NXT ENERGY SOLUTIONS INC.

Management's Discussion and Analysis

For the year ended

December 31, 2024

Management's Discussion and Analysis

This management's discussion and analysis ("MD&A") was prepared by management of NXT Energy Solutions Inc. ("NXT", "we", "our" or the "Company") based on information available as at March 27, 2025 and unless otherwise stated, has been approved by the Board of Directors 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, 2024 (the "audited consolidated financial statements"). This MD&A covers the unaudited three and audited twelve-month periods ended December 31, 2024, with comparative amounts for the unaudited three and audited twelve-month periods ended December 31, 2023.

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", "strategy", "may", "plan", "ensure", "will", "remain", "continue" and similar words and phrases suggesting future outcomes or an outlook. Forward-looking statements in this document include, but are not limited to:

- Execution of the African SFD® Survey (as defined herein);
- Execution of the Southeast Asia SFD® Survey (as defined herein);
- Execution of the AL-Haj Enterprises Private Limited SFD® Survey (as defined herein);
- the Company's ability to successfully work with Synergy and Ataraxia (each as defined herein) to develop future business in the African continent;
- the Company's expectation that the Geothermal Right (as defined herein) will amortize on a straight-line basis over its estimated useful life of 20 years;
- that the SFD® technology may reduce the need for seismic in wide-area reconnaissance;
- 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 herein) owing to the estate of 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 Company's ability to use alternative strategies to reduce the volatility of US dollar liabilities;
- 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;
- the Company's ability to continue operating as a going concern;
- 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 2023 Ataraxia Debentures, the 2024 Ataraxia Debentures, the November Debentures, and the 2024 Debentures (each as defined herein) (together, the "Debentures");
- expectations regarding the future conversion of the Debentures into common shares or preferred shares of the Company, as applicable;
- the Company's ability to repay the amounts owing under the HASCAP Loan (as defined herein) over a nine-year period;
- the timing and value of payments owing under the Company's office lease;
- the Company's belief that its current cash position is not expected to be sufficient to meet obligations and planned operations for the year beyond the date that the audited consolidated financial statements have been issued;
- expectations regarding the Company's DCPs and ICFR (each as defined herein), including the Company's ability to further adjust such DCPs and ICFR to mitigate material weaknesses going forward;
- estimates related to the Company's future financial position and liquidity, including certain contractual obligations; and
- the Company's 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 belief that our SFD® technology is technically superior to other airborne survey systems;
- 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;
- our assessment of the office lease being reasonable;
- our assessment of potential indicators of impairment and recognition of SFD® related revenue;
- the estimated minimum annual commitments for the Company's lease components;
- 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, readers are cautioned not to place any undue reliance 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 environmental factors;
- 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 herein) 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 ("AIF"). 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, readers are 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 has been approved by management as of the date hereof. However, because this information is in part 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 has been made as of the date hereof and is 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 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 Q4-24 are summarized below:

- on September 24, 2024 the Company announced that it entered into a contract with its Strategic Alliance Partner, Synergy E&P Limited ("Synergy") to provide a repeat SFD® survey in Africa for an oil and gas exploration company. The Company mobilized for this SFD® survey on December 30, 2024. In January 2025, NXT completed SFD® data acquisition over 14 flight days for the SFD® survey in Africa. NXT's interpretation and recommendations are expected to be delivered during the second quarter of 2025;
- the Company was awarded an SFD® survey by AL-Haj Enterprises Private Limited in the Northern Suleiman Fold Belt, to commence in Q3-25;
- the Company's SFD® was awarded "Best Exploration Technology" at the 2024 Gulf Energy Information Excellence Awards;
- the Company received US$900,000 (approximately CDN$1,227,291) of convertible debentures from Ataraxia Capital, an affiliate of Synergy ("Ataraxia") under the same terms as the subscription agreement signed between Ataraxia and NXT in 2023, except that such debentures are convertible into common shares or preferred shares of the Company at a conversion price of US$0.24 per share, whereas such conversion price in the 2023 issuance had been US$0.143 per share;
- cash and short-term investments as at December 31, 2024 was approximately $0.73 million;
- net working capital was approximately ($6.68) million as at December 31, 2024 versus approximately ($1.86) million at December 31, 2023;
- the Company recorded SFD®-related revenues of approximately $0.64 million for YE-24 and $2.15 million for YE-23;

