



NXT ENERGY SOLUTIONS INC.

Management's Discussion and Analysis

For the year ended

December 31, 2023

Management's Discussion and Analysis

This management's discussion and analysis ("MD&A") was prepared by management of NXT Energy Solutions Inc. ("NXT", "we", "us", "our" or the "Company") based on information available as at March 27, 2024 and unless otherwise stated, has been approved by the Board of the Company (the "Board"), and should be reviewed in conjunction with the audited consolidated financial statements and related notes for the period ended December 31, 2023 (the "audited consolidated financial statements"). This MD&A covers the unaudited three and audited twelve month periods ended December 31, 2023, with comparative amounts for the unaudited three and audited twelve month periods ended December 31, 2022.

Our functional and reporting currency is the Canadian dollar. All references to "dollars," "\$" and "CDN\$" in this MD&A are to Canadian dollars unless specific reference is made to United States dollars ("US\$").

NXT® and SFD® are registered trademarks of NXT in Canada and the United States.

Advisories

Forward-looking Information

Certain statements contained in this MD&A constitute "forward-looking information" within the meaning of applicable securities laws. These statements typically contain words such as "anticipate," "believe," "would," "could," "should," "estimate," "expect," "intend," "may," "plan," "will," "continue" and similar words and phrases suggesting future outcomes or an outlook. Forward-looking statements in this document include, but are not limited to:

- receipt of accounts receivable from the Turkish SFD® survey (as defined below);
- receipt of the remaining US\$900,000 from the Ataraxia subscription agreement and approval of terms for the remaining US\$900,000 by the Toronto Stock Exchange ("TSX");
- the Company's ability to successfully work with Synergy and Ataraxia (each as defined herein) to develop future business in the African continent;
- receipt of funding under the NRC IRAP (as defined herein);
- expectations regarding maintenance performed on the Company's leased aircraft;
- expectations regarding the future vesting, settlement and expiry of securities issued in connection with the Company's share-based compensation plans;
- expectations regarding the amortization of the Company's intellectual property ("IP") assets;
- the Company's ability to achieve the remaining milestone with respect to the Consideration (as defined below) owing to Mr. George Liszicasz, the future payment of such Consideration to the estate of Mr. George Liszicasz, and the satisfaction of the conditions thereto (including with respect to cash balances, receipt of funds, and the execution and completion of contracts);
- the development, commercialization, and protection of the SFD® technology for geothermal resource exploration;
- the extent to which expanding the Company's scope of business to include exploring for both hydrocarbon and geothermal resources is anticipated to result in an expansion of its scope of revenue sources;
- the Company's pursuit of opportunities to secure new revenue contracts;
- expectations regarding competition within the industries in which the Company operates;

- approval by the TSX to issue common shares for payables to the marketing consultant and the issuance of such shares in connection therewith;
- the Company's ability to continue operating as a going concern;
- the Company's ability to pay deferred operating costs such as payroll and G&A;
- the Company's ability to continue making payments on its office lease, its aircraft lease and the effects of any default under either such lease;
- the Company's ability to pay amounts owing under the Ataraxia Debentures or the November Debentures;
- expectations regarding the future conversion of the Ataraxia Debentures or the November Debentures into common shares or preferred shares of the Company, as applicable;
- expectations around the future appointment of a representative of Mork Capital to the Board, including the identity of such representative and the timing of such appointment;
- the Company's ability to repay the amounts owing under the HASCAP Loan (as defined herein);
- the timing and value of payments owing under the Company's office lease;
- expectations regarding the Company's DCPs and ICFR (each as defined herein), including the Company's ability to further adjust such DCPs and ICFR and mitigate material weaknesses going forward;
- estimates related to our future financial position and liquidity including certain contractual obligations; and
- general business strategies and objectives.

Such forward-looking information is based on a number of assumptions which may prove to be incorrect. Assumptions have been made with respect to the following matters, in addition to any other assumptions identified in this document:

- our ability to develop and market our SFD[®] technology and services to current and new customers;
- our ability to source personnel and equipment in a timely manner and at an acceptable cost;
- our ability to obtain all permits and approvals required;
- our ability to obtain financing on acceptable terms;
- our ability to obtain insurance to mitigate the risk of default on client billings;
- foreign currency exchange and interest rates;
- general business, economic, and market conditions (including global commodity prices and inflation); and
- approval of the next phase of the NRC IRAP project.

Although NXT believes that the expectations reflected in such forward-looking information are reasonable, undue reliance should not be placed on them as NXT can give no assurance that such expectations will prove to be correct. Forward-looking information is based on expectations, estimates, and projections that involve a number of risks and uncertainties, which could cause actual results to differ materially from those anticipated by NXT and are described in the forward-looking information. Material risks and uncertainties include, but are not limited to:

- the ability of management to execute its business plan, including their ability to secure additional new revenue contracts;
- health, safety, and the environment;

- our ability to develop and commercialize the geothermal technology;
- our ability to service existing debt;
- our ability to protect and maintain our IP and rights to our SFD® technology;
- our reliance on a limited number of key personnel;
- our reliance on a single aircraft;
- our reliance on a limited number of clients;
- counterparty credit risk;
- foreign currency and interest rate fluctuations;
- the likelihood that the Company’s DCPs and ICFR (each as defined below) will prevent or detect material misstatements in our audited consolidated financial statements;
- changes in, or in the interpretation of, laws, regulations, or policies; and
- general business, economic, and market conditions (including global commodity prices).

For more information relating to risks, see the section titled “*Risk and Uncertainties*” in this MD&A and the section titled “*Risk Factors*” in NXT’s most recently filed Annual Information Form. Except as required by applicable securities law, NXT undertakes no obligation to update publicly or revise any forward-looking statements or information, whether as a result of new information, future events or otherwise. Accordingly, the reader is cautioned not to place undue reliance on forward-looking statements.

Financial Outlook

This MD&A contains future-oriented financial information and financial outlook information (collectively, “FOFI”) about expectations regarding financial results which are subject to the same assumptions, risk factors, limitations and qualifications as set out under the heading “Forward-Looking Information”. The actual financial results of the Company may vary from the amounts set out herein and such variation may be material. The Company and its management believe that the financial outlook has been prepared on a reasonable basis, reflecting management’s best estimates and judgments, and the FOFI contained in this MD&A was approved by management as of the date hereof. However, because this information is subjective and subject to numerous risks, it should not be relied on as necessarily indicative of future results. Except as required by applicable securities laws, the Company undertakes no obligation to update such FOFI. FOFI contained in this MD&A was made as of the date hereof and was provided for the purpose of providing further information about the Company’s anticipated future business operations. Readers are cautioned that the FOFI contained in this MD&A should not be used for purposes other than for which it is disclosed herein.

Non-GAAP Measures

NXT’s accompanying audited consolidated financial statements were prepared in accordance with accounting principles generally accepted in the United States of America (“US GAAP”). The Company has consistently used US GAAP for the eight most recently completed quarters.

This MD&A includes references to net working capital, which does not have a standardized meaning prescribed by US GAAP and may not be comparable to similar measures being presented by other entities. Net working capital is the net result of the difference between current assets and current liabilities. It is composed of cash and cash equivalents, accounts receivable, prepaid expenses and deposits, accounts payable and accrued liabilities, convertible debentures, the current portion of long-term debt and the current portion of the Company’s lease obligations. Net working capital can be used by investors and

management to assess liquidity at a particular point in time. See *“Liquidity and Capital Resources – Net Working Capital”* for further information.

Description of the Business

NXT is a Calgary-based technology company whose proprietary airborne SFD[®] survey system (“SFD[®]”), applied in numerous basins around the world, uses the principles of quantum mechanics to infer stress anomalies of exploration interest. The method can be used both onshore and offshore to remotely identify areas conducive to fluid entrapment in order to recommend areas with commercial hydrocarbon and/or geothermal potential. The SFD[®] survey system enables our clients to focus their exploration decisions concerning land commitments, data acquisition expenditures and prospect prioritization on areas with the greatest potential. SFD[®] is environmentally friendly and unaffected by ground security issues or difficult terrain and is the registered trademark of NXT.

