exploration and evaluation expense in the Consolidated Statement of Comprehensive Income (Loss).

3. Significant accounting policies (continued)

(e) Intangible assets

Intangible assets acquired separately are initially measured at cost. Following initial recognition, intangible assets are recognized at cost less any accumulated amortization and impairment losses. Intangible assets with finite lives are amortized over the useful life and assessed for impairment when there is an indication that the asset may be impaired. The Corporation may incur costs associated with research and development. Expenditures during the research phase are expensed. Expenditures during the development phase are capitalized only if certain criteria are met, including technical feasibility and the intent to develop and use the technology. If these criteria are not met, the costs are expensed as incurred. The amortization expense on intangible assets is recognized in the Consolidated Statements of Comprehensive Income (Loss).

(f) Decommissioning liability

A decommissioning liability is recognized if, as a result of a past event, the Corporation has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Decommissioning liabilities are determined by discounting the expected future cash flows at a risk-free rate.

(g) Leases

Leases are recognized as a right-of-use ("ROU") asset with a corresponding liability at the date the leased asset is available for use by the Corporation. Each lease payment is allocated between the lease liability and finance expense. The finance expense is charged to the Statement of Comprehensive Income (Loss) over the lease term to produce a constant periodic rate of interest on the remaining balance of the liability for each reporting period. The ROU asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. ROU assets are measured at cost comprising the amount of the initial measurement of lease liability, any lease payments made at or before the commencement date and any initial direct costs and restoration costs. Lease liabilities include the net present value of fixed payments, less any lease incentives receivable, variable lease payments that are based on an index or a rate, amounts expected to be payable by the lessee under residual value guarantees, the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option. It is remeasured when there is a change in the future lease payments arising from a change in an index or rate, if there is a change in the amount expected to be payable under a residual value guarantee or if there is a change in the assessment of whether the Corporation will exercise a purchase, extension or termination option that is within the control of the Corporation. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be determined, or the Corporation's incremental borrowing rate.

Payments associated with short-term leases and leases of low-value assets are recognized on a straight-line basis as an expense in the Statement of Comprehensive Income (Loss). Short-term leases are leases with a lease term of 12 months or less. The Corporation applies a single discount rate to portfolios of leases with similar characteristics.

3. Significant accounting policies (continued)

(h) Long-term compensation

(i) Share-based compensation

The Corporation accounts for share-based compensation expense based on the fair value of rights granted under its share-based compensation plans.

Advantage's Restricted and Performance Award Incentive Plan provides share-based compensation to service providers. Awards granted under this plan, Performance Share Units, may be settled in cash or in shares. As the Corporation generally intends to settle the awards in shares, the plan is considered and accounted for as "equity-settled". Compensation costs related to Performance Share Units are recognized as share-based compensation expense over the vesting period at fair value.

The Entropy Stock Option Plan ("Stock Option Plan") authorizes the Board of Directors of Entropy to grant Stock Options to service providers, including directors, officers, employees and consultants of Advantage. Compensation costs related to the Stock Options are recognized as share-based compensation expense over the vesting period at fair value.

As compensation expense is recognized, contributed surplus is recorded until the Performance Share Units vest or Stock Options are exercised, at which time the appropriate common shares are then issued to the service providers and the contributed surplus is transferred to share capital.

(ii) Performance Awards

Advantage's Performance Award Incentive Plan allows the Corporation to grant cash Performance Awards to service providers. The present value of payments to be made under the Performance Award Incentive Plan are recognized as general and administrative expense as the corresponding service is provided by the service provider. A liability is recognized for the amount expected to be paid if the Corporation has a present legal or constructive obligation to pay this amount, as a result of past service provided by the service provider, and the obligation can be estimated reliably.

(iii) Deferred Share Units ("DSU")

DSUs are issued to Directors of Advantage. Each DSU entitles participants to receive cash equal to the price of the Corporation's common shares, multiplied by the number of DSUs held. All DSUs vest immediately upon grant and become payable upon retirement of the Director from the Board. A liability for the expected cash payments is accrued over the life of the DSU using the fair value method based on the Corporation's share market price at the end of each reporting period, with the associated expense charged to general and administrative expense.

3. Significant accounting policies (continued)

(i) Revenue

The Corporation's revenue is comprised of natural gas and liquids sales to customers under fixed and variable volume contracts, and processing income earned under fixed fee contracts.

Natural gas and liquids sales are recognized when the Corporation has satisfied its performance obligations which occurs upon the delivery of volumes to the customer. The transaction price used to determine revenue from natural gas and liquids sales is the market price, net of any marketing and fractionation fees for sales as specified in the contract. For fixed basis physical delivery contracts, the Corporation records revenue net of the fixed basis differential.

Processing income is recognized when the Corporation has satisfied its performance obligation which is satisfied as each unit of raw gas is handled and processed by Advantage. The transaction price Advantage charges third-parties is a fixed charge per unit processed.

Payments are normally received from customers within 30 days following the end of the production month. The Corporation does not have any long-term contracts with unfulfilled performance obligations and does not disclose information about remaining performance obligations with an original expected duration of 12 months or less.

(j) Income tax

Income tax expense or recovery comprises current and deferred income tax. Income tax expense or recovery is recognized in income or loss except to the extent that it relates to items recognized directly in shareholders' equity.

Current income tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to income tax payable in respect of previous years.

Deferred income tax is recognized using the liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred income tax is not recognized on the initial recognition of assets or liabilities in a transaction that is not a business combination, and at the time of the transaction, affects neither accounting income nor taxable income. Deferred income tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date.

A deferred income tax asset is recognized to the extent that it is probable that future taxable profits will be available against which the temporary difference can be utilized. Deferred income tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized. Deferred income tax assets and liabilities are only offset when they are within the same legal entity and same tax jurisdiction. Deferred income tax assets and liabilities are presented as non-current.

3. Significant accounting policies (continued)

(k) Net income (loss) per share attributable to Advantage shareholders

Basic net income (loss) per share is calculated by dividing the net income (loss) attributable to common shareholders of the Corporation by the weighted average number of common shares outstanding during the period. Diluted net income (loss) per share is determined by adjusting the net income (loss) attributable to common shareholders and the weighted average number of common shares outstanding for the effects of dilutive instruments such as Performance Share Units and Stock Options using the treasury stock method.

(l) Share capital

Financial instruments issued by the Corporation are classified as equity only to the extent that they do not meet the definition of a financial liability or financial asset. Incremental costs directly attributable to the issue of shares and share options are recognized as a deduction from equity. Common shares repurchased by the Corporation are treated as a reduction of share capital based on the average carrying value of the common shares, with the difference between the repurchase price and average carrying value being allocated to contributed surplus.

(m) Non-controlling interest

The Corporation accounts for transactions with non-controlling interests as transactions with equity owners of the Corporation. For purchases of shares from non-controlling interests, the difference between any consideration paid and the relevant ownership acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals of shares to non-controlling interests are also recorded in equity, unless the disposal results in the Corporation's loss of control of the subsidiary, in which case the gain or loss is recognized in net income and comprehensive income.

(n) Government grants and investment tax credits

The Corporation may receive government grants which provide financial assistance as compensation for capital expenditures or expenses to be incurred. Government grants are recognized when there is reasonable assurance that the Corporation will comply with conditions attached to them and the grants will be received. The Corporation recognizes government grants in the Consolidated Statement of Comprehensive Income (Loss) on a systematic basis and in line with recognition of the expenditure that the grants are intended to compensate.

Investment tax credits relating to Scientific Research and Experimental Development claims are considered an income tax credit and are offset against our income tax expense when they become probable of realization.

Under the proposed Government of Canada's refundable investment tax credit for Carbon Capture, Utilization and Storage ("CCUS") program, the Corporation is eligible to recover a portion of its capital expenditures on qualified CCUS projects. Investment tax credits under this program are recorded as a reduction of the cost of the asset. Claims for investment tax credits are accrued upon the Corporation attaining reasonable assurance of collections from the Canada Revenue Agency.

4. Significant accounting judgments, estimates and assumptions

The preparation of consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates, and differences could be material. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimates are revised and in any future years affected. Significant estimates and judgments made in the preparation of the consolidated financial statements are outlined below.