- a net loss of $2.80 million was recorded for Q4-24, including stock-based compensation expenses ("SBCE"), amortization expenses and remeasurement gain, all totaling approximately $0.39 million;
- a net loss of $9.08 million was recorded for YE-24, including SBCE, amortization expenses and remeasurement loss, all totaling approximately $2.45 million;
- net loss per common share for Q4-24 was $0.04 per share (basic) and $0.04 per share (diluted);
- net loss per common share for YE-24 was $0.12 per share (basic) and $0.12 per share (diluted);
- cash flow used in operating activities was approximately $1.39 million during Q4-24, compared to $1.47 million used in Q4-23;
- cash flow used in operating activities was approximately $3.99 million during YE-24, compared to $4.83 million used in YE-23;
- general and administrative ("G&A") expenses increased by approximately $0.28 million (27%) in Q4-24 as compared to Q4-23; and
- G&A expenses increased by approximately $0.63 million (16%) in YE-24 as compared to YE-23.

Selected Annual Information

Figures are given in "($)"	YE-24	YE-23	YE-22
Total assets	14,026,301	15,184,760	15,575,295
Lease liabilities	2,301,542	595,517	1,246,723
Convertible debentures	9,174,957	3,355,989	-
Long-term debt	712,963	824,074	935,185
Revenue	644,294	2,145,716	-
Net loss	(9,077,795)	(5,451,112)	(6,733,076)
Net loss per share			
Basic	(0.12)	(0.07)	(0.10)
Diluted	(0.12)	(0.07)	(0.10)

Total assets decreased between YE-22 through YE-24 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, and at the same time converted its aircraft lease during YE-24 into a three-year capital lease ending in 2027. In addition, the Company extended its office lease until 2030 together with reducing its office space by 31%. 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 at approximately $111,111 per year. There were no SFD® surveys in YE-22. YE-23 revenue and reduction in the net loss from YE-22 was the result of the Turkish SFD® Survey discussed below. Revenue in YE-24 was from Turkish SFD® Surveys, but costs increased due to foreign exchange loss incurred because of the weakening CDN$, and change in the fair value of convertible debentures.

Discussion of Operations

SFD® Survey in Africa

On September 24, 2024 the Company announced that it entered into a contract with its Strategic Alliance Partner, Synergy, to provide a second SFD® survey for an oil and gas exploration company in Africa (the "African SFD® Survey"). NXT completed SFD® data acquisition over 14 flight days in January of 2025. NXT's interpretation of the survey results, and recommendations with respect to such survey, are expected to be delivered during the second quarter of 2025.

SFD® Survey in Pakistan

On November 4, 2024 the Company announced that it entered into a contract to provide an SFD® survey for AL-Haj Enterprises Private Limited (the "AL-Haj Enterprises Private Limited SFD® Survey"). Data acquisition operations, as well as NXT's interpretation of the survey results and recommendations with respect to such survey are expected to commence and finish in the fourth quarter of 2025.

SFD® Survey in Southeast Asia

On May 22, 2024 the Company announced that it entered into a contract to provide an SFD® survey to an independent oil and gas exploration company in Southeast Asia (the "Southeast Asia SFD® Survey"). Data acquisition operations, interpretation of the survey results and recommendations with respect to such survey are expected to commence and be completed in Q2-25. NXT received a mobilization fee of approximately US$175,253 in Q3-24 for this SFD® survey. The SFD® survey was originally expected to be conducted in Q3-24, but was delayed due to aircraft scheduling – which is now resolved. This survey represents the Company's entry into a new, highly active exploration region.