Financial and Operational Highlights

Key financial and operational highlights for Q4-23 are summarized below:

- during the quarter, the Company commenced the Turkish SFD[®] Survey for an independent oil and gas exploration company in Türkiye. See *“Discussion of Operations – SFD[®] Survey in Türkiye”*;
- the first two tranches of the November Debentures, as defined and described below, were received for a total of US\$1.15 million (CDN\$1.58 million) of cash;
- cash at December 31, 2023 was approximately \$0.40 million;
- net working capital was approximately (\$1.86) million at December 31, 2023 versus approximately (\$3.47) million at September 30, 2023;
- the Company recorded SFD[®]-related revenues of approximately \$2.15 million;
- a net loss of \$0.43 million was recorded for Q4-23, including stock-based compensation expense (“SBCE”) and amortization expense of approximately \$0.50 million;
- a net loss of approximately \$5.45 million was recorded for YE-23, including SBCE and amortization expense of approximately \$1.97 million;
- net loss per common share for Q4-23 was \$0.01 per share (basic) and \$0.01 per share (diluted);
- net loss per common share for YE-23 was \$0.07 per share (basic) and \$0.07 per share (diluted);
- cash flow used in operating activities was approximately \$1.47 million during Q4-23 and \$4.83 million in the 2023 financial year; and
- general and administrative (“G&A”) expenses decreased by approximately \$0.04 million (5%) in Q4-23 as compared to Q4-22 and G&A expenses decreased by approximately \$0.32 million (8%) in YE-23 as compared to YE-22.

Key financial and operational highlights occurring subsequent to Q4-23 are summarized below:

- NXT completed the Turkish SFD[®] Survey, delivered the final results thereof to its Turkish customers and completed the integration of SFD[®] data with such customers’ existing geological and geophysical data;
- NXT and HULOOLOQ LTD. (known as “Qamia”), an Abu Dhabi based startup focused on “deep tech” disruptive technologies, entered into a sales agency agreement covering the United Arab Emirates (“UAE”);

- On March 22, the Company extended its lease on its aircraft for an additional three years as a capital lease. Under the terms of the lease, the Company will own the aircraft at the end of the term; and
- the November Debentures were finalized for a total of US\$1.87 million (CDN\$2.54 million). US\$0.72 million (approximately CDN\$0.97 million) of that was received in Q1-24.

Selected Annual Information

Figures are given in “(\$)”	YE-23	YE-22	YE-21
Total assets	\$15,184,760	\$15,575,295	\$ 21,584,371
Lease liabilities	595,517	1,246,723	1,902,604
Convertible debentures	3,355,989	-	-
Long-term debt	824,074	935,185	1,000,000
Revenue	2,145,716	-	3,134,250
Net loss	(5,451,112)	(6,733,076)	(3,123,799)
Net loss per share			
Basic	(\$0.07)	(\$0.10)	\$(0.05)
Diluted	(\$0.07)	(\$0.10)	\$(0.05)

Total assets decreased between YE-21 through YE-23 as cash and short-term investments were used for operating activities offset by revenue recognized from the Turkish SFD[®] Survey (defined below). The Company extended its aircraft lease during YE-21 for two years and one small equipment lease was entered into during YE-22. The costs of such lease extensions were offset by accretion of the lease liabilities and the surrender of 7.3% of the Company’s office space. During YE-21, the Company entered into the Business Development Bank of Canada’s (“BDC”) Highly Affected Sectors Credit Availability Program and received a loan of \$1 million under such program (the “HASCAP Loan”). The Company anticipates repaying the HASCAP Loan over a nine-year period. There were no SFD[®] surveys in YE-22. For YE-21 revenue was due to the sale of Pre-existing SFD[®] Data. YE-23 revenue and reduction in the net loss from YE-22 was the result of the Turkish SFD[®] Survey discussed below.

Discussion of Operations

SFD[®] Survey in Turkiye

On September 5, 2023, NXT announced that it has executed a contract to provide an SFD[®] survey to an independent oil and gas exploration company in Türkiye, which is strategically located at the junction of Eastern Europe, Central Asia and the Middle East (the “Turkish SFD[®] Survey”). NXT delivered the final SFD[®] survey results to its Turkish customer and performed the integration of SFD[®] data with the customers’ existing geological and geophysical data in March 2024. The Company’s Turkish customer and one of its partners had requested NXT to add additional line kilometers to the original Turkish SFD[®] Survey. All flight operations related to the data acquisition survey phase were completed in January 2024. As part of NXT’s SFD[®] services, recommendations with rankings are provided to the customer identifying

their highest value prospects for exploration. The accounts receivable from this Turkish SFD® Survey are insured by Export Development Canada.

Strategic Investment

On May 24, 2023, the Company entered into a ten-year strategic alliance and associated financing with Synergy E&P Technologies Limited (“Synergy”) which grants Synergy an exclusive license to use, distribute, sub-license, market and sell NXT’s SFD® solutions in Africa. In addition, on September 30, 2023, NXT extended the exclusive license to include Ataraxia Capital (“Ataraxia”), an affiliate of Synergy.

PE Energy Limited, an affiliate of Synergy and Ataraxia, has performed several commercial projects with NXT in Africa in the past.

Synergy and Ataraxia, with this new arrangement, will be advancing the SFD® technology to address energy security in and transition in the African continent for both oil and gas and geothermal sources. Synergy, Ataraxia and NXT will work closely together to train local technical teams and regulatory authorities on the patented SFD® technology.

Building upon a record of successful collaborations underpinned by the continued market demand in Africa, Ataraxia executed a subscription agreement pursuant to which Ataraxia agreed to subscribe for an aggregate of US\$2.3 million convertible debentures (collectively, the “Ataraxia Debentures”), with a subscription price to be advanced in instalments, of which it completed US\$1.4 million during Q3-23 leaving an as yet unfunded balance of US\$900,000. Please see the section “*Liquidity and Capital Resources – Ataraxia Debentures*” for further information on the Ataraxia Debentures.

Acquisition of the Geothermal Rights

The Company acquired the SFD® technology rights for geothermal resources (“Geothermal Right”) from Mr. George Liszicasz, the former President and Chief Executive Officer (“CEO”) of NXT on April 18, 2021. The consideration deliverable by the Company in connection with the acquisition of the Geothermal Right is set forth below (the “Consideration”):

1. a US\$40,000 (CDN\$50,310) signature payment, which became due immediately and was paid on April 22, 2021;
2. a CDN\$15,000 signature milestone payment paid in August 2021;
3. 300,000 common shares, which were issued in December 2021;
4. a US\$200,000 milestone payment, which will become due in the event that the Company’s cash balance exceeds CDN\$5,000,000 due to the receipt of specifically defined funds from operations; and
5. a US\$250,000 milestone payment, payable in the event that the Company executed, completed and received full payment for an SFD® contract valued at US\$10,000,000 or greater, provided that such contract was entered into and completed and payment of at least US\$5,000,000 was received by April 18, 2023. This milestone expired as of April 18, 2023, and no such payments were made in connection with this milestone.

As of December 31, 2023, the Company has paid \$275,610 for the acquisition of the Geothermal Right, which is the combination of the US\$40,000 (CDN\$50,310) signature payment, the CDN\$15,000 signature milestone payment, the value of the 300,000 common shares of \$207,300 and other costs of \$3,000. The cost of the remaining milestone will be paid when it is deemed probable that the milestone will be achieved by a special committee of the Board, comprised entirely of independent directors. The Board

delegated authority to the special committee to determine when the milestones have been achieved. As of December 31, 2023, the remaining milestone has not been achieved.

Geothermal Right Development Update

Progress continues with respect to the development of the SFD-GT geothermal sensor technology. The Company's first project related to such technology tested, identified, and analyzed the desired elements of the SFD® geothermal sensor response over known geothermal areas, with the ultimate goal of providing a green upstream geophysical service for advancing renewable power initiatives in Canada and abroad. The agreed project work was completed in November 2021 with total funding of \$50,000 from the National Research Council of Canada Industrial Research Assistance Program ("NRC IRAP"). During Q1-23, the Company submitted a proposal for up to approximately \$200,000 to NRC IRAP for a funding and research plan for the next phase to support the research and development of the SFD® technology for geothermal applications. As of the date of this MD&A, the Company funding for the next phase of research has not been finalized.

Patents

In Q1-22, NXT announced its patent application in Brazil has been allowed. As of the date of this MD&A, NXT has been granted SFD® patents on its SFD® technology in forty-seven jurisdictions, including Brazil (February 2022), India (July 2021), Russia (January 2017), Japan (July 2017), Canada (August 2017), Mexico (September 2017), the United States (two patents were granted in November 2017 and September 2018, respectively), China (April 2018), and Europe (January 2020). These patents protect our proprietary SFD® technology and serve as independent third-party recognition of our technological invention.