(a) Reserves base

The natural gas and liquids properties are depreciated on a UOP basis at a rate calculated by reference to proved and probable reserves determined in accordance with National Instrument 51-101 “Standards of Disclosure for Oil and Gas Activities” and incorporating the estimated future cost of developing and extracting those reserves. Proved plus probable reserves are estimated by an independent qualified reserve evaluator and determined using recovery factors and future natural gas and liquids prices. Future development costs are estimated using assumptions as to the number of wells required to produce the reserves, the cost of such wells and associated production facilities and other capital costs.

(b) Determination of cash generating unit

The Corporation’s assets are required to be aggregated into CGUs for the purpose of calculating impairment based on their ability to generate largely independent cash inflows. Factors considered in the classification include the integration between assets, shared infrastructure, the existence of common sales points, geography and geologic structure. The classification of assets and allocation of corporate assets into CGUs requires significant judgment and may impact the carrying value of the Corporation’s assets in future periods.

(c) Indicators of impairment or impairment reversal and calculation of impairment or impairment reversal

At each reporting date, Advantage assesses whether there are circumstances that indicate a possibility that the carrying values of exploration and evaluation assets and property, plant and equipment are not recoverable, or impaired. Such circumstances include, but are not limited to, incidents of physical damage, deterioration of commodity prices, changes in the regulatory environment, a reduction in estimates of proved and probable reserves, or significant increases to expected costs to produce and transport reserves. The Corporation also assesses whether there are circumstances that indicate that previously impaired assets are now recoverable and need to be increased to their original carrying values.

When Management judges that circumstances indicate potential impairment or impairment reversal, property, plant, and equipment are tested for impairment or impairment reversal by comparing the carrying values to their recoverable amounts. The recoverable amounts of CGUs are determined based on the higher of value-in-use calculations and fair values less costs of disposition. These calculations require the use of estimates and assumptions, that are subject to change as new information becomes available including information on future commodity prices, expected production volumes, quantities of reserves, discount rates, future development costs and operating costs.

4. Significant accounting judgments, estimates and assumptions (continued)

(d) Derivative assets and liabilities

Derivative assets and liabilities are recorded at their fair values at the reporting date, with gains and losses recognized directly into comprehensive income (loss) in the same period. The fair value of derivatives outstanding is an estimate based on pricing models, estimates, assumptions, and market data available at that time. As such, the recognized amounts are non-cash items and the actual gains or losses realized on eventual cash settlement can vary materially due to subsequent fluctuations in market prices as compared to the valuation assumptions. For embedded derivatives, Management determines the definition of the host contract and the separate embedded derivative. The judgments made in determining the host contract can influence the fair value of the embedded derivative.

(e) Unsecured debentures

Determining the fair value of unsecured debentures requires judgments related to the choice of a pricing model, the estimation of share price, volatility, interest rates, and the expected term of the underlying instruments. Any changes in the estimates or inputs utilized to determine fair value could result in a significant impact on the Corporation's future operating results.

(f) Share-based compensation

The Corporation's share-based compensation expense is subject to measurement uncertainty as a result of estimates and assumptions related to the expected performance multiplier, forfeiture rates, expected life, market-based vesting conditions and underlying volatility of the price of the Corporation's common shares.

(g) Decommissioning liability

Decommissioning costs will be incurred by the Corporation at the end of the operating life of the Corporation's facilities and properties. The ultimate decommissioning liability is uncertain and can vary in response to many factors including changes to relevant legal requirements, the emergence of new restoration techniques, experience at other production sites, or changes in the risk-free discount rate. The expected timing and amount of expenditure can also change in response to changes in reserves or changes in laws and regulations or their interpretation. As a result, there could be significant adjustments to the provisions established which would affect future financial results.

(h) Income taxes

Income tax laws and regulations are subject to change. Deferred tax liabilities that arise from temporary differences between recorded amounts on the statement of financial position and their respective tax bases will be payable in future periods. Deferred tax assets that arise from temporary differences between recorded amounts on the statement of financial position and their respective tax bases are recognized to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences and the carryforward of unused tax losses can be utilized. The amount of a deferred tax asset/liability is subject to Management's best estimate of when a temporary difference will reverse and expected changes in income tax rates. These estimates by nature involve significant measurement uncertainty.

5. Cash and cash equivalents

	December 31 2022	December 31 2021
Cash at financial institutions	48,940	25,238

Cash at financial institutions earn interest at floating rates based on daily deposit rates. As at December 31, 2022 cash at financial institutions included US\$9.7 million (December 31, 2021 - US\$6.3 million). The Corporation only deposits cash with major financial institutions of high-quality credit ratings. Included in cash and cash equivalents as at December 31, 2022 is \$13.1 million held by the Corporation's subsidiary, Entropy, of which \$10.0 million is held in a cashable guaranteed investment certificate earning an interest rate of 4.4%.

6. Trade and other receivables

	December 31 2022	December 31 2021
Trade receivables	87,047	49,887
Receivables from joint venture partners	5,769	4,882
	92,816	54,769

7. Exploration and evaluation assets

Balance at December 31, 2020	20,580
Additions	677
Lease expiries	(84)
Transferred to property, plant and equipment (note 10)	(460)
Balance at December 31, 2021	20,713
Additions	-
Lease expiries	-
Transferred to property, plant and equipment (note 10)	(4,922)
Balance at December 31, 2022	15,791

8. Right-of-use assets

Cost	Total
Balance at December 31, 2020	2,504
Additions	169
Expired leases	(35)
Balance at December 31, 2021	2,638
Additions	339
Expired leases	-
Balance at December 31, 2022	2,977
Accumulated depreciation	
Balance at December 31, 2020	468
Depreciation	326
Expired leases	(35)
Balance at December 31, 2021	759
Depreciation	374
Expired leases	-
Balance at December 31, 2022	1,133
Net book value	
At December 31, 2021	1,879
At December 31, 2022	1,844

9. Intangible assets

Cost	
Balance at December 31, 2020	-
Intellectual property acquisition (note 18)	2,500
Additions	491
Balance at December 31, 2021	2,991
Additions	1,020
Balance at December 31, 2022	4,011
Accumulated amortization	
Balance at December 31, 2020	-
Amortization	-
Balance at December 31, 2021 and December 31, 2022	-
Net book value	
At December 31, 2021	2,991
At December 31, 2022	4,011

The Corporation has not incurred amortization on its intangible assets in 2021 or 2022 as the assets are not available for use. Amortization will be recognized once commercial operations commence.

10. Property, plant and equipment

Cost	Natural Gas and Liquids Properties	Furniture and Equipment	Total
Balance at December 31, 2020	2,811,316	6,692	2,818,008
Additions	148,154	81	148,235
Capitalized share-based compensation (note 19(b))	2,051	-	2,051
Changes in decommissioning liability (note 15(d))	1,505	-	1,505
Transferred from exploration and evaluation assets (note 7)	460	-	460
Balance at December 31, 2021	2,963,486	6,773	2,970,259
Additions	239,943	827	240,770
Capitalized share-based compensation (note 19(b))	2,242	-	2,242
Changes in decommissioning liability (note 15(d))	(19,734)	-	(19,734)
Transferred from exploration and evaluation assets (note 7)	4,922	-	4,922
Balance at December 31, 2022	3,190,859	7,600	3,198,459
Accumulated depreciation			
Balance at December 31, 2020	1,371,238	5,278	1,376,516
Depreciation	106,227	233	106,460
Impairment recovery	(340,653)	-	(340,653)
Balance at December 31, 2021	1,136,812	5,511	1,142,323
Depreciation	133,224	319	133,543
Balance at December 31, 2022	1,270,036	5,830	1,275,866
Net book value			
At December 31, 2021	1,826,674	1,262	1,827,936
At December 31, 2022	1,920,823	1,770	1,922,593

During the year ended December 31, 2022, Advantage capitalized general and administrative expenditures directly related to development activities of \$6.8 million, included in additions (year ended December 31, 2021 - \$7.8 million).

Included in additions to natural gas and liquids properties is \$2.8 million in expenditures incurred by the Corporation's subsidiary, Entropy (year ended December 31, 2021 - \$nil).

Advantage included future development costs of \$2.1 billion (December 31, 2021 - \$2.0 billion) in natural gas and liquids properties costs subject to depreciation.

10. Property, plant and equipment (continued)

2022: Impairment assessment

For the year ended December 31, 2022, the Corporation evaluated its natural gas and liquids properties for indicators of any potential impairment. As a result of this assessment, no indicators were identified, and no impairment test was performed.