SFD® Survey in Türkiye

On September 5, 2023 the Company announced that it had signed 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. 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. NXT has been fully paid for this survey and is actively pursuing additional SFD® survey opportunities in the Turkish region.

Geothermal SFD® Survey in Alberta, Canada

On August 21, 2024 the Company announced that it entered into a contract to provide a geothermal SFD® survey to Alberta Geothermal Resource Recovery Inc. ("AGRRI"). The AGRRI survey is an important milestone in NXT's development of the geothermal application of our SFD® technology; our first geothermal survey for a client. The value to NXT is to demonstrate the commerciality of SFD® in the geothermal domain. The survey has been performed and results are being reviewed.

Strategic Investment

On May 24, 2023 the Company entered into a ten-year strategic alliance and associated financing with 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, 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, in addition to the African SFD® Survey.

Synergy and Ataraxia, with this arrangement, will be advancing the SFD® technology to address energy security and transition in the African continent for both oil and gas and geothermal sources. Synergy, Ataraxia and NXT have and will continue to work closely together to train local technical teams and regulatory authorities on the patented SFD® technology. The local content is a commercial advantage for NXT and has shown early signs of increasing our operational efficiency.

Building upon a record of successful collaborations underpinned by the continued market demand in Africa, in 2023 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. In November 2024 Ataraxia funded the remaining balance of US$900,000. Please see the section "*Liquidity and Capital Resources – Ataraxia Debentures*" for further information on the Ataraxia Debentures.

Geothermal Rights

The Company acquired the SFD® technology rights for geothermal resources ("Geothermal Right") from NXT's former Chairman, President and Chief Executive Officer ("CEO"), Mr. George Liszicasz (the "Former CEO") on April 18, 2021. One portion of the consideration deliverable by the Company in connection with the acquisition of the Geothermal Right is still outstanding. A US$200,000 payment will become due in the event that the Company's cash balance exceeds CDN$5,000,000 due to receipt of specifically defined funds from operations. The Board has determined that it is not probable that the milestone will be achieved, and accordingly, it has not been recognized in the financials~~.~~

Progress continues with respect to the development of the geothermal sensor technology. The Company's first project related to such technology with AGGRI is testing, identifying, and analyzing 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. As of the date of this MD&A, the Company funding for the next phase of the National Research Council of Canada Industrial Research Assistance Program ("NRC IRAP") 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.

Summary of Operating Results

(Figures are given in "$")	Q4-24	Q4-23	YE-24	YE-23
SFD®-related revenue	42,222	2,145,716	644,294	2,145,716
Expenses:				
SFD®-related costs, net	698,882	1,280,927	2,021,768	2,249,126
General and administrative expenses	1,058,558	775,881	4,045,778	3,420,143
Amortization	482,158	439,869	1,887,013	1,759,473
	2,239,598	2,496,677	7,954,559	7,428,742
Other Expenses (income):				
Interest expense, net	224,629	77,901	750,611	160,262
Foreign exchange (gain) loss	566,911	(5,109)	574,106	(8,028)
Intellectual property and other	(2,745)	1,948	146,279	15,852
Loss (gain) on fair value remeasurement	(185,589)	-	296,534	-
	603,206	74,740	1,767,530	168,086
Loss before income taxes	(2,800,582)	(425,701)	(9,077,795)	(5,451,112)
Income tax expense	-	-	-	-
Net loss and comprehensive loss	(2,800,582)	(425,701)	(9,077,795)	(5,451,112)
Net loss per share – basic	(0.04)	(0.01)	(0.12)	(0.07)
Net loss per share – diluted	(0.04)	(0.01)	(0.12)	(0.07)