Change of Auditor

Effective April 25, 2023, KPMG LLP indicated that they will not stand for reappointment as the auditor of the Company for the fiscal year ended December 31, 2023. MNP LLP was appointed auditor of the Company as of the fiscal year ended December 31, 2023, at the annual meeting of shareholders on August 2, 2023. This has resulted in an audit fee reduction as noted below in the section, "*Discussion of Operations – G&A Expenses*".

Summary of Operating Results

Figures are given in “(\$)”	Q4-23	Q4-22	YE-23	YE-22
SFD®-related revenue	\$ 2,145,716	\$ -	\$ 2,145,716	\$ -
Expenses:				
SFD®-related costs, net	1,280,927	203,891	2,249,126	1,178,183
G&A expenses	775,881	813,771	3,420,143	3,736,431
Amortization	439,869	442,097	1,759,473	1,768,727
	2,496,667	1,459,759	7,428,742	6,683,341
Other Expenses (income):				
Interest expense, net	77,901	9,969	160,262	36,220
Foreign exchange gain	(5,109)	(1,165)	(8,028)	(15,340)
Intellectual property and other	1,948	986	15,852	28,855
	74,740	9,790	168,086	49,735
Loss before income taxes	(425,701)	(1,469,549)	(5,451,112)	(6,733,076)
Income tax expense	-	-	-	-
Net loss and comprehensive loss	(425,701)	(1,469,549)	(5,451,112)	(6,733,076)
Net loss per share – basic	\$ (0.01)	\$ (0.02)	\$ (0.07)	\$ (0.10)
Net loss per share – diluted	\$ (0.01)	\$ (0.02)	\$ (0.07)	\$ (0.10)

Quarterly operating results. Net loss for Q4-23 compared to Q4-22 decreased by \$1,043,848 and by \$0.01 per share-basic. The main reason for the reduced loss was contribution of the Turkish SFD® Survey. There were no SFD®-related revenues in Q4-22. As a result, SFD® related-revenues increased \$2,145,746 and SFD®-related costs, net, were \$1,077,036 higher due to the Turkish SFD® Survey. G&A expenses decreased by \$37,890, compared to Q4-22, due to allocation of costs to the SFD®-related costs and lower travel costs. Interest expense, net, increased by \$67,932 in Q4-23 versus Q4-22 due to the Ataraxia Debentures and November Debentures interest charges. IP and other expenses related mostly to costs associated with maintaining and renewing certain SFD® patents.

Full year operating results. Net loss for YE-23 compared to YE-22 decreased by \$1,281,964, or \$0.03 per share-basic. The main reason for the reduced loss was contribution of the Turkish SFD® Survey. There were no SFD®-related revenues in YE-22. As a result, SFD® related-revenues increased \$2,145,746 and SFD®-related costs, net, were \$1,070,943 higher due to the Turkish SFD® Survey. G&A expenses decreased by \$316,288, compared to YE-22, due primarily to allocation of costs to the SFD®-related costs, one less headcount for one half of the year, less travel costs, and lower professional fees. Interest expense, net, increased by \$124,042 in YE-23 versus YE-22 due to the Ataraxia Debentures and November Debentures. For YE-23 the exchange gain was the result of the stronger CDN\$ to US\$ rate between December 31, 2022 and December 31, 2023 and the Company having a net liability in US\$. At December 31, 2022, the CDN\$ to US\$ exchange rate was lower as compared to the CDN\$ to US\$ exchange rate at December 31, 2021 and the Company had a net US\$ asset for most of the year, resulting in the corresponding foreign exchange gain for YE-22. Intellectual property and other expenses related mostly to costs associated with maintaining and renewing certain SFD® patents.

SFD®-Related Costs, Net

SFD®-Related Costs (Figures are given in "\$")	Q4-23	Q4-22	Net change	%
Aircraft lease costs	\$ 91,560	\$ 89,798	\$ 1,762	2
Aircraft operations	206,395	119,162	87,233	73
Survey projects	982,972	(5,069)	988,041	>100
Total SFD®-related costs, net	1,280,927	203,891	1,077,036	>100

SFD®-Related Costs (Figures are given in "\$")	YE-23	YE-22	Net change	%
Aircraft lease costs	\$ 364,013	\$ 404,777	\$ (40,764)	(10)
Aircraft operations	876,804	776,548	100,256	13
Survey projects	1,008,309	(3,142)	1,011,451	>100
Total SFD®-related costs, net	2,249,126	1,178,183	1,070,943	91

SFD®-related costs include aircraft charter costs (net of charter hire reimbursements), lease expenses, and aircraft operation and maintenance costs. The monthly lease rate was higher in Q4-23 versus Q4-22 due to the weaker CDN\$ versus the US\$. In Q4-23, Aircraft operations were \$87,233 higher as maintenance and repairs were performed before the aircraft began the Turkish SFD® Survey. Survey projects were \$988,041 higher due to costs to perform the Turkish SFD® Survey.

In YE-23, aircraft lease costs were lower compared to YE-22 by \$40,764 due to lower monthly lease rates in the lease extension agreement. Aircraft operations were \$100,256 higher as maintenance and repairs were performed before the aircraft began the Turkish SFD® Survey and pilot certifications. This was offset by maintenance done on the aircraft in Q1-22 to add 300 flight hours. Survey projects were \$1,011,451 higher due to costs to perform the Turkish SFD® Survey.

The aircraft is available for charter to third parties through our aircraft manager when it is not being used by NXT. Any charter hire reimbursements received are used to offset aircraft costs. There were no charter hire reimbursements during YE-23 or YE-22.

On March 22, 2024 the Company extended its Aircraft lease for three years, until March 28, 2027. The Aircraft Lease will be converted to a capital lease and the Company will own the aircraft at the end of the lease. Terms of the extension include a principle of US\$1,210,000, an interest rate of 12%, and monthly payments of US\$40,189. The Company has an early purchase option to acquire the aircraft on any of the following date, March 28, 2025, September 28, 2025, March 28, 2026, or September 28, 2026. The purchase price would be the amortized value of the lease liability, plus a four-month interest penalty.

G&A Expenses

G&A Expenses (Figures are given in "\$")	Q4-23	Q4-22	Net change	%
Salaries, benefits and consulting charges	\$ 343,684	\$ 380,617	\$ (36,933)	(10)
Board and professional fees, public company costs	154,790	169,548	(14,758)	(9)
Premises and administrative overhead	202,897	189,419	13,478	7
Business development	11,582	46,995	(35,413)	(75)
Stock-based compensation	62,928	27,192	35,736	131
Total G&A Expenses	775,881	813,771	(37,890)	(5)

G&A Expenses (Figures are given in "\$")	YE-23	YE-22	Net change	%
Salaries, benefits and consulting charges	\$ 1,512,150	\$1,688,262	\$ (176,112)	(10)
Board and professional fees, public company costs	753,468	818,087	(64,619)	(8)
Premises and administrative overhead	822,019	818,987	3,032	0
Business development	91,235	195,811	(104,576)	(53)
Stock-based compensation	241,271	215,284	25,987	12
Total G&A Expenses	3,420,143	3,736,431	(316,288)	(8)

G&A expenses decreased \$37,890, or 5%, in Q4-23 compared to Q4-22 for the following reasons:

- salaries, benefits, and consulting charges decreased \$36,933 or 10%, as a portion of some salaries were allocated as direct labour expense to support the Turkish SFD® Survey;
- board and professional fees and public company costs decreased \$14,758, or 9%, as audit fees are lower due to the change of auditor;
- premises and administrative overhead costs increased \$13,478, or 7%, due to spending for SFD® survey planning and related software upgrades;
- business development costs decreased 35,413 or 75%. In Q4-22 the Company travelled to the middle east and Asia to pursue opportunities while in Q4-23 the Company focused on the Turkish SFD® Survey; and
- SBCE's were higher in Q4-23 versus Q4-22 by \$35,736 or 131% as compensation is intended to be paid to a marketing consultant in shares only began in Q4-23. Please see the next section "*Discussion of Operations– Stock-based Compensation-Expenses*" for further information on the SBCE.