2021: Impairment recovery assessment

At December 31, 2021, there were indicators of impairment recovery identified in the Corporation's Greater Glacier CGU as a result of improved forward commodity prices for natural gas and crude oil.

The Corporation performed an impairment reversal test using an after-tax discounted future cash flow of proved and probable reserves⁽¹⁾, utilizing an inflation rate of 2% and a discount rate of 10%. The following table summarizes the price forecast used in the Corporation's discounted cash flow estimates as of December 31, 2021:

Year	WTI (\$US/bbl)	Henry Hub (\$US/MMbtu)	AECO (\$Cdn/MMbtu)	Exchange Rate (\$US/\$Cdn)
2022	72.83	3.85	3.56	0.80
2023	68.78	3.44	3.21	0.80
2024	66.76	3.17	3.05	0.80
2025	68.09	3.24	3.11	0.80
2026	69.45	3.30	3.17	0.80
2027	70.84	3.37	3.23	0.80
2028	72.26	3.44	3.30	0.80
2029	73.70	3.50	3.36	0.80
2030	75.18	3.58	3.43	0.80
2031	76.68	3.65	3.50	0.80
2032	78.21	3.72	3.57	0.80
Thereafter	+2% per year	+2% per year	+2% per year	0.80

⁽¹⁾ Sproule Associates Limited ("Sproule") conducted an Independent Qualified Reserves Evaluation, effective December 31, 2021, which was prepared in accordance with definitions, standards, and procedures in the Canadian Oil and Gas Evaluation Handbook and NI 51-101. The Independent Qualified Reserves Evaluation was computed using the average of the price forecasts by McDaniel & Associates Consultants Ltd., GLJ Petroleum Consultants and Sproule effective January 1, 2022.

As a result of the impairment recovery test performed, the Corporation determined that the recoverable amount of the Greater Glacier CGU exceeded the carrying amount, and a full impairment recovery of \$340.7 million (net of depreciation) was recognized. The estimated recoverable amount of the Greater Glacier CGU was \$2.5 billion.

As at December 31, 2021, a 1% increase in the assumed discount rate, or a 5% decrease in the future cash flows of proved and probable reserves while holding all other assumptions constant, would have no impact on the impairment recovery recorded at December 31, 2021.

11. Financial risk management

Financial assets and liabilities recorded or disclosed at fair value in the statements of financial position are categorized based on the level associated with the inputs used to measure their fair value.

Fair value is determined following a three-level hierarchy:

Level 1: Quoted prices in active markets for identical assets and liabilities. The Corporation does not have any financial assets or liabilities that require level 1 inputs.

Level 2: Inputs other than quoted prices included within Level 1 that are observable, either directly or indirectly. Such inputs can be corroborated with other observable inputs for substantially the complete term of the contract.

Derivative assets and liabilities are categorized as level 2 in the fair value hierarchy and measured at fair value on a recurring basis. For derivative assets and liabilities, pricing inputs include quoted forward prices for commodities, foreign exchange rates, interest rates, volatility, and risk-free rate discounting, all of which can be observed or corroborated in the marketplace. The actual gains and losses realized on eventual cash settlement can vary materially due to subsequent fluctuations as compared to the valuation assumptions.

Level 3: Fair value is determined using inputs that are not observable.

The Corporation's natural gas embedded derivative is categorized as level 3 in the fair value hierarchy as the long-term portion of the PJM forward price is an unobservable input.

The Corporation's unsecured debentures – derivative liability is categorized as level 3 in the fair value hierarchy as multiple inputs such as volatility, probability of a future change of control event, and share price are unobservable inputs.

Fair value less costs of disposition used to determine the recoverable amounts of Advantage's Greater Glacier CGU at December 31, 2021 were classified as Level 3 in the fair value hierarchy as certain key assumptions were not based on observable market data, but rather, Management's best estimates.

The Corporation's activities expose it to a variety of financial risks that arise as a result of its exploration, development, production, and financing activities such as:

- credit risk;
- liquidity risk;
- commodity price risk;
- interest rate risk; and
- foreign exchange risk.

11. Financial risk management (continued)

The Corporation enters into financial risk management derivative contracts to manage the Corporation's exposure to commodity price risk, foreign exchange risk and interest rate risk. The table below summarizes the realized gains (losses) and unrealized gains (losses) on derivatives recognized in net income (loss).

	Year ended December 31	
	2022	2021
Realized gains (losses) on derivatives		
Natural gas	(138,871)	(58,909)
Crude oil	(2,430)	(17,353)
Foreign exchange	(2,729)	2,368
Interest rate	(104)	(684)
Total	(144,134)	(74,578)
Unrealized gains (losses) on derivatives		
Natural gas	29,647	16,480
Crude oil	(20)	2,074
Foreign exchange	(687)	(4,525)
Interest rate	136	666
Natural gas embedded derivative	42,176	54,305
Unsecured debenture derivative	(3,965)	-
Total	67,287	69,000
Gains (losses) on derivatives		
Natural gas	(109,224)	(42,429)
Crude oil	(2,450)	(15,279)
Foreign exchange	(3,416)	(2,157)
Interest rate	32	(18)
Natural gas embedded derivative	42,176	54,305
Unsecured debenture derivative	(3,965)	-
Total	(76,847)	(5,578)

11. Financial risk management (continued)

The fair value of financial risk management derivatives has been allocated to current and non-current assets and liabilities based on the expected timing of cash settlements. The following table summarizes the estimated fair market value of the Corporation's outstanding financial risk management derivative contracts.

	December 31 2022	December 31 2021
Derivative type		
Natural gas derivative asset (liability)	16,475	(13,172)
Crude oil derivative asset	-	20
Foreign exchange derivative liability	(2,197)	(1,510)
Interest rate derivative liability	-	(136)
Natural gas embedded derivative asset	99,875	57,699
Unsecured debentures derivative liability (note 14)	(9,744)	-
Net derivative asset	104,409	42,901
Consolidated statement of financial position classification		
Current derivative asset	22,357	282
Non-current derivative asset	93,993	57,699
Current derivative liability	(2,197)	(2,765)
Non-current derivative liability	-	(12,315)
Unsecured debentures derivative liability (note 14)	(9,744)	-
Net derivative asset	104,409	42,901

(a) Credit risk

Credit risk is the risk of financial loss to the Corporation if a customer or counterparty to a financial instrument fails to meet its contractual obligations, which arises principally from the Corporation's receivables from natural gas and liquids marketers and companies with whom we enter into derivative contracts. The maximum exposure to credit risk is as follows:

	December 31 2022	December 31 2021
Trade and other receivables	92,816	54,769
Deposits	3,720	1,858
Derivative assets	116,350	57,981
	212,886	114,608

Trade and other receivables, deposits, and derivative assets are subject to credit risk exposure and the carrying values reflect Management's assessment of the associated maximum exposure to such credit risk. Advantage mitigates such credit risk by closely monitoring significant counterparties and dealing with a broad selection of counterparties that diversify risk within the sector. The Corporation's deposits are due from the Alberta Provincial government and are viewed by Management as having minimal associated credit risk. To the extent that Advantage enters derivatives to manage commodity price risk, it may be subject to credit risk associated with counterparties with which it contracts. Credit risk is mitigated by entering into contracts with only stable, creditworthy parties and through frequent reviews of exposures to individual entities. The Corporation only enters into derivative contracts with major banks and international energy firms to further mitigate associated credit risk. In addition, the Corporation has an embedded derivative with a US power company.

11. Financial risk management (continued)

(a) Credit risk (continued)

Substantially all of the Corporation's trade and other receivables are due from customers concentrated in the North American oil and gas industry. As such, trade and other receivables are subject to normal industry credit risks. As at December 31, 2022, \$0.2 million of trade and other receivables are outstanding for 90 days or more (December 31, 2021 – \$0.2 million). The Corporation believes the entire balance is collectible, and in some instances has the ability to mitigate risk through withholding production or offsetting payables with the same parties. At December 31, 2022, the average expected credit loss for trade and other receivables was 0.63% (December 31, 2021 – 0.60%).

The Corporation's most significant customers, three North American oil and natural gas marketers, account for \$63.8 million of the trade and other receivables at December 31, 2022 (December 31, 2021 – \$33.8 million).