<u>*Quarterly operating results*</u>. Net loss for Q4-24 compared to Q4-23 increased by $2,374,881 and by $0.03 per share-basic. The Company recorded SFD®-related revenue in both quarters. In Q4-23 SFD®-related revenue was for the Turkish SFD® Survey. The $582,045 decrease in SFD®-related costs, net were the additional costs incurred on the Turkish SFD® Survey in Q4-23. Also, they were lower in Q4-24 due to the aircraft lease being converted to a finance lease and payments being applied to the lease liability, and not expensed. This was offset by required maintenance continued to be performed on the aircraft to get it prepared for the 2025 SFD® Surveys (defined herein). G&A expenses increased by $282,677 or 36%, compared to Q4-23, due to commissions and retainers on SFD®-related revenue, expenses from the convertible debentures, and an increase in business development activity. Amortization expense increased $42,289 due to the aircraft now being treated as a finance lease. Interest expense, net, increased by $146,728 in Q4-24 versus Q4-23 due to the 2024 Debentures and 2024 Ataraxia Debentures being issued by the Company. Foreign exchange loss (gain) worsened by $572,020 as the CDN$ weakened at December 31, 2024 versus September 30, 2024 and strengthened at December 31, 2023 versus September 30, 2023, with the Company having a net liability in US$ in both periods. The Company recognized a gain of $185,588 on the fair value remeasurement of the November Debentures and 2024 Debentures due to changes in the US$/CDN$ exchange rates and the Company's share price. Other expenses related mostly to SFD® patent activity and a credit adjustment on the Company's asset retirement obligations. More detail on each line item is provided below.

<u>*Full year operating results*</u>. Net loss for YE-24 compared to YE-23 increased by $3,626,683 and by $0.05 per share-basic. SFD® related-revenues decreased $1,501,422, and SFD®-related costs, net, were $227,358 lower due to the Turkish SFD® Survey earning most of its revenue in Q4-23 and from aircraft maintenance. Also, they were lower in Q4-24 due to the aircraft lease being converted to a finance lease and payments being applied to the lease liability, and not expensed. This was offset by required

maintenance continued to be performed on the aircraft to get it prepared for the 2025 SFD® Surveys (defined herein) scheduled for 2025. G&A expenses increased by $625,635 or approximately 18%, compared to YE-23, due to one additional headcount (CEO in YE-24), sales commissions and retainers, debenture issuance costs, and higher business development travel costs. Amortization expense increased $127,540 due to the aircraft now being treated as a finance lease. Interest expense, net, increased by $590,349 in YE-24 versus YE-23 due to the 2024 Debentures and 2024 Ataraxia Debentures being issued by the Company. Foreign exchange loss (gain) worsened $582,134 as the CDN$ weakened at December 31, 2024 versus December 31, 2023 and strengthened at December 31, 2023 versus December 31, 2022, as the Company had a net liability position in US$ in both periods. The Company recognized a loss of $296,534 on the fair value remeasurement of the November Debentures and the 2024 Debentures. Other expenses related mostly to loss on the write-off of leasehold improvements and lease modification. More detail on each line item is provided below.

SFD®-Related Costs, Net

SFD®-Related Costs (Figures are given in "$")	Q4-24	Q4-23	Net change	%[1.]
Aircraft lease costs	-	91,560	(91,560)	(100)
Aircraft operations	453,003	206,395	246,608	119
Survey projects	245,879	982,972	(737,093)	(75)
Total SFD®-related costs, net	698,882	1,280,927	(582,045)	(45)

SFD®-Related Costs (Figures are given in "$")	YE-24	YE-23	Net change	%[1.]
Aircraft lease costs	91,237	$ 364,013	(272,776)	(75)
Aircraft operations	1,524,743	876,804	647,939	74
Survey projects	405,788	1,008,309	(602,521)	(60)
Total SFD®-related costs, net	2,021,768	2,249,126	(277,358)	(10)

1. Percentages disclosed are approximate figures.

SFD®-related costs include aircraft charter costs (net of charter hire reimbursements), lease expenses, and aircraft operation and maintenance costs.