G&A expenses decreased \$316,288, or 8%, in YE-23 compared to YE 22 for the following reasons:

- salaries, benefits, and consulting charges decreased \$176,112 or 10%, as the Company had one less headcount for the first half of 2023 and the new CEO's compensation was less than the CEO compensation paid in Q4-22. In addition a portion of some salaries was allocated to direct labour expense to support the Turkish SFD® Survey;
- board and professional fees and public company costs decreased \$64,619, or 8%. More director fees were reimbursed in options in YE-23 versus YE-22 and audit fees were lower due to the Company changing its auditor. This was offset by increased professional fees due to the Ataraxia and November Debenture financing;
- premises and administrative overhead costs increased \$3,032, or 0%, due to spending for SFD® survey planning and related software upgrades. This was partially offset as the Company surrendered office space at the end of Q1-22 which lowered rent costs;
- business development costs decreased \$104,576 or 53% due to less travel expenses during YE-23 versus YE-22. The Company engaged in more travel to the middle east and Asia to pursue

opportunities during 2022, while in 2023 the Company focused on the Turkish SFD® Survey and attended more virtual meetings; and

- SBCE's were higher in YE-23 as opposed to YE-22 by \$25,987 or 12%. Stock Option expense was higher as options were granted in lieu of cash payments to certain directors. While the Company has engaged a marketing consultant, such consultant is intended to be paid in shares and not cash. This was offset by the Company's RSU expense being lower in 2023, as the Company's share price at the vesting date of September 20, 2023 was lower than the share price at the 2022 vesting date. Please see the next section "Discussion of Operations – Stock-based Compensation Expenses" for further information on the SBCE.

Stock-based Compensation Expenses

Stock-based Compensation Expenses				
(Figures are given in "\$")				
	Q4-23	Q4-22	Net change	% change
Stock Option Expense	\$ -	\$ 7,500	\$ (7,500)	(100)
DSUs	-	-	-	-
RSUs	-	12,280	(12,280)	(100)
ESP Plan	7,106	7,412	(306)	(4)
Consultant Compensation	55,822	-	55,822	100
Total SBCE	62,928	27,192	35,736	131

Stock-based Compensation Expenses				
(Figures are given in "\$")				
	YE-23	YE-22	Net change	% change
Stock Option Expense	\$ 92,500	\$ 22,551	\$ 69,949	>100%
DSUs	-	-	-	-
RSUs	62,441	153,343	(90,902)	(59)
ESP Plan	30,508	39,390	(8,882)	(23)
Consultant Compensation	55,822	-	55,822	100
Total SBCE	241,271	215,284	25,987	12

SBCE varies in any given quarter or year as it is a function of several factors, including the number of units of each type of stock-based compensation plan issued in the period and the amortization term based on the number of years for full vesting of the units.

SBCE is also a function of periodic changes in the inputs used in the Black-Scholes option valuation model, such as volatility in NXT's trailing common share price. For cash-settled stock-based compensation awards variability will occur based on changes to observable prices.

Stock options granted generally expire, if unexercised, five years from the date granted and entitlement to exercise them generally vests at a rate as determined by the Board. On January 6, 2023 the Company granted 2,050,000 incentive stock options at a price of \$0.216 to employees, officers and directors. These incentive stock options will vest upon receipt of cash for SFD® services performed: one-third upon collection of US\$6.5 million, one-third upon the collection of the next US\$7.0 million and the final one-third upon collection of an additional US\$7.5 million.

The deferred share unit ("DSUs") plan (the "DSU Plan") is a long-term incentive plan that permits the grant of DSUs to qualified directors. DSUs granted under the DSU Plan are to be settled at the retirement,

resignation, or death of the Board member holding the DSUs. No DSUs were granted in either 2023 or 2022. Currently 37,354 DSUs are outstanding.

Restricted Share Units (“RSUs”) entitle the holder to receive, at the option of the Company, either the underlying number of shares of the Company’s common shares upon vesting of such RSUs or a cash payment equal to the value of the underlying shares. The RSUs vest at a rate of one-third at the end of each of the first three years following the date of grant. The Company has settled the RSU vesting with common shares and cash. As at December 31, 2023 there are no RSUs outstanding, but on February 21, 2024 the Company granted 1,035,000 RSUs to employees and officers which will vest over a three year period.

The Employee Share Purchase Plan (the “ESP Plan”) allows employees and other individuals determined by the Board to be eligible to contribute a minimum of 1% and a maximum of 10% of their earnings to the plan for the purchase of common shares in the capital of the Company, of which the Company will make an equal contribution. Common shares contributed by the Company may be issued from treasury or acquired through the facilities of the TSX. During 2022 and 2023 the Company has elected to issue common shares from treasury.

On October 1, 2023, the Company entered into a four month service agreement with a marketing consultant to provide sales and market services to introduce potential customers to the SFD® technology, attend trade shows, and update the Company’s market systems. The consultant agreed to be compensated in common shares only for approximately US\$16,000 per month, based on the five day volume average price at the end of each month. Issuance of any shares under such agreement is subject to prior approval from the TSX. If the TSX does not approve the share issuance, the marketing consultant will be paid in cash. As of December 31, 2023, 360,139 common shares (or equivalent of US\$48,000), less withholding taxes, per the agreement, are due to the marketing consultant. In February of 2024 this contract was extended for one month.

SBCE in Q4-23 was higher compared to Q4-22 by \$35,736 or 131% due to the compensation owing to the marketing consultant. This was offset by zero Stock options or DSUs being issued and the RSUs being fully vested.

SBCE in YE-23 was higher compared to YE-22 by \$25,987 or 12% due to the compensation owed to the marketing consultant and that options were granted in lieu of cash payments to certain directors. The RSU expense was lower as the Company’s share price at the vesting date of September 20, 2023 was lower versus the share price at September 30, 2022 and the 2022 vesting date and there were no RSUs in Q4-23. In addition, there was lower ESP Plan participation during YE-23 due to two less participants.

Amortization

Amortization (Figures are given in “\$”)	Q4-23	Q4-22	Net change	%
Property and equipment	\$ 15,240	\$ 17,468	\$ (2,228)	(13)
Intellectual property	424,629	424,629	-	0
Total Amortization	439,869	442,097	(2,228)	(1)

Amortization (Figures are given in “\$”)	YE-23	YE-22	Net change	%
Property and equipment	\$ 60,959	\$ 70,213	\$ (9,254)	(13)
Intellectual property	1,698,514	1,698,514	-	0
Total Amortization Expenses	1,759,473	1,768,727	(9,254)	(1)

Property and equipment and related depreciation expense. Property and equipment depreciation was lower in Q4-23 compared to Q4-22 and YE-23 compared to YE-22 as the Company did not acquire new assets until the end of 2023. Depreciation also decreases each year as the Company uses the declining balance method of depreciation, thereby having the effect of lowering depreciation each year on existing assets.

Intellectual property and related amortization expense. NXT acquired specific rights to utilize the proprietary SFD® technology in global hydrocarbon exploration applications from the inventor of the SFD® technology, NXT’s former Chairman, President and CEO, on August 31, 2015. The value attributed to the acquired IP assets was \$25.3 million. The IP assets are being amortized on a straight-line basis over a 15-year period (future amortization expense of \$1,685,000 per year) and are subject to ongoing assessment of potential indicators of impairment of the recorded net book value. No impairments were recognized in 2023 or 2022.

As discussed in the section “*Discussion of Operations – Acquisition of the Geothermal Rights*”, the Company acquired the SFD® technology for the Geothermal Rights from NXT’s former Chairman, President and CEO on April 18, 2021. The Geothermal Right is being amortized on a straight-line basis over its estimated useful life of 20 years. The annual amortization expense expected to be recognized is approximately \$13,781 per year for a five-year aggregate total of \$68,902.

Other Expenses (Income)

Other Expenses (Figures are given in “\$”)	Q4-23	Q4-22	Net change	%
Interest expense, net	\$ 77,901	\$ 9,969	\$ 67,932	681
Foreign exchange loss (gain)	(5,109)	(1,165)	(3,944)	(339)
Intellectual property and other	1,948	986	962	98
Total Other Expenses, net	74,740	9,790	64,950	663

Other Expenses (Figures are given in “\$”)	YE-23	YE-22	Net change	%
Interest expense, net	\$ 160,262	\$ 36,220	\$ 124,042	342
Foreign exchange loss (gain)	(8,028)	(15,340)	7,312	(48)
Intellectual property and other	15,852	16,933	(1,081)	(6)
Loss on disposal of assets & lease modifications	-	11,922	(11,922)	(100)
Total Other Expenses, net	168,086	49,735	118,351	238

Interest expense, net. This category of other expenses includes interest income earned on short-term investments netted, by interest expense from the financial liability related to the aircraft lease (up to February 2022), long-term debt and the Ataraxia Debentures and November Debentures. Interest expense increased in Q4-23 versus Q4-22 and YE-23 versus YE-22 due to less short-term investments during 2023 and the Company issuing the two debentures in 2023.