(b) Liquidity risk

The Corporation is subject to liquidity risk attributed from trade and other accrued liabilities, derivative liabilities, lease liabilities, performance awards, financing liabilities, unsecured debentures and bank indebtedness. Trade and other accrued liabilities are all due within one year of the Consolidated Statement of Financial Position date. The Corporation's Performance Awards are all payable within one to three years of the Consolidated Statement of Financial Position date. The Corporation's lease liability and financing liability are settled in a systematic basis over their respective terms and will be settled over the next 5 and 12 years, respectively. Advantage does not anticipate any problems in satisfying these obligations from cash provided by operating activities and the existing credit facilities.

The Corporation's bank indebtedness is subject to \$350 million credit facility agreements. Although the credit facilities are a source of liquidity risk, the facilities also mitigate liquidity risk by enabling Advantage to manage interim cash flow fluctuations. The terms of the credit facilities are such that they provide Advantage adequate flexibility to evaluate and assess liquidity issues if and when they arise. Additionally, the Corporation regularly monitors liquidity related to obligations by evaluating forecasted cash flows, optimal debt levels, capital spending activity, working capital requirements, and other potential cash expenditures. This continual financial assessment process further enables the Corporation to mitigate liquidity risk.

The unsecured debentures held by Entropy are non-recourse to Advantage, and have a term of 10 years, if not exchanged for common shares, which are to be repaid at the end of the term. Debentures issued by Entropy bear an interest rate of 8% per annum, which can be paid-in-kind, or cash, due on a quarterly basis, at the discretion of Entropy.

To the extent that Advantage enters derivatives to manage commodity price risk, it may be subject to liquidity risk as derivative liabilities become due. While the Corporation has elected not to follow hedge accounting, derivative instruments are not entered for speculative purposes and Management closely monitors existing commodity risk exposures. As such, liquidity risk is mitigated since any losses realized are offset by increased cash flows realized from the higher commodity price environment.

11. Financial risk management (continued)

(b) Liquidity risk (continued)

The timing of undiscounted cash outflows and contractual maturities relating to financial liabilities as at December 31, 2022 and 2021 are as follows:

December 31, 2022	Undiscounted cash flows⁽³⁾	Less than one year	One to three years	Beyond
Trade and other accrued liabilities	84,805	84,805	-	-
Deferred Share Units	6,528	1,941	-	4,587
Derivative liability	2,197	2,197	-	-
Performance Awards	13,776	6,105	7,671	-
Lease liability	2,377	475	960	942
Financing liability	158,827	12,702	25,439	120,686
Bank indebtedness - principal	180,000	-	180,000	-
- interest ⁽¹⁾	19,926	13,284	6,642	-
Unsecured debentures ⁽²⁾	25,000	-	-	25,000
	493,436	121,509	220,712	151,215

December 31, 2021	Undiscounted cash flows⁽³⁾	Less than one year	One to three years	Beyond
Trade and other accrued liabilities	76,625	76,625	-	-
Deferred Share Units	4,773	-	-	4,773
Derivative liability	15,080	2,765	12,315	-
Performance Awards	17,666	5,644	12,022	-
Lease liability	2,331	339	750	1,242
Financing liability	162,657	12,045	24,123	126,489
Bank indebtedness - principal	168,000	-	168,000	-
- interest ⁽¹⁾	6,255	5,038	1,217	-
	453,387	102,456	218,427	132,504

⁽¹⁾ Interest on bank indebtedness was calculated assuming conversion of the revolving credit facility to a one-year term facility at the next annual facility review.

⁽²⁾ The unsecured debentures are a liability of Entropy and are non-recourse to Advantage. The principal balance of unsecured debentures bears an interest rate of 8%, which can be paid-in-kind, or cash, at the discretion of Entropy.

⁽³⁾ The undiscounted cash flows equal the carrying value, with the exception of performance awards, lease liability, financing liability and unsecured debentures.

The Corporation's bank indebtedness is governed by credit facility agreements with a syndicate of financial institutions (note 12). The Credit Facility has a tenor of two years with a maturity date in June 2024 and is subject to an annual review and extension by the lenders. During the revolving period, a review of the maximum borrowing amount occurs annually on or before May and semi-annually on or before November. There can be no assurance that the Credit Facilities will be renewed at the current borrowing base level at that time. During the term, no principal payments are required until the revolving period matures in June 2024 in the event of a reduction, or the Credit Facility not being renewed. Management fully expects that the facilities will be extended at each annual review.

11. Financial risk management (continued)

(c) Commodity price risk

Advantage's derivative assets and liabilities are subject to price risk as their fair values are based on assumptions regarding forward market prices. The Corporation enters into non-financial derivatives to manage price risk exposure relative to actual commodity production and does not utilize derivative instruments for speculative purposes. Changes to price assumptions can have a significant effect on the fair value of the derivative assets and liabilities and thereby impact earnings. The estimated impact to net income (loss) for the year ended December 31, 2022 resulting from a 10% change to significant price assumptions is as follows:

Price Assumptions	Net Income (Loss) Impact (\$ millions)	
	+10%	(10)%
Forward AECO natural gas price	(1.0)	1.0
Forward Henry Hub natural gas price	(7.8)	7.6
Forward basis differential between Henry Hub and AECO	(4.0)	4.0
Forward PJM electricity price	9.3	(14.5)

As at December 31, 2022 and February 23, 2023, the Corporation had the following commodity derivative contracts in place:

Description of Derivative	Term	Volume	Price
Natural gas – AECO 7A			
Fixed price swap	April 2023 to October 2023	18,956 Mcf/d	Cdn \$4.35/Mcf
Natural gas - Henry Hub NYMEX			
Fixed price swap	November 2022 to March 2023	105,000 Mcf/d	US \$4.98/Mcf
Fixed price swap	April 2023 to October 2023	25,000 Mcf/d	US \$3.35/Mcf
Natural gas - AECO/Henry Hub Basis Differential			
Basis swap	April 2023 to December 2024	40,000 Mcf/d	Henry Hub less US \$1.19/Mcf
Basis swap	January 2023 to March 2023	5,000 Mcf/d	Henry Hub less US \$0.98/Mcf
Natural gas - Dawn			
Fixed price swap	April 2023 to October 2023	15,000 Mcf/d	US \$2.92/Mcf ⁽¹⁾

(1) Contract entered into subsequent to December 31, 2022

11. Financial risk management (continued)

(c) Commodity price risk (continued)

Natural Gas - Embedded Derivative

Advantage entered into a long-term natural gas supply agreement under which Advantage will supply 25,000 MMBtu/d of natural gas for a 10-year period, commencing in 2023. Commercial terms of the agreement are based upon a spark-spread pricing formula, providing Advantage exposure to PJM electricity prices, back-stopped with a natural gas price collar. The contract contains an embedded derivative as a result of the spark-spread pricing formula and the natural gas price collar. The Corporation defined the host contract as a natural gas sales arrangement with a fixed price of US \$2.50/MMBtu. The Corporation will realize gains or losses when the price received under the contract deviates from US \$2.50/MMBtu. As at December 31, 2022 the fair value of the natural gas embedded derivative resulted in an asset of \$99.9 million (December 31, 2021 – \$57.7 million asset).

The Corporation determines the fair value of the embedded derivative contract by utilizing an observable 5-year PJM electricity forecast. The remaining unobservable period beyond 5-years is estimated using the implied inflation rate in the 5-year PJM electricity forecast. At December 31, 2022, the implied inflation rate in the 5-year PJM power forecast averaged 1% per year. If the implied inflation rate in the 5-year PJM electricity forecast changed by 1%, the fair value of the embedded derivative would increase/decrease by \$1.5 million.

(d) Interest rate risk

Interest rate risk is the risk that future cash flows will fluctuate as a result of changes in market interest rates. The interest charged on the outstanding bank indebtedness fluctuates with the interest rates posted by the lenders. The Corporation is exposed to interest rate risk and from time-to-time will enter into fixed interest rate swaps to mitigate interest rate risk. As at December 31, 2022, the Corporation had no outstanding interest rate hedges in place. Had the borrowing rate been different by 100 basis points throughout the year ended December 31, 2022, net income and comprehensive income would have changed by \$0.8 million (December 31, 2021 – \$1.6 million) based on the average debt balance outstanding during the year.

(e) Foreign exchange risk

Foreign exchange risk is the risk that future cash flows will fluctuate as a result of changes in the CAD/USD exchange rate. While the majority of the Corporation's natural gas and liquids sales are settled in Canadian dollars, certain natural gas and oil prices where the Corporation markets its natural gas and liquids production are denominated in US dollars. The Corporation has entered into average rate currency swaps to mitigate the Corporation's exposure to foreign exchange risk. Had the CAD/USD foreign exchange rate been different by \$0.02 throughout the year ended December 31, 2022, net income and comprehensive income would have changed by \$7.2 million (December 31, 2021 – \$2.6 million).