In Q4-24, aircraft lease costs were $nil because as of March 22, 2024, the Company extended its aircraft lease for an additional three years and converted the lease to a finance lease. Please see the section *"Contractual Obligations – Leases"*. The Company will own the aircraft at the end of the lease term. Aircraft operations were $246,608 (119%) higher as required maintenance continued to be performed on the aircraft to ensure that all equipment was adequately prepared for upcoming the SFD® surveys. Survey projects were $737,093 (approximately 75%) lower versus Q4-23 the Company incurred costs for the Turkish SFD® Survey in Q4-23.

During 2024, aircraft operations were $647,939 (approximately 74%) higher as pilot training and required maintenance were performed before the mobilization of upcoming SFD® Surveys. Survey projects were $602,521 lower due to costs incurred to perform the Turkish SFD® Survey in Q4-23. Aircraft lease costs were approximately 75% lower due to the conversion of the lease from an operation lease to a finance lease.

G&A Expenses

G&A Expenses (Figures are given in "$")	Q4-24	Q4-23	Net change	%[1.]
Salaries, benefits and consulting charges	381,876	343,684	38,192	11
Board and professional fees, public company costs	272,723	154,790	117,933	76
Premises and administrative overhead	190,267	202,897	(12,630)	(6)
Business development	116,477	11,582	104,895	906
Stock-based compensation	97,215	62,928	34,287	54
Total G&A Expenses	1,058,558	775,881	282,667	36

G&A Expenses (Figures are given in "$")	YE-24	YE-23	Net change	%[1.]
Salaries, benefits and consulting charges	1,791,482	1,512,150	279,332	18
Board and professional fees, public company costs	899,797	753,468	146,329	19
Premises and administrative overhead	782,218	822,019	(39,801)	(5)
Business development	303,546	91,235	212,311	233
Stock-based compensation	268,735	241,271	27,464	11
Total G&A Expenses	4,045,778	3,420,143	625,635	18

1. Percentages disclosed are approximate figures.

G&A expenses increased $282,667, or approximately 36% in Q4-24 compared to Q4-23 for the following reasons:

- salaries, benefits, and consulting charges increased $38,192 or approximately 11%, due to commissions and retainers for SFD®-related revenue;
- Board and professional fees and public company costs increased $117,933 or approximately 76%, due to professional fees related to the convertible debentures;
- premises and administrative overhead costs decreased $12,630 or approximately 6% due to the approximately 31% space reduction as of May 1, 2024. Please see the section *"Contractual Obligations – Leases"*. This was offset by additional SFD® survey software expenditures as the Company prepares for its SFD® surveys;
- business development costs increased $104,895 or approximately 906% due to increased travel related to finalizing upcoming SFD® survey contracts. In Q4-23 there was minimal travel as staff time was focused on planning for the Turkish SFD® Survey; and
- SBCE's were lower in Q4-24 versus Q4-23 by $34,287 or approximately 54%, because the Company began to recognize expense related to the Company's Performance Options. Please see the next section "*Discussion of Operations – Stock-based Compensation Expenses*" for further information on the SBCE.

G&A expenses increased $625,635 or approximately 18% in YE-24 compared to YE-23 for the following reasons:

- salaries, benefits, and consulting charges increased $279,332 or approximately 18%, due to commissions and retainers paid for SFD®-related revenue and one additional headcount;

- Board and professional fees and public company costs increased $146,329 or approximately 19%, due to professional fees related to the convertible debentures and less Board fees were taken as SBCE in YE-24;

- premises and administrative overhead costs decreased $39,801 or approximately 5%, due to the approximately 30% space reduction as of May 1, 2024. Please see the section *"Contractual Obligations – Leases"*. This was offset by additional SFD® survey software expenditures as the Company prepares for its SFD® surveys;

- business development costs increased $212,311 or approximately 233% due to increased travel related to finalizing SFD® survey contracts.; and