Foreign exchange gain. This category of other expenses includes losses and gains caused by changes in the relative currency exchange values of US\$ and CDN\$. The Company held a net US\$ liability at December 31, 2023 and a small US\$ liability at December 31, 2022, which included accounts receivable, cash and cash equivalents, short-term investments, convertible debentures (2023 only), US\$ lease obligations, and

the security deposit for the aircraft, all of which have an effect on the unrealized foreign exchange gain and loss. For Q4-23 the exchange gain was the result of (i) the 1.9% stronger CDN\$ to US\$ between September 30, 2023 and December 31, 2023 and (ii) the Company having a significant net liability in US\$ of US\$1,179,649. In Q4-22 the CDN\$ to US\$ was 0.9% stronger and the net liability in US\$ was US\$231,161 and resulted in the \$1,165 exchange gain.

For YE-23 the exchange gain was the result of (i) the 2.4% stronger CDN\$ to US\$ rate between December 31, 2022 and December 31, 2023 and (ii) the Company having a large net liability in US\$. At December 31, 2022, the CDN\$ to US\$ exchange rate was 6.3% lower as compared to the CDN\$ to US\$ exchange rate at December 31, 2021 and the Company had a net US\$ asset for most of the year, resulting in the corresponding foreign exchange gain for YE-22.

The Company does not currently enter into hedging contracts, but does, however, use alternative strategies to reduce the volatility of US dollar assets including converting excess US dollars to CDN dollars.

IP and other. This category of other expenses primarily includes costs related to IP filings and research & development activity related to the SFD® technology.

In YE-23 and YE-22, the Company's IP and other expenses were associated with periodic patent maintenance and renewal fees required during these time periods.

Loss on disposal of assets & lease modifications. In Q1-22, the Company surrendered 826 square feet of office space. As a result of the space surrender, the Company recorded a loss on disposal of leasehold improvement assets and lease modifications.

Income Tax Expense

There was no income tax expense in YE-23 or YE-22.

Competition

NXT's SFD® airborne survey service is based upon a proprietary technology, which is capable of remotely identifying, from a survey aircraft, subsurface anomalies associated with potential hydrocarbon traps with a resolution that it believes is technically superior to other airborne survey systems. To the Company's knowledge, there is no other company employing technology comparable to its SFD® survey system for oil and natural gas and geothermal exploration.

Seismic is the standard technology used by the oil and gas industry to image subsurface structures. It is our view that the SFD® survey system is highly complementary to seismic analysis. NXT's system may reduce the need for seismic in wide-area reconnaissance but will not replace the role of seismic in verifying structure, closure, and selecting drilling locations. The seismic industry is competitive with many international and regional service providers.

The SFD® system can be used as a focusing tool for seismic. With a SFD® survey, a large tract (that is, a tract over 5,000 square kilometers) of land can be evaluated quickly to identify locations with indications of reservoir potential. Seismic surveys, although effective in identifying these locations, are much more expensive, require significantly more time, and impose a much greater negative impact on local communities and the environment. A SFD® survey deployed first can provide necessary information to target a seismic program over a limited area of locations selected by SFD®. This approach can result in a

more effective seismic program and reduce the overall cost, time, community resistance, and environmental impact required to locate and qualify a prospect.

The energy industry uses other technologies for wide area oil and natural gas reconnaissance exploration, such as aeromagnetic and gravity surveys. These systems can provide regional geological information, such as basement depth, sedimentary thickness and major faulting, and structural development.

Risk and Uncertainties

Hydrocarbon and geothermal exploration operations involve a number of risks and uncertainties that may affect the consolidated financial statements and are reasonably likely to affect them in the future. These risks and uncertainties are discussed in detail in the NXT Annual Information Form (“AIF”) for the Year Ended December 31, 2023, “Section 5 Risk Factors”, dated March 27, 2024 and available as an electronic copy on NXT’s website at www.nxtenergy.com and on SEDAR+ at www.sedarplus.ca.

We caution that the factors referred to in the AIF and those referred to as part of particular forward-looking statements may not be exhaustive and that new risk factors emerge from time to time in the rapidly changing business environment.

Summary of Quarterly Results

A summary of operating results for each of the trailing eight quarters (including a comparison of certain key categories to each respective prior quarter) follows:

(Figures are given in “\$”)	Q4-23	Q3-23	Q2-23	Q1-23
SFD [®] -related revenue	\$ 2,145,716	\$ -	\$ -	\$ -
Net loss	(425,701)	(1,703,956)	(1,706,809)	(1,614,647)
Loss per share – basic	\$ (0.01)	\$ (0.02)	\$ (0.02)	\$ (0.02)
Loss per share – diluted	\$ (0.01)	\$ (0.02)	\$ (0.02)	\$ (0.02)

(Figures are given in “\$”)	Q4-22	Q3-22	Q2-22	Q1-22
SFD [®] -related revenue	\$ -	\$ -	\$ -	\$ -
Net loss	(1,469,549)	(1,647,988)	(1,774,671)	(1,840,868)
Loss per share – basic	\$ (0.02)	\$ (0.03)	\$ (0.03)	\$ (0.03)
Loss per share – diluted	\$ (0.02)	\$ (0.03)	\$ (0.03)	\$ (0.03)

In Q4-23 the Company earned SFD[®]-related revenue and incurred SFD[®]-related costs due to the Turkish SFD[®] Survey, which reduced its net loss versus the previous seven quarters. During Q3-23 the Company decreased G&A spending due to less professional fees as there was minimal incremental financing during the quarter. This was offset by costs incurred to plan for the upcoming Turkish SFD[®] Survey and foreign exchange losses due to the weakening CDN\$. In Q2-23 the Company incurred G&A costs due to increased business development activity and professional fees related to the Ataraxia Debentures. In Q1-23 the Company incurred lower SFD[®]-related costs as there was no unplanned maintenance on the aircraft, and lower G&A as the Company reduced its headcount by one. During Q4-22 costs were reduced primarily

due to lower vacation accruals due to vacation timing, and SBCE. In Q3-22 the Company incurred lower SFD[®]-related costs as the aircraft had early completed its required maintenance. In Q2-22 the Company recorded unrealized foreign exchange gains as the CDN\$ weakened versus the US\$. In Q1-22, the Company incurred maintenance fees on its aircraft to have it available for up to 300 flight hours. In each quarter between Q1-22 and Q3-23, the Company incurred net losses due to incurred SFD[®]-related costs related to aircraft lease and aircraft maintenance costs, G&A expenses, and non-cash items such as SBCE, which can be a significant expense in any given quarter. More specific details are provided below:

- in Q4-23, SFD[®]-related revenue and SFD[®]-related costs increased due to the Turkish SFD[®] Survey and therefore reduced the Q4-23 loss versus the previous seven quarters. Interest expense increased due to the issuance of the November Debentures;
- in Q3-23, costs decreased as G&A spending due to less professional fees, offset by costs incurred to plan for the Turkish SFD[®] Survey and increased foreign exchange losses due to the weakening CDN\$;
- in Q2-23, costs increased primarily due to higher professional fees and business development activity;
- in Q1-23, costs were reduced primarily due to lower headcount and maintenance costs;
- in Q4-22, costs were reduced primarily due to lower vacation and SBCE;
- in Q3-22, costs were reduced primarily due to lower SFD[®]-related costs offset partially by higher business development costs;
- in Q2-22, the Company recorded unrealized foreign exchange gains as the CDN\$ weakened versus the US\$; and
- in Q1-22, the Company incurred maintenance fees on the leased aircraft to have it available for up to 300 flight hours.

Liquidity and Capital Resources

Going Concern

The audited consolidated financial statements for 2023 have been prepared on a going concern basis. The going concern basis of presentation assumes that NXT will continue in operation for the foreseeable future and will be able to realize its assets and discharge its liabilities and commitments in the normal course of business.

The events described in the following paragraphs highlight that there is substantial doubt about NXT's ability to continue as a going concern within one year after the date that the audited consolidated financial statements have been issued. The Company's current cash position is not expected to be sufficient to meet the Company's obligations and planned operations for a year beyond the date that the audited consolidated financial statements have been issued.

Since 2022, the Company has deferred payment of certain operating costs, including payroll and other G&A costs. During 2023 and subsequent to December 31, 2023, the Company completed private placements which resulted in raising an additional net proceeds of \$5,079,612 and completed an SFD[®] survey which generated operating funds. Further financing options that may or may not be available to the Company include issuance of new equity, debentures or bank credit facilities. The need for any of

these options will be dependent on the timing of securing new SFD[®] related revenues and obtaining financing on terms that are acceptable to both the Company and the financier.