11. Financial risk management (continued)

(e) Foreign exchange risk (continued)

As at December 31, 2022, the Corporation had the following foreign exchange derivative contracts in place:

Description of Derivative	Term	Notional Amount	Rate
Forward rate - CAD/USD			
Average rate currency swap	February 2021 to January 2023	US \$ 750,000/month	1.2850
Average rate currency swap	June 2021 to May 2023	US \$ 2,000,000/month	1.2025
Average rate currency swap	March 2022 to February 2023	US \$ 1,500,000/month	1.2719
Average rate currency swap	May 2022 to March 2023	US \$ 1,000,000/month	1.2850

As at December 31, 2022 the fair value of the foreign exchange derivatives outstanding resulted in an liability of \$2.2 million (December 31, 2021 – \$1.5 million liability).

(f) Capital management

The Corporation manages its capital with the following objectives:

- To ensure sufficient financial flexibility to achieve the ongoing business objectives including replacement of production, funding of future growth opportunities, and pursuit of accretive acquisitions; and
- To maximize shareholder return through enhancing the share value.

Advantage monitors its capital structure and makes adjustments according to market conditions in an effort to meet its objectives given the current outlook of the business and industry in general. The capital structure of the Corporation is composed of working capital (cash and cash equivalents, trade and other receivables, prepaid expenses and deposits and trade and other accrued payables), financing liabilities, bank indebtedness, unsecured debentures, and share capital. Advantage may manage its capital structure by issuing new shares, repurchasing outstanding shares, obtaining additional financing through bank indebtedness, refinancing current debt, issuing other financial or equity-based instruments, declaring a dividend, adjusting capital spending, or disposing of assets. The capital structure is reviewed by Management and the Board of Directors on an ongoing basis.

11. Financial risk management (continued)

(f) Capital management (continued)

Working capital

Working capital is a capital management financial measure that provides Management and users with a measure of the Corporation's short-term operating liquidity. By excluding short term derivatives and the current portion of provision and other liabilities, Management and users can determine if the Corporation's operations are sufficient to cover the short-term operating requirements. Working capital is not a standardized measure and therefore may not be comparable with the calculation of similar measures by other entities.

A summary of working capital as at December 31, 2022 and December 31, 2021 is as follows:

	December 31 2022	December 31 2021
Cash and cash equivalents	48,940	25,238
Trade and other receivables	92,816	54,769
Prepaid expenses and deposits	14,613	3,483
Trade and other accrued liabilities	(84,805)	(76,625)
Working capital surplus	71,564	6,865

Net Debt

Net debt is a capital management financial measure that provides Management and users with a measure to assess the Corporation's liquidity. Net debt is not a standardized measure and therefore may not be comparable with the calculation of similar measures by other entities.

A summary of the reconciliation of net debt as at December 31, 2022 and December 31, 2021 is as follows:

	December 31 2022	December 31 2021
Bank indebtedness (non-current) (note 12)	177,200	167,345
Unsecured debentures (note 14)	15,700	-
Working capital surplus	(71,564)	(6,865)
Net debt	121,336	160,480

Advantage's capital structure as at December 31, 2022 and December 31, 2021 is as follows:

	December 31 2022	December 31 2021
Net debt	121,336	160,480
Shares outstanding (note 17)	171,652,768	190,828,976
Share closing market price (\$/share)	9.47	7.41
Market Capitalization	1,625,552	1,414,043
Total Capitalization	1,746,888	1,574,523

12. Bank indebtedness

	December 31 2022	December 31 2021
Revolving credit facility	180,000	168,000
Discount on bankers' acceptance and other fees	(2,800)	(655)
Balance, end of year	177,200	167,345

As at December 31, 2022, the Corporation had credit facilities with a borrowing base of \$350 million. The Credit Facilities are comprised of a \$30 million extendible revolving operating loan facility from one financial institution and a \$320 million extendible revolving credit facility from a syndicate of financial institutions.

In June 2022, the Credit Facilities were renewed with no changes to the borrowing base. The Credit Facility has a tenor of two years with a maturity date in June 2024 and is subject to an annual review and extension by the lenders. During the revolving period, a review of the maximum borrowing amount occurs annually on or before May and semi-annually on or before November. There can be no assurance that the Credit Facilities will be renewed at the current borrowing base level at that time. During the term, no principal payments are required until the revolving period matures in June 2024 in the event of a reduction, or the Credit Facility not being renewed. The borrowing base is determined based on, among other things, a thorough evaluation of Advantage's reserve estimates based upon the lenders commodity price assumptions. Revisions or changes in the reserve estimates and commodity prices can have either a positive or a negative impact on the borrowing base. In the event that the lenders reduce the borrowing base below the amount drawn at the time of redetermination, the Corporation has 60 days to eliminate any shortfall by repaying amounts in excess of the new re-determined borrowing base.

Amounts borrowed under the Credit Facilities bear interest at rates ranging from interest at Canadian bank prime plus 2.5% to 4.5% per annum, and Canadian prime or US base rate plus 1.5% to 3.5% per annum, in each case, depending on the type of borrowing and the Corporation's debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") ratio.

Undrawn amounts under the Credit Facilities bear a standby fee ranging from 0.625% to 1.125% per annum, dependent on the Corporation's debt to EBITDA ratio. Repayments of principal are not required prior to maturity provided that the borrowings under the Credit Facilities do not exceed the authorized borrowing base and the Corporation is in compliance with all covenants, representations and warranties.

The Credit Facilities prohibit the Corporation from entering into any derivative contract, excluding basis swaps, where the term of such contract exceeds five years. Further, the aggregate of such contracts cannot hedge greater than 75% of total estimated natural gas and liquids production over the first three years and 50% over the fourth and fifth years. In addition, the Credit Facilities allow us to enter into basis swap arrangements to any natural gas price point in North America for up to 100,000 MMbtu/day with a maximum term of seven years. Basis swap arrangements and the Corporation's embedded derivative do not count against the limitations on hedged production.

12. Bank indebtedness (continued)

The Credit Facilities contain standard commercial covenants for credit facilities of this nature. The Corporation did not have any financial covenants at December 31, 2022 and 2021, but the Corporation is subject to various affirmative and negative covenants under its Credit Facilities. Under the Credit Facilities, the Corporation must ensure at all times that its Liability Management Rating ("LMR") is not less than 2.0. As at December 31, 2022 the Corporation had a 28.4 LMR (December 31, 2021 – 25.6 LMR). All other applicable non-financial covenants were met at December 31, 2022 and 2021. Breach of any covenant will result in an event of default in which case the Corporation has 30 days to remedy such default. If the default is not remedied or waived, and if required by the lenders, the administrative agent of the lenders has the option to declare all obligations under the credit facilities to be immediately due and payable without further demand, presentation, protest, days of grace, or notice of any kind. The Credit Facilities are collateralized by a \$1 billion floating charge demand debenture covering all assets. For the year ended December 31, 2022, the average effective interest rate on the outstanding amounts under the facilities was approximately 6.2% (December 31, 2021 – 4.7%). The Corporation had letters of credit of US\$9.0 million outstanding at December 31, 2022 (December 31, 2021 – US\$9.0 million).

13. Financing Liability

In 2020, Advantage sold a 12.5% interest in the Corporation's Glacier Gas Plant for \$100 million, before transaction costs, and entered into a 15-year take-or-pay volume commitment agreement with the purchaser for 50 MMcf/d capacity at a fee of \$0.66/Mcf. During the third quarter of 2022, as part of the planned capital expansion of the Glacier Gas Plant, the working interest partner chose to participate pursuant to the agreement and provided \$5.0 million in additional financing, with the volume commitment fee being revised to \$0.696/Mcf for the remainder of the term. The volume commitment agreement is treated as a financing transaction with an effective interest rate associated with the financing transaction of 9.1%.