- SBCE's were higher in YE-24 versus YE-23 by $27,464 or approximately 11%, mostly due to the Company recognizing expenses related to the Performance Options and increased employee participation in the ESP Plan. 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 "$")	Q4-24	Q4-23	Net change	% [1.]
Stock Option Expense	52,323	-	52,323	100
DSUs	15,000	-	15,000	100
RSUs	(1,069)	-	(1,069)	(100)
ESP Plan	10,692	7,106	3,586	50
Consultant Compensation	20,269	55,822	(35,553)	(64)
Total SBCE	97,215	62,928	34,287	54

Stock-based Compensation Expenses (Figures are given in "$")	YE-24	YE-23	Net change	%[1.]
Stock Option Expense	118,849	92,500	26,349	28
DSUs	15,000	-	15,000	100
RSUs	40,632	62,441	(21,809)	(35)
ESP Plan	41,619	30,508	11,111	36
Consultant Compensation	52,634	55,822	(3,188)	(6)
Total SBCE	268,734	241,271	27,463	11

1. Percentages disclosed are approximate figures.

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 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 strike price of $0.216 to employees, officers and directors (the "2023 Options"). The 2023 Options will vest upon the occurrence of several milestones relating to the cash received for SFD® services performed: (i) one-third of the 2023 Options will vest upon the collection of US$6.5 million for SFD® services performed; (ii) one-third of the 2023 Options will vest upon the collection of the next US$7.0 million for SFD® services performed; and (iii) the final one-third of the 2023 Options will vest upon collection of an additional US$7.5 million for SFD® services performed. In Q2-24 the Company determined that reaching the first vesting milestone of collecting US$6.5 million for the 2023 Options is probable. In Q4-24 the Company also determined that reaching the second vesting milestone of collecting an additional US$7.0 million was probable. Therefore, NXT began to recognize the stock option expense related to the 2023 Options first vesting level in Q2-24 and the second vesting level in Q4-24.

On February 24, 2025 the Company granted 1,400,000 incentive stock options at a strike price of $0.203 to directors of the Company (the "2025 Options"). The 2025 Options will vest upon the achieving of a trailing twelve-month free cash flow per share of $0.10.

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. DSUs were issued in Q4-24 in lieu of Board fees to two Board members. There were zero DSUs granted in YE-23.

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 on the first, second and third anniversaries of the date of grant. The Company has historically settled the exercise of vested RSUs with common shares and cash. On February 21, 2024, the Company granted 1,035,000 RSUs to employees and officers which will vest over a three-year period. As at December 31, 2024, 915,000 RSUs were outstanding, after forfeitures. On February 24, 2025, the Company granted 1,875,000 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 Toronto Stock Exchange. In 2023 and 2024, the Company elected to issue common shares from the treasury.

On October 1, 2023 the Company entered into a 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 until February 29, 2024. On December 31, 2024, a total of 634,439 common shares were due to the marketing consultant (360,139 common shares at December 31, 2023). On January 29, 2025, 634,439 common shares were issued to the marketing consultant.

SBCE in Q4-24 was higher compared to Q4-23 by $34,287 or approximately 54% as the Company recognized the expense for the first two milestone of the 2023 Options. In addition, $15,000 of director fees were reimbursed via DSUs during Q4-24, but not in Q4-23. Also, the ESP Plan expense increased as employee contributions increased in Q4-24. The RSU expense was a credit in Q4-24 as the Company's stock price decreased from September 30, 2024 to December 31, 2024. The RSU grant from 2020 was fully vested as of August 2023 and therefore, there were no RSU expenses in Q4-23.