NXT continues to develop its pipeline of opportunities to secure new revenue contracts. However, the Company's longer-term success remains dependent upon its ability to convert these opportunities into successful contracts, to continue to attract new client projects, expand its revenue base to a level sufficient to exceed fixed operating costs, and generate consistent positive cash flow from operations. The occurrence and timing of these events cannot be predicted with sufficient certainty.

The Company's audited consolidated financial statements do not reflect adjustments that would be necessary if the going concern basis was not appropriate. If the going concern basis was not appropriate for the audited consolidated financial statements, then adjustments would be necessary in the carrying value of the assets and liabilities, the reported revenues and expenses, and the balance sheet classifications used. These adjustments could be material.

NXT's cash and cash equivalents at December 31, 2023 totaled \$0.40 million. Net working capital totaled \$(1.86) million. See the information in the section "*Liquidity and Capital Resources – Net Working Capital*" for further information.

Risks related to having sufficient ongoing net working capital to execute survey project contracts are mitigated through NXT's normal practice of obtaining advance payments and progress payments from customers throughout the course of the projects, which often span three to four months. In addition, where possible, risk of default on client billings has been mitigated through the use of export insurance programs offered by Export Development Canada.

The Company does not have provisions in its leases, contracts, or other arrangements that would trigger additional funding requirements or early payments except that if the Company were to default on its office lease, the current month rent, plus the next three months, become immediately due. If the Company were to default on the aircraft lease, the Company would be required to deliver the aircraft back to the Lessor.

The Ataraxia Debentures are for a term of two years, payable on demand. The Ataraxia Debentures are secured by a general security agreement, subordinate to the long-term debt. See "*Liquidity and Capital Resources – Ataraxia Debentures*" for more information.

Net Working Capital (Non-GAAP Measure)

Net Working Capital (Figures are given in "\$")	December 31, 2023	December 31, 2022	Net Change	%
Current assets (current liabilities)				
Cash and cash equivalents	\$ 401,713	\$ 263,437	\$ 138,276	52
Accounts receivable	1,828,523	57,065	1,771,458	>100
Prepaid expenses and deposits	53,674	36,157	17,517	48
Accounts payable and accrued liabilities	(1,836,741)	(1,276,236)	(560,505)	(44)
Convertible debentures	(1,852,144)	-	(1,852,144)	(100)
Current portion of long-term debt	(111,111)	(111,111)	-	-
Current portion of lease obligation	(339,543)	(650,315)	310,772	48
Total Net Working Capital	(1,855,629)	(1,681,003)	(174,626)	(10)

NXT had net working capital of \$(1,855,629) as at December 31, 2023.

Net working capital at December 31, 2023 compared to December 31, 2022 decreased by \$174,626, or 10%, due to the issuance of the Ataraxia Debentures which increased net working capital, but being partially offset by the November Debentures. Increased accounts payable were incurred for the Turkish SFD® Survey, which were offset in part by accounts receivable from the Turkish SFD® Survey and by a lower lease obligation. See "Advisories – Non-GAAP measures" for further information.

Accounts Payable and Accrued Liabilities

(Figures are given in "\$")	December 31, 2023	December 31, 2022	Net Change	%
Trade accounts payable	\$ (386,194)	\$ (270,956)	\$ (115,238)	(43)
Deferred advisory board payable	(24,805)	(25,410)	605	2
Accrued liabilities	(633,850)	(356,950)	(276,900)	(78)
Accrued interest	(38,222)	(507)	(37,715)	>(100)
Accrued directors' fees payable	(228,199)	(162,500)	(65,699)	(40)
Salaries payable	(444,857)	(363,594)	(81,263)	(22)
Vacation pay accrued	(78,246)	(62,413)	(15,833)	(25)
RSU and ESP Plan liability	(2,368)	(33,906)	31,538	93
Total accounts payable	(1,836,741)	(1,276,236)	(560,505)	44

Accounts payable and accrued liabilities increased by \$560,505 or 44%, as at December 31, 2023 compared to December 31, 2022 for the following reasons:

- trade accounts payable increased by \$115,238, or 43%, due to invoiced working capital requirements for the Turkish SFD® Survey;
- accrued liabilities increased by \$276,900, or 78%, due to estimated working capital requirements for the Turkish SFD® Survey;
- accrued directors' fees payable increased by \$65,699, or 40%, as cash payment of directors' fees continued to be deferred, but were offset partially by some directors taking their fees in the form of stock options during the year;
- salaries payable increased by \$81,263 or 22%, as the Company continued its salary deferral program until May 2023, but paid 25% of the deferred salary to employees in Q3-23;

- vacation pay accrued increased by \$15,833, or 25%, due to the timing of vacations; and
- RSU and ESP Plan liability decreased 31,538 or 93% due to the RSU becoming fully vested in Q3-23.

Cash Flow

Cash Flow-from/(used in) (Figures are given in "\$")	Q4-23	Q4-22	YE-23	YE-22
Operating activities	\$(1,468,589)	\$(704,187)	\$(4,831,950)	\$(2,934,004)
Financing activities	1,539,226	413,790	5,009,117	389,217
Investing activity	(32,322)	-	(32,322)	550,000
Effect of foreign exchange changes on cash	(6,010)	(20,008)	(6,569)	369
Net source (use) of cash	32,305	(310,405)	138,276	(1,994,418)
Cash and cash equivalents, start of period	369,408	573,842	263,437	2,257,855
Cash and cash equivalents, end of period	401,713	263,437	401,713	263,437
Short-term investments, end of period	-	-	-	-
Total cash and short-term investments, end of the period	401,713	263,437	401,713	263,437

The overall net changes in cash balances in each of the periods noted above is a function of several factors including any inflows (outflows) due to changes in net working capital balances and net of any cash transferred into/out of short-term investments. Further information on the net changes in cash, by each of the operating, financing, and investing activities, is as follows:

Operating Activities (Figures are given in "\$")	Q4-23	Q4-22	YE-23	YE-22
Net loss for the period	\$(425,701)	\$(1,469,549)	\$(5,452,708)	\$(6,733,076)
Total non-cash expense and lease items	481,372	510,165	1,914,845	2,043,966
Operating activities before change in non-cash working capital balances	55,671	(959,384)	(3,537,863)	(4,689,110)
Change in non-cash working capital balances	(1,524,260)	255,196	(1,294,087)	1,755,107
Total cash used in operating activities	(1,468,589)	(704,188)	(4,831,950)	(2,934,004)

Operating cash flow decreased by \$764,401 in Q4-23 as compared to Q4-22 due to working capital demands of the Turkish SFD® Survey in Q4-23. In Q4-22 the company deferred the payment of several costs to conserve cash.

Operating cash flow decreased by \$1,897,948 in YE-23 as compared to YE-22 due to payments of several 2022 deferred costs in 2023 and working capital requirement to support the Turkish SFD® Survey. Also in Q1-22 the Company received payments for outstanding accounts receivable in US\$200,000 (CDN\$252,415).

Financing Activities (Figures are given in "\$")	Q4-23	Q4-22	YE-23	YE-22
Repayment of long-term debt	\$(27,778)	\$ (27,778)	\$(111,111)	\$ (64,815)
Proceeds from stock compensation plans	6,963	9,324	40,616	49,738
Net proceeds from Rights Offering	-	216,062	-	216,062
Net proceeds from Private Placement	-	216,182	1,622,057	216,182
Proceeds from Convertible Debentures	1,560,041	-	3,457,555	-
Repayment of finance liability	-	-	-	(27,950)
Total cash from (used in) financing activities	1,539,226	413,790	5,009,117	389,217

The Company began to repay its long-term debt (the HASCAP Loan, as defined herein) at the beginning of Q3-22. Proceeds were received from employee contributions under the ESP Plan and RSU's. The Repayment of financial liability was for the sales and leaseback agreement on NXT's aircraft which ended in Q1-22. Proceeds from the Convertible Debentures were \$3,457,555 (US\$2,550,000). Please see the sections "Ataraxia Debentures" and "November Debentures".

In YE-23 net proceeds from the Private Placement (as defined below) was \$1,622,057. Please see the section "Private Placement".

Investing Activity (Figures are given in "\$")	Q4-23	Q4-22	YE-23	YE-22
Purchase of property, plant & equipment	\$(32,322)	\$ -	\$(32,322)	\$ -
Proceeds from short-term investments	-	-	-	550,000
Total Cash used in Investing Activity	(32,322)	-	(32,322)	550,000

The Company upgraded certain SFD[®] equipment in Q4-23 to enhance the data acquisition phase of the SFD[®] Survey. Changes in short-term investments were for investments in guaranteed investment certificates to fund operations and investing of excess short-term cash.