A reconciliation of the financing liability is provided below:

	Year ended December 31, 2022	Year ended December 31, 2021
Balance, beginning of the year	93,488	96,864
Additions	5,000	-
Interest expense	8,537	8,669
Financing payments	(12,320)	(12,045)
Balance, end of year	94,705	93,488
Current financing liability	4,269	3,696
Non-current financing liability	90,436	89,792

14. Unsecured debentures

On March 25, 2022, the Corporation's subsidiary Entropy entered into an investment agreement with an investor who provided a capital commitment of \$300 million. Entropy will issue unsecured debentures to fund carbon capture and storage projects that reach final investment decision as certain predetermined return thresholds are met. Under the terms of the agreement, Entropy and the investor have options that provide for the unsecured debentures to be exchanged for common shares at an exchange price of \$10 per share, subject to adjustment in certain circumstances. The investor has the option to exchange the outstanding unsecured debentures for common shares at any time while Entropy may commence a mandatory exchange of unsecured debentures for common shares in advance of an initial public offering ("IPO"). The unsecured debentures have a term of 10 years, if not exchanged for common shares, which are to be repaid at the end of the term in the amount greater of the principal amount and the investor's pro rata share of the fair market value of Entropy and are non-recourse to Advantage.

14. Unsecured debentures (continued)

Each debenture issued by Entropy bears an interest rate of 8% per annum that Entropy can elect to pay in cash or pay-in-kind, due on a quarterly basis. Any paid-in-kind interest is added to the aggregate principal, subject to certain limitations.

On April 5, 2022, Entropy issued unsecured debentures and received \$25.0 million gross proceeds and incurred \$3.8 million of issuance costs. For the year ended December 31, 2022, Entropy incurred interest of \$1.5 million that was paid in cash, and \$0.3 million of accretion expense.

The exchange features of the unsecured debentures meet the definition of a derivative liability, as the exchange features allow the unsecured debentures to be potentially exchanged for a variable amount of common shares, and as such does not meet the fixed-for-fixed criteria for equity classification. The unsecured debenture - derivative liability is classified as Level 3 within the fair value hierarchy.

The following table provides a summary of the outstanding aggregate principal balance of the Corporation's unsecured debentures:

	December 31 2022
Aggregate principal balance, beginning of the year	-
Unsecured debentures issued	25,000
Aggregate principal balance, end of year	25,000

The following tables disclose the components associated with the unsecured debentures at initial recognition. The changes in the unsecured debentures are as follows:

	December 31 2022
Balance, beginning of the year	-
Initial recognition	19,221
Issuance costs	(3,838)
Accretion expense	317
Balance, end of year	15,700

The changes in the unsecured debentures - derivative liability related to the exchange features are as follows:

	December 31 2022
Balance, beginning of the year	-
Initial recognition	5,779
Revaluation	3,965
Balance, end of year	9,744

The Corporation determined the value of the conversion feature using a probability weighted Black-Scholes calculation. Unobservable inputs used to determine the valuation at December 31, 2022 includes estimated share price, estimated timing of an IPO, share price volatility and credit spread. The below table provides the impact to the valuation of the derivative liability by adjusting the inputs below:

\$ millions	Increase	(Decrease)
\$1 change in estimated share price	1.5	(1.5)
10% change in volatility	1.0	(1.0)
1% change in credit spread	0.4	(0.4)
1 year change in estimated timing of an IPO	1.8	(2.5)

15. Provisions and other liabilities

	Year ended December 31, 2022	Year ended December 31, 2021
Performance Awards (note 19(c))	9,277	9,970
Deferred Share Units (note 19(d))	6,528	4,773
Deferred revenue (a)	6,603	6,603
Project funding grant (b)	-	57
Lease liability (c)	2,154	2,173
Decommissioning liability (d)	41,945	62,474
Balance, end of year	66,507	86,050
Current provisions and other liabilities	16,531	7,528
Non-current provisions and other liabilities	49,976	78,522

(a) Deferred revenue

Deferred revenue represents an advance payment received by Advantage in consideration for the future sales of natural gas. The balance has been classified as short-term as the performance obligation related to the deferred revenue is expected to be satisfied in 2023.

(b) Project funding grant

The Corporation received a \$20 million grant under the Government of Alberta's "*Industrial Energy Efficiency and Carbon Capture Utilization and Storage Program*" to be utilized solely for project expenditures related to reducing carbon emissions. Advantage shall not use the funding for more than 75% of the total project expenses, whereby any excess would result in a proportionate repayment of the project funding.

(c) Lease liability

The Corporation incurs lease payments related to its head office and other miscellaneous equipment. The Corporation has recognized a lease liability in relation to all lease arrangements measured at the present value of the remaining lease payments using the Corporation's weighted-average incremental borrowing rate of 4.3%.

A reconciliation of the lease liability is provided below:

	Year ended December 31, 2022	Year ended December 31, 2021
Balance, beginning of the year	2,173	2,279
Additions	339	169
Interest expense	93	96
Lease payments	(451)	(371)
Balance, end of year	2,154	2,173
Current lease liability	434	364
Non-current lease liability	1,720	1,809

15. Provisions and other liabilities (continued)

(d) Decommissioning liability

The Corporation's decommissioning liability results from net ownership interests in natural gas and liquids assets including well sites, gathering systems and facilities, all of which will require future costs of decommissioning under environmental legislation. These costs are expected to be incurred between 2023 and 2078. A risk-free rate of 3.28% (December 31, 2021 - 1.76%) and an inflation factor of 2.0% (December 31, 2021 - 2.0%) were used to calculate the fair value of the decommissioning liability at December 31, 2022. As at December 31, 2022, the total estimated undiscounted, uninflated cash flows required to settle the Corporation's decommissioning liability was \$62.8 million (December 31, 2021 - \$57.6 million).

A reconciliation of the decommissioning liability is provided below:

	Year ended December 31, 2022	Year ended December 31, 2021
Balance, beginning of the year	62,474	60,894
Accretion expense	1,420	1,108
Liabilities incurred	2,003	1,737
Change in estimates	(1,189)	(1,800)
Effect of change in risk-free rate and inflation rate factor	(20,548)	1,568
Liabilities settled	(2,215)	(1,033)
Balance, end of year	41,945	62,474
Current decommissioning liability	2,000	2,000
Non-current decommissioning liability	39,945	60,474

16. Income taxes

The provision for income taxes is as follows:

	Year ended December 31, 2022	Year ended December 31, 2021
Current income tax expense	-	-
Deferred income tax expense	105,138	121,092
Income tax expense	105,138	121,092

The provision for income taxes varies from the amount that would be computed by applying the combined federal and provincial income tax rates for the following reasons:

	Year ended December 31, 2022	Year ended December 31, 2021
Income before taxes and non-controlling interest	442,899	532,446
Combined federal and provincial income tax rates	23.0 %	23.0 %
Expected income tax expense	101,867	122,463
Increase (decrease) in income taxes resulting from:		
Non-deductible share-based compensation	1,280	937
Valuation allowance	910	-
Other	1,081	(2,308)
Income tax expense	105,138	121,092
Effective tax rate	23.7 %	22.7 %

The movement in deferred income tax assets and liabilities without taking into consideration the offsetting of balances within the same tax jurisdiction is as follows:

	At December 31, 2021	Credited (charged) to income	At December 31, 2022
Deferred income tax assets:			
Decommissioning liability	14,369	(4,208)	10,161
Non-capital losses	167,352	(73,547)	93,805
Financing liability	21,502	(870)	20,632
Other	22,022	217	22,239
	225,245	(78,408)	146,837
Deferred income tax liabilities:			
Property, plant and equipment	(311,239)	(10,188)	(321,427)
Derivative asset/liability	(9,867)	(16,388)	(26,255)
Other	(423)	(154)	(577)
	(321,529)	(26,730)	(348,259)
Deferred income tax liability	(96,284)	(105,138)	(201,422)

16. Income taxes (continued)

	At December 31, 2020	Credited (charged) to income	At December 31, 2021
Deferred income tax assets:			
Decommissioning liability	14,006	363	14,369
Non-capital losses	187,675	(20,323)	167,352
Financing liability	22,279	(777)	21,502
Derivative asset/liability	6,003	(6,003)	-
Other	19,979	2,043	22,022
	249,942	(24,697)	225,245
Deferred income tax liabilities:			
Property, plant and equipment	(225,074)	(86,165)	(311,239)
Derivative asset/liability	-	(9,867)	(9,867)
Other	(60)	(363)	(423)
	(225,134)	(96,395)	(321,529)
Deferred income tax asset (liability)	24,808	(121,092)	(96,284)

The estimated tax pools available at December 31, 2022 are as follows:

Canadian development expenses	218,327
Canadian exploration expenses	68,470
Canadian oil and gas property expenses	12,242
Non-capital losses	411,805
Undepreciated capital cost	240,549
Capital losses	135,119
Scientific research and experimental development expenditures	32,506
Other	6,421
	1,125,439

The non-capital loss carry forward balances expire no earlier than 2029.