SBCE in YE-24 was higher compared to YE-23 by $27,463 or approximately 11%. The Company began to recognize expense for the first two milestones of the 2023 Options in YE-24. Stock option expense in YE-23 was for director fees reimbursed via stock options. In addition, $15,000 of director fees were reimbursed by DSUs during Q4-24, but there were zero DSUs issued in Q4-23. The ESP Plan expense increased as employee participation in the plan increased in YE-24 versus YE-23. The RSU expense decreased year over year as the 2024 RSU grant versus the 2023 RSU grant accrued a lower cost due to the lower share price and less units in the 2024 grant versus the previous 2020 RSU grant which had its final vesting period in YE-23.

Amortization

Amortization (Figures are given in "$")	Q4-24	Q4-23	Net change	%[1.]
Property and equipment	57,529	15,240	42,289	277
Intellectual property	424,629	424,629	-	-
Total Amortization	482,158	439,869	42,289	10

Amortization (Figures are given in "$")	YE-24	YE-23	Net change	%[1.]
Property and equipment	188,499	60,959	127,540	209
Intellectual property	1,698,514	1,698,514	-	-
Total Amortization Expenses	1,887,013	1,759,473	127,540	7

1. Percentages disclosed are approximate figures.

Property and equipment and related depreciation expense. Property and equipment depreciation was higher in Q4-24 compared to Q4-23 and YE-24 versus YE-23. The Company converted its aircraft lease to a finance lease, and as a result, began to record the amortization of the aircraft as a depreciating expense over the estimated remaining useful life of the aircraft.

IP 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, the Former 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 fifteen-year period (future amortization expense of $1,685,000 per year).

The Company acquired the SFD® technology for the Geothermal Rights from the Former 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.

IP is subject to ongoing assessment of potential indicators of impairment of the recorded net book value. No impairments were recognized in YE-24 or YE-23.

Other Expenses (Income)

Other Expenses (Figures are given in "$")	Q4-24	Q4-23	Net change	%[1.]
Interest expense, net	224,629	77,901	146,728	188
Foreign exchange loss (gain)	566,911	(5,109)	572,020	>100
Intellectual property and other	(2,745)	1,948	(4,693)	(241)
Gain of fair value remeasurement	(185,589)	-	(185,589)	(100)
Total other expenses, net	603,206	74,740	528,466	707

Other Expenses (Figures are given in "$")	YE-24	YE-23	Net change	%[1.]
Interest expense, net	750,611	160,262	590,349	368
Foreign exchange loss (gain)	574,106	(8,028)	582,134	>100
Intellectual property and other	10,824	15,852	(5,028)	(32)
Loss of fair value remeasurement	296,534	-	296,534	100
Loss on disposal of assets & lease modifications	135,455	-	135,455	100
Total other expenses, net	1,767,530	168,086	1,599,444	952

1. Percentages disclosed are approximate figures.

Interest expense, net. This category of other expenses includes interest expense from long-term debt and debentures netted by interest income earned on guaranteed investment certificates.

Interest expense increased in Q4-24 versus Q4-23, and YE 24 versus YE 23, due to the Company issuing the Debentures during 2023 and 2024.

Foreign exchange loss (gain). This category 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 both December 31, 2024 and December 31, 2023 which included accounts receivable, cash and cash equivalents, accrued liabilities, deferred revenue, convertible debentures, 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 Q4-24, the exchange loss was the result of (i) the 6.5% stronger US$ to CDN$ between September 30, 2024 and December 31, 2024 and (ii) the Company having a net liability of US$7,130,144. For Q4-23, the exchange gain was the result of (i) the 1.9% stronger CDN$ 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.

For YE-24 the exchange loss was the result of (i) the 8.7% weaker CDN$ to US$ between December 31, 2024 and December 31, 2023 and (ii) the Company having a net liability of US$7,130,144. For YE-23, the exchange gain was the result of (i) the 2.4% stronger CDN$ to US$ rate between December 31, 2022 and December 31, 2023 and (ii) the Company having a net liability of US$1,179,649.

The Company does not currently enter into hedging contracts, but instead uses alternative strategies to reduce the volatility of US dollar liabilities including holding excess US dollars before converting to CDN dollars