Contractual Obligations

Leases

The estimated minimum annual commitments for the Company's lease components as at December 31, 2023 are listed in the following table:

Lease payment obligations:	Total ²	2024	2025	2026
Office	\$ 597,576	\$ 341,472	\$ 256,104	\$ -
Office operating costs	394,196	225,255	168,941	-
Aircraft lease ¹	37,043	37,043	-	-
Office equipment	9,987	3,424	3,424	3,139
Total	1,038,802	607,194	428,469	3,139

1. US\$ payments have been converted to CDN\$ at a rate of 1.32296.
2. (Figures are given in "\$")

Debentures

Repayment of principal and interest (US\$) as of December 31, 2023	US\$	CDN\$ ¹
2024	\$ 255,000	\$ 337,355
2025	2,740,000	3,624,910
Total principal and interest payments	2,995,000	3,962,265
Less interest	(445,000)	(588,717)
Less Debt issuance costs	(13,273)	(17,559)
Net principal remaining	2,536,727	3,355,989
Current portion of convertible debentures	1,400,000	1,842,566
Non-current portion of convertible debentures	1,136,727	1,513,423

1. US\$ payments have been converted to CDN\$ at a rate of 1.32296.

Ataraxia Debentures

On May 24, 2023 the Company announced a multi-tranche a two-year term US\$2.3 million convertible debenture financing with Ataraxia. The terms of the subscription agreement with Ataraxia include an annual interest rate of 10%, paid quarterly, a fixed conversion price of US\$0.143 per common share, and the right to appoint a board member. On May 31, 2023, the Company received US\$1,200,000 (CDN\$1,631,954) of the subscription price for the Ataraxia Debentures. The Company received an additional US\$200,000 (CDN\$265,560) tranche of the Ataraxia Debenture subscription price on July 10, 2023 for a total amount of US\$1,400,000 (CDN\$1,897,514). The US\$900,000 balance of the Ataraxia Debentures remains unfunded and it is uncertain whether Ataraxia is able or willing to fund this balance.

The Ataraxia Debentures may also be converted into voting preferred shares with an annual dividend rate of 10% paid per quarter. The preferred shares are not transferable, but may be converted on a one-to-one basis into common shares. The Ataraxia Debentures are payable on demand and is secured by a general security agreement, subordinate to the long-term debt. As of the date of this MD&A no preferred or common shares have been issued pursuant to the conversion of the Ataraxia Debentures.

The proceeds from the Ataraxia Debentures were used to fund general and administrative costs including working capital, business development and marketing activities to convert NXT's existing opportunity pipeline into firm contracts. On May 31, 2023, the Company and Ataraxia entered into an Investor Rights Agreement (the "Investor Rights Agreement") pursuant to which Ataraxia has been granted the right: (i) to nominate one person for election or appointment as a director of the Company; (ii) to have one representative of Ataraxia attend the Company's board of director meetings as an observer (except any portion of a board of director meeting where the Company's relationship with Ataraxia is to be a subject of discussion); (iii) to purchase up to its pro rata portion (calculated on a fully diluted basis) of any securities offered by the Company, subject to certain limitations set forth in the Investor Rights Agreement; and (iv) receive certain information regarding the Company, including annual and quarterly financial statements, annual budgets, the capitalization tables, and access to its premises upon reasonable notification. In each case Ataraxia will retain the rights set forth in the Investor Rights Agreement for so long as Ataraxia holds (i) any principal amount of the Ataraxia Debentures or (ii) common shares or Preferred Shares (as applicable), representing at least 5% of the outstanding common shares of the Company (on an as-converted basis, if Ataraxia holds Preferred Shares).

Both the Ataraxia subscription agreement, and the Investor Rights Agreement, are publicly available under the Company's profile on SEDAR+ at www.sedarplus.ca.

November Debentures

On November 2, 2023, the Company received conditional approval from the TSX to offer a multi-tranche convertible debenture (the "November Debentures") The November Debentures bear interest at 10.0% per annum, paid quarterly in arrears, and are due and payable two years after issuance of the November Debentures. The November Debentures are convertible into common shares of NXT at a conversion price of US\$0.1808 (CDN\$0.25).

On November 8, 2023 the Company issued the first tranche of the November Debentures for US\$1,000,000 (approximately CDN\$1,378,340) to MCAPM, LP and Michael P. Mork (together "Mork Capital"). As of December 31, 2023, Mork Capital had the right to obtain 5,530,973 common shares upon the conversion of the November Debentures at the fixed conversion price of US\$0.1808 subject to shareholder approval at the next annual general meeting of shareholders ("AGM"). With the acquisition of the November Debentures, Mork Capital has the right to own, including the conversion of the first tranche of the November Debentures, 20,452,206 common shares, representing approximately 24.2% of the issued and outstanding common shares at December 31, 2023 (after giving effect to the conversion of the full amount of November Debentures as of December 31, 2023). The Company has agreed to appoint a representative from Mork Capital to its board of directors in the near future.

On December 22, 2023 the Company issued the second tranche of the November Debentures for US\$150,000 (approximately CDN\$199,260) which gives the subscriber the right to obtain 829,646 common shares upon the conversion of the November Debentures.

On January 12, 2024, the Company closed the final tranche of the November Debentures for an additional US\$722,000 (approximately CDN\$966,036). With the final tranche, the Company issued a total of US\$1,872,000 (approximately CAD\$2,543,636) for the November Debentures which will allow the subscribers to obtain an aggregate of up to 10,353,982 common shares. Insiders, which included Mork Capital, were issued November Debentures valued in the aggregate principal amount at US\$1,522,000 (approximately CDN\$2,076,776).

Mork Capital purchased an additional US\$375,000 (approximately CDN\$501,750) of November Debentures in the final tranche. Subject to shareholder approval at the next AGM, Mork Capital will have the right to own, after conversion of all of their November Debentures at a fixed price of US\$0.1808, 22,526,321 common shares, representing approximately 28.8% of the issued and outstanding common shares, as of the date of this MD&A.

On January 12, 2024, all six current Directors, as of that date, participated in the November Debentures by converting their outstanding director fees payable as at December 31, 2023 into November Debentures valued, in the aggregate principal amount, at US\$147,000 (approximately CDN\$196,686). In connection with this issuance, the current directors have the right to obtain, in the aggregate, up to 813,053 Common Shares. The proceeds from November Debentures are being used for SFD® survey working capital requirements.

Private Placement

On December 22, 2022 the Company announced a multi-tranche private placement (the “Private Placement”) at \$0.195 per share. At December 22, 2022 the Company issued 1,148,282 common shares for gross proceeds of \$223,915 in the first tranche, less issuance costs of \$7,732. On January 25, 2023, the Company closed the Private Placement by issuing an additional 8,510,000 common shares, at \$0.195 per common share, for additional aggregate gross proceeds of approximately \$1,659,450, less issuance costs of \$37,393.

The proceeds from Private Placement were used for G&A expenses.

Rights Offering

On December 2, 2022, NXT closed the Rights Offering that had been announced on October 31, 2022. The Company issued 2,149,180 common shares a price of \$0.18 per common share, for aggregate gross proceeds of a \$386,852. Share issue costs of \$170,790 were recorded as a reduction to share capital.

The proceeds from Rights Offering were used for G&A expenses.

Long-term Debt (HASCAP Loan)

On May 26, 2021, the Company received \$1,000,000 from the BDC’s HASCAP Loan. The HASCAP Loan is a \$1,000,000 non-revolving ten-year term credit facility with an interest rate of 4%. Repayment terms were interest only until May 26, 2022, and monthly principal plus interest payments for the remaining nine years. The HASCAP Loan is secured by a general security agreement and is guaranteed by BDC.

Repayment of long-term debt principal and interest: (Figures are given in “\$”)	
2024	\$ 142,037
2025	137,593
2026	133,148
2027	128,704
2028	124,259
2029 to 2031	281,944
Total principal and interest payments	947,685
Less interest	(123,611)
Total principal remaining	824,074
Current portion of long-term debt	111,111
Non-current portion of long-term debt	712,963

Off-Balance Sheet Arrangements

The Company has no off-balance sheet arrangements as of the date of this MD&A other than office premise non-lease operating costs as per the office lease agreement with its landlord. If the Company were to default on its office lease, the current month rent including operation costs plus the next three

months become immediately due. Operating cost amounts are disclosed in the section “*Liquidity and Capital Resources – Contractual Obligations.*”

NXT pays an estimated operating cost during the current year but has the obligation to pay the actual operating costs incurred as defined in the office lease in the first quarter of the following year if the estimate was low. Conversely, it will receive a refund if the estimate was too high. Currently, the Company believes that the operating cost estimate is reasonable and is consistent with discussions with the landlord under the Company’s office lease.