No deferred tax asset has been recognized for capital losses of \$135 million (December 31, 2021 – \$147 million). Recognition is dependent on the realization of future taxable capital gains.

17. Share capital

(a) Authorized

The Corporation is authorized to issue an unlimited number of shares without nominal or par value.

(b) Issued

	Common Shares (# of shares)	Share capital (\$000)
Balance at December 31, 2020	188,112,797	2,360,647
Shares issued on Performance Share Unit settlements	2,716,179	-
Contributed surplus transferred on Performance Share Unit settlements	-	10,069
Balance at December 31, 2021	190,828,976	2,370,716
Shares issued on Performance Share Unit settlements (note 19 (a))	3,056,992	-
Contributed surplus transferred on Performance Share Unit settlements	-	6,948
Shares purchased and cancelled under NCIB	(13,304,629)	(163,157)
Shares purchased and cancelled under SIB	(8,928,571)	(109,494)
Balance at December 31, 2022	171,652,768	2,105,013

For the year ended December 31, 2022, the Corporation purchased 22.2 million common shares for cancellation for a total of \$241.0 million. Share capital was reduced by \$272.7 million while contributed surplus was increased by \$31.7 million, representing the excess average carrying value of the common shares over the purchase price.

(c) Normal Course Issuer Bid ("NCIB")

On April 7, 2022, the Toronto Stock Exchange (the "TSX") approved the Corporation commencing a NCIB. Pursuant to the NCIB, Advantage will purchase for cancellation, from time to time, as it considers advisable, up to a maximum of 18,704,019 common shares of the Corporation. The NCIB commenced on April 13, 2022 and is scheduled to terminate on April 12, 2023 or such earlier time as the NCIB is completed or terminated at the option of Advantage.

Purchases pursuant to the NCIB were made on the open market through the facilities of the TSX or alternative trading systems. The price that Advantage paid for its common shares under the NCIB was the prevailing market price on the TSX at the time of such purchase. All Common shares acquired under the NCIB were cancelled.

For the year ended December 31, 2022, the Corporation purchased 13.3 million common shares for cancellation at an average price of \$10.52 per common share for a total of \$140.1 million. Subsequent to December 31, 2022, the Corporation purchased 5.4 million common shares for a total of \$47.9 million, reaching the maximum number of common shares that can be purchased under the NCIB.

(d) Substantial Issuer Bid ("SIB")

On November 10, 2022, the Corporation commenced a SIB pursuant to which it offered to purchase for cancellation up to \$100 million of its common shares through a modified Dutch auction. The SIB was completed on December 20, 2022, with the Corporation taking up 8.9 million common shares at a price of \$11.20 per common share, representing an aggregate purchase of \$100 million and 4.9% of the total number of Advantage's issued and outstanding common shares. The Corporation incurred \$0.9 million in transaction cost in connection with the SIB which were included in the cost of acquiring the common shares.

18. Non-controlling interest ("NCI")

At December 31, 2020, Advantage owned 100% of Entropy, a private cleantech company focused on commercializing energy-transition technologies.

On May 5, 2021, Entropy issued common shares to Allardyce Bower Holdings Inc. ("ABC") in exchange for intellectual property, resulting in Advantage and ABC owning 90% and 10% of Entropy, respectively. Advantage has recognized a non-controlling interest in shareholders' equity, representing the carrying value of the 10% shareholding of Entropy held by outside interests.

A reconciliation of the non-controlling interest is provided below:

	Year ended	
	December 31	
	2022	2021
Balance, beginning of the year	2,331	-
Consideration contributed by NCI	-	2,500
Net loss and comprehensive loss attributable to NCI	(906)	(169)
Balance, end of year	1,425	2,331

19. Long-term compensation plans

(a) Restricted and Performance Award Incentive Plan – Performance Share Units

Under the Restricted and Performance Award Incentive Plan, service providers can be granted two types of equity incentive awards: Restricted Share Units and Performance Share Units. As at December 31, 2022, no Restricted Share Units have been granted. Performance Share Units vest on the third anniversary of the grant date and are subject to a Payout Multiplier that is determined based on the achievement of corporate performance measures during that three-year period, as approved by the Board of Directors.

The following table is a continuity of Performance Share Units:

	Performance Share Units
Balance at December 31, 2020	5,243,598
Granted	1,247,026
Settled	(1,549,658)
Forfeited	(60,282)
Balance at December 31, 2021	4,880,684
Granted	720,641
Settled	(1,585,888)
Forfeited	(32,491)
Balance at December 31, 2022	3,982,946

During April 2022, 1,585,888 Performance Share Units matured and were settled with the issuance of 3,056,992 common shares.

19. Long-term compensation plans (continued)

(b) Share-based compensation expense

Share-based compensation expense after capitalization for the years ended December 31, 2022 and 2021 are as follows:

	Year ended December 31	
	2022	2021
Total share-based compensation	7,766	6,786
Capitalized (note 10)	(2,242)	(2,051)
Cash settled awards	-	(682)
Share-based compensation expense	5,524	4,053

(c) Performance Award Incentive Plan - Performance Awards

Under the Performance Award Incentive Plan, service providers can be granted cash Performance Awards. Such grants vest on the third anniversary of the grant date and are subject to a Payout Multiplier that is determined based on the achievement of corporate performance measures during that three-year period, as approved by the Board of Directors. Performance Awards are expensed to general and administrative expense with the recording of a current and non-current liability (note 15) until eventually settled in cash.

The following table is a continuity of the Corporation's liability related to outstanding Performance Awards:

	Year ended December 31, 2022	Year ended December 31, 2021
Balance, beginning of the year	9,970	4,620
Performance Award expense	5,902	5,284
Interest expense	46	66
Performance Awards settled	(6,641)	-
Balance, end of year	9,277	9,970
Current	5,553	5,107
Non-current	3,724	4,863

(d) Deferred Share Units

Deferred Share Units are issued to Directors of the Corporation. Each Deferred Share Unit entitles participants to receive cash equal to the Corporation's common shares, multiplied by the number of DSUs held. All Deferred Share Units vest immediately upon grant and become payable upon retirement of the Director from the Board.

The following table is a continuity of Deferred Share Units:

	Deferred Share Units
Balance at December 31, 2020	629,330
Granted	105,140
Settled	(90,377)
Balance at December 31, 2021	644,093
Granted	45,217
Settled	-
Balance at December 31, 2022	689,310

19. Long-term compensation plans (continued)

(d) Deferred Share Units (continued)

The expense related to Deferred Share Units is calculated using the fair value method based on the Corporation's share price at the end of each reporting period and is charged to general and administrative expense. The following table is a continuity of the Corporation's liability related to outstanding Deferred Share Units:

	Year ended December 31, 2022	Year ended December 31, 2021
Balance, beginning of the year	4,773	1,076
Granted	425	418
Revaluation of outstanding Deferred Share Units	1,330	3,599
Settled	-	(320)
Balance, end of year	6,528	4,773
Current	1,941	-
Non-current	4,587	4,773

20. Net income per share attributable to Advantage shareholders

The calculations of basic and diluted net income per share are derived from both net income attributable to Advantage shareholders and weighted average shares outstanding, calculated as follows:

	Year ended December 31	
	2022	2021
Net income attributable to Advantage shareholders		
Basic and diluted	338,667	411,523
Weighted average shares outstanding		
Basic	187,022,242	190,077,376
Performance Share Units	6,847,114	8,526,599
Diluted	193,869,356	198,603,975
Net income per share attributable to Advantage shareholders		
Basic (\$/share)	\$ 1.81	\$ 2.17
Diluted (\$/share)	\$ 1.75	\$ 2.07

21. Revenues

(a) Natural gas and liquids sales

Advantage's revenue is comprised of natural gas, crude oil, condensate and NGLs sales to multiple customers. For the years ended December 31, 2022 and 2021, natural gas and liquids sales was as follows:

	Year ended December 31	
	2022	2021
Crude oil	81,938	31,209
Condensate	47,129	25,226
NGLs	79,042	44,423
Liquids	208,109	100,858
Natural Gas	742,349	391,177
Natural gas and liquids sales	950,458	492,035

At December 31, 2022, receivables from contracts with customers, which are included in trade and other receivables, were \$84.6 million (December 31, 2021 - \$49.5 million).