Transactions with Related Parties

Related party fees incurred were as follows:

(Figures are given in “\$”)	Q4-23	Q4-22	YE-23	YE-22
Legal fees	\$ 13,472	\$ 46,508	\$129,600	\$ 92,308
Interest Expense ¹	\$ 47,654	\$ -	107,792	\$ -

1. US\$79,356

One of the members of NXT’s Board is a partner in a law firm which provides legal advice to NXT. Accounts payable and accrued liabilities includes a total of \$36,938 (\$76,843 as at December 31, 2022) payable to this law firm.

Another member of NXT’s Board is a board member of Pana Holdings Mauritius, the parent company of Ataraxia which holds the Ataraxia Debentures. Accounts payable and accrued liabilities includes a total of \$19,699 (US\$14,890) (\$nil as at December 31, 2022) to Ataraxia.

Accounts payable and accrued liabilities include \$228,199 (\$162,500 as at December 31, 2022) for Board of Director’s fees.

Critical Accounting Estimates

In preparing the audited consolidated financial statements, NXT is required to make estimates and assumptions that affect both the amount and timing of recording assets, liabilities, revenues, and expenses since the determination of these items may be dependent on future events. The Company uses the most current information available and exercises careful judgment in making these estimates and assumptions. In the opinion of management, the 2023 consolidated financial statements have been properly prepared within reasonable limits of materiality and within the framework of the Company’s significant accounting policies. The estimates and assumptions used are based upon management’s best estimate as at the date of the 2023 consolidated financial statements. Estimates and assumptions are reviewed periodically and the effects of revisions are reflected in the period when determined. Actual results may differ from those estimates.

Certain estimates and judgments have a material impact where the assumptions underlying these accounting estimates relate to matters that are highly uncertain at the time the estimate or judgment is made or are subjective. In 2023 and 2022, the estimates and judgments included the assessment of impairment indicators of IP and recognition of SFD® related revenue.

The Company reviews IP for impairment whenever events or changes in circumstances indicate the carrying value may not be recoverable. The Company considers both internal and external factors when assessing for potential indicators of impairment of its IP, including the consideration of historical and forecasted SFD[®] related revenues, market capitalization, control premiums, and the SFD related revenue multiples compared to industry peers. When indicators of impairment exist, the Company first compares the total of the estimated undiscounted future cash flows or the estimated sale price to the carrying value of an asset. If the carrying value exceeds these amounts, an impairment loss is recognized for the excess of the carrying value over the estimated fair value of the IP.

Changes in Accounting Policies

The audited consolidated financial statements of NXT for YE-23 have been prepared by management in accordance with US GAAP. The Company has consistently used US GAAP for the eight most recently completed quarters. The accounting policies applied are consistent with those outlined in NXT's annual audited consolidated financial statements for the year ended December 31, 2023, available on NXT's website at www.nxtenergy.com and on SEDAR+ at www.sedarplus.ca.

Financial Instruments and Other Instruments

The Company's non-derivative financial instruments consist of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities, long-term debt and convertible debentures. The carrying value of these financial instruments approximates their fair values due to their short terms to maturity. NXT is not exposed to significant interest rate fluctuations arising from these financial instruments, but is exposed to significant credit risk with accounts receivable. For accounts receivable, where possible, NXT requests advance payments and utilizes risk mitigation products offered by entities such as Export Development Canada including, for example, insurance coverage of contract accounts receivable, guarantee support for contract performance bonds, and wrongful call insurance for such bonds.

NXT is exposed to foreign exchange risk as a result of holding foreign denominated financial instruments. Any unrealized foreign exchange gains and losses arising on such holdings are reflected in earnings at the end of each period.

As at December 31, 2023 and December 31, 2022, the Company held no derivative financial instruments. For more information relating to risks, see the section titled "*Liquidity and Capital Resources – Net Working Capital*".

Outstanding Share Capital

	March 27, 2024	December 31, 2023	December 31, 2022
Common shares	78,121,746	78,025,237	68,949,109
Dilutive securities:			
Ataraxia Debentures converted at US\$0.1430	9,790,209	9,790,209	-
November Debentures converted at US\$0.1808	10,353,982	6,360,619	-
Stock Options	2,927,820	2,927,820	461,320
DSUs	37,354	37,354	37,354
RSUs	1,035,000	-	348,334
Total share capital and dilutive securities	102,266,111	97,141,239	69,796,117

The dilutive securities in the above table reflect the number of common shares that would be issued if the dilutive securities were fully converted or exercised by the holder of the dilutive security. The above table does not include estimated share compensation payable to the marketing consultant at December 31, 2023 of 360,139 common shares, (December 31, 2022 – nil common shares), and (March 27, 2024 – 634,439 common shares) as this is subject to approval by the TSX.

Current Director & Officer Common Share Holdings

	March 27, 2024	December 31, 2023	December 31, 2022
Charles Selby ¹	408,161	408,161	408,161
Gerry Sheehan ¹	77,000	77,000	77,000
John Tilson ¹	6,887,490	6,887,490	6,887,490
Bruce G. Wilcox ^{1,2}	565,000	500,005	500,005
Eugene Woychyshyn ²	787,874	730,176	514,937
Total Director and Officer Share Capital	8,725,525	8,599,832	8,387,593

¹ Director of NXT

² Officer of NXT

Disclosure Controls and Procedures (“DCPs”) and Internal Controls over Financial Reporting (“ICFR”)

NXT’s CEO and Chief Financial Officer (“CFO”) (together the “Responsible Officers”) are responsible for establishing and maintaining DCPs, or causing them to be designed under their supervision, for NXT to provide reasonable assurance that material information relating to the Company is made known to the Responsible Officers by others within the organization, particularly during the period in which the Company’s year-end consolidated financial statements and MD&A are being prepared.

DCPs and other procedures are designed to ensure that information required to be disclosed in reports that are filed is recorded, summarized, and reported within the time periods specified by the relevant securities regulatory authorities in either Canada or the United States of America. DCPs include controls and procedures designed to ensure that information required to be disclosed in our reports is

communicated to management, including our Responsible Officers, to allow timely decisions regarding required disclosure.

The Company has established and maintains ICFR using the criteria that were set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013). The control framework was designed or caused to be designed under the supervision of the Responsible Officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with US GAAP.

In evaluating the effectiveness of the Company's DCPs, as defined under the rules adopted by the Canadian securities regulatory authorities and by the United States Securities and Exchange Commission, the Company's Responsible Officers concluded that there are material weaknesses in the Company's ICFR that have a direct impact on the Company's DCPs:

- due to the limited number of staff, it is not feasible to achieve adequate segregation of incompatible duties. NXT partially mitigates this deficiency by adding management and Audit Committee review procedures over the areas where inadequate segregation of duties are of the greatest concern; and
- NXT does not have a sufficient level of staff with specialized expertise to adequately conduct separate preparation and a subsequent independent review of certain complex or highly judgmental accounting issues. NXT partially mitigates this deficiency by preparing financial statements with their best judgments and estimates of the complex accounting matters, and relies on reviews by management, external consultants, and the Audit Committee.

From time to time, to reduce these risks and to supplement a small corporate finance function, the Company engages various outside experts and advisors to assist with various accounting, controls, and tax issues in the normal course.

Given the small size of the Company's finance team, management has established a practice of increased engagement of external consultants, legal counsel, the Company's Disclosure Committee and Audit Committee in reviewing the public disclosure.

The Responsible Officers concluded that, as at December 31, 2023, its ICFR is not effective and as a result, its DCPs are not effective. NXT reached this conclusion based upon its assessment that there is a more than remote likelihood that its ICFR will not prevent or detect material misstatements if they should exist in the Company's audited consolidated financial statements. The Responsible Officers continue to take certain actions to mitigate these material weaknesses including:

- the implementation of controls with regards to the review procedures surrounding its disclosure; and
- engagement of third-party experts used above.

In addition, the CFO engages subject matter consultants as the need arises.

There were no changes to the Company's ICFR in Q4-23.

It should be noted that a control system, including the Company's DCPs and ICFR, no matter how well conceived, can provide only reasonable, but not absolute, assurance that the objectives of the control system will be met, and it should not be expected that the DCPs and ICFR will prevent all errors or fraud.

Additional Information

Additional information related to the Company, including the Company's Annual Information Form is available on NXT's website at www.nxtenergy.com and on SEDAR+ at www.sedarplus.ca.