(b) Sales of purchased natural gas

During the year ended December 31, 2022, the Corporation purchased natural gas volumes to satisfy physical sales commitments. Purchases and sales of natural gas from third-parties was as follows:

	Year ended December 31	
	2022	2021
Sales of purchased natural gas	4,826	-
Natural gas purchases	(4,756)	-
Net sales of purchased natural gas	70	-

(c) Processing and other income

During the year ended December 31, 2022, the Corporation earned income from the processing of third-party natural gas at the Corporation's gas plant. Processing and other income was as follows:

	Year ended December 31	
	2022	2021
Processing income	8,783	-
Other	299	-
Total processing and other income	9,082	-

22. General and administrative expense

	Year ended	
	December 31	
	2022	2021
Personnel	21,920	19,673
Revaluation of outstanding Deferred Share Units	1,330	3,599
Professional fees	1,601	1,286
Information technology cost	2,043	1,995
Office rent and administration cost	2,197	1,148
Total general and administrative	29,091	27,701
Capitalized (note 10)	(6,808)	(7,841)
General and administrative expense	22,283	19,860

23. Finance expense

	Year ended	
	December 31	
	2022	2021
Interest on bank indebtedness (note 12)	9,364	11,250
Interest on provisions and other liabilities (note 13, 15(c), 19(c))	8,676	8,831
Accretion of decommissioning liability (note 15(d))	1,420	1,108
Interest and accretion on unsecured debentures (note 14)	1,796	-
Interest income	(829)	-
Total finance expense	20,427	21,189

24. Related party transactions

(a) Key management compensation

The compensation paid or payable to officers and directors is as follows:

	Year ended	
	December 31	
	2022	2021
Salaries, director fees and short-term benefits	4,972	4,903
Share-based compensation and Performance Awards ⁽¹⁾	4,753	5,075
	9,725	9,978

⁽¹⁾ Represents the grant date fair value of Performance Share Units and Performance Awards granted.

As at December 31, 2022, there is a commitment of \$4.8 million (December 31, 2021 – \$4.4 million) related to change of control or termination of employment of officers.

(b) Management Services Agreement

The Corporation entered into a Management Services Agreement with Entropy whereas Advantage provides certain administrative, accounting, financial, strategic, planning and management services to Entropy, which are in the in the normal course of operations. During the year ended December 31, 2022, Advantage incurred and charged \$1.8 million (December 31, 2021 – \$0.8 million) in G&A to Entropy in connection with the Management Services Agreement.

25. Supplementary cash flow information

Changes in non-cash working capital is comprised of:

	Year ended December 31	
	2022	2021
Source (use) of cash:		
Trade and other receivables	(38,047)	(26,278)
Prepaid expense and deposits	(11,130)	(1,462)
Trade and other accrued liabilities	8,180	39,618
Performance Awards	(693)	5,350
Deferred Share Units	1,755	3,697
Project funding	(62)	(20,000)
	(39,997)	925
Related to operating activities	(12,197)	(10,639)
Related to financing activities	-	-
Related to investing activities	(27,800)	11,564
	(39,997)	925

The following table provides a detailed breakdown of the cash and non-cash changes in financing liabilities arising from financing activities:

	Year ended December 31	
	2022	2021
Cash flows		
Common shares repurchased	(240,967)	-
Draws on credit facility	310,000	30,000
Repayment of credit facility	(298,000)	(110,000)
Bankers' acceptance and other fees	(10,019)	(10,288)
Net proceeds from unsecured debentures	21,162	-
Net proceeds from financing liability	5,000	-
Lease payments	(451)	(371)
Financing payments	(12,320)	(12,045)
Total cash flows	(225,595)	(102,704)
Non-cash changes		
Amortization of bankers' acceptance and other fees	7,874	10,528
Lease interest expense	93	96
Financing liability interest expense	8,537	8,669
Total non-cash changes	16,504	19,293
Cash used in financing activities	(209,091)	(83,411)

26. Commitments

At December 31, 2022 Advantage had commitments relating to building operating cost of \$1.9 million, processing commitments of \$53.7 million and transportation commitments of \$450 million. The estimated remaining payments are as follows:

(\$ millions)	Payments due by period						
	Total	2023	2024	2025	2026	2027	Beyond
Building operating cost ⁽¹⁾	1.9	0.4	0.4	0.4	0.4	0.3	-
Processing	53.7	7.9	10.0	9.5	7.0	7.0	12.3
Transportation	450.0	74.5	74.5	72.3	60.1	48.2	120.4
Total commitments	505.6	82.8	84.9	82.2	67.5	55.5	132.7

⁽¹⁾ Excludes fixed lease payments which are included in the Corporation's lease liability.

ABBREVIATIONS

Crude Oil and Natural Gas Liquids

bbl	barrel
bbls	barrels
Mbbls	thousand barrels
NGLs	natural gas liquids
BOE or boe	barrel of oil equivalent
Mboe	thousand barrels of oil equivalent
MMboe	million barrels of oil equivalent
boe/d	barrels of oil equivalent per day
bbls/d	barrels of oil per day

Natural Gas

Mcf	thousand cubic feet
MMcf	million cubic feet
bcf/d	billion cubic feet per day
Mcf/d	thousand cubic feet per day
MMcf/d	million cubic feet per day
Mcfe	thousand cubic feet of natural gas equivalent, using the ratio of 6 Mcf of natural gas being equivalent to one bbl of oil
MMcfe/d	million cubic feet of natural gas equivalent per day
MMbtu	million British Thermal Units
MMbtu/d	million British Thermal Units per day
GJ/d	Gigajoules per day

Other

AECO	a notional market point on the NGTL system, located at the AECO 'C' hub in Southeastern Alberta, where the purchase and sale of natural gas is transacted
CCS	means "Carbon Capture and Storage"
CDOR	means "Canadian Dollar Offered Rate"
Henry Hub	a central delivery location, located near Louisiana's Gulf Coast connecting several intrastate and interstate pipelines, that serves as the official delivery location for futures contracts on the NYMEX
MSW	means "Mixed Sweet Blend", the reference price paid for conventionally produced light sweet crude oil at Edmonton, Alberta
NCIB	means "Normal course issuer bid"
PJM	a regional transmission organization that coordinates the movement of wholesale electricity in the Mid Atlantic region of the US
SIB	Means " Substantial issuer bid"
WTI	means "West Texas Intermediate", the reference price paid in U.S. dollars at Cushing, Oklahoma for the crude oil standard grade
Crude oil	Light Crude Oil and Medium Crude Oil as defined in National Instrument 51-101
Natural gas	Conventional Natural Gas as defined in National Instrument 51-101
"NGLs" & "condensate"	Natural Gas Liquids as defined in National Instrument 51-101
Liquids	Total of crude oil, condensate and NGLs

Directors

Jill T. Angevine ⁽¹⁾⁽³⁾⁽⁴⁾
Stephen E. Balog ⁽²⁾⁽⁴⁾
Michael Belenkie
Deirdre M. Choate ⁽¹⁾⁽³⁾⁽⁴⁾
Donald M. Clague ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾
Paul G. Haggis ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾
Norman W. MacDonald ⁽¹⁾⁽²⁾
Andy J. Mah ⁽²⁾
Janine J. McArdle ⁽¹⁾⁽⁴⁾

⁽¹⁾ Member of Audit Committee

⁽²⁾ Member of Reserves and Health, Safety and Environment Committee

⁽³⁾ Member of Compensation Committee

⁽⁴⁾ Member of Governance & Sustainability Committee

Officers

Michael Belenkie, President and CEO
Craig Blackwood, CFO
Neil Bokenfohr, Senior Vice President
David Sterna, Vice President, Marketing and Commercial
John Quaife, Vice President, Finance
Darren Tisdale, Vice President, Geosciences
Geoff Keyser, Vice President, Corporate Development

Corporate Secretary

Jay P. Reid, Partner
Burnet, Duckworth and Palmer LLP

Auditors

PricewaterhouseCoopers LLP

Bankers

The Bank of Nova Scotia
National Bank of Canada
Royal Bank of Canada
Canadian Imperial Bank of Commerce
ATB Financial
Business Development Bank of Canada
Wells Fargo Bank N.A., /Canada Branch

Independent Reserve Evaluators

Sproule Associates Limited

Legal Counsel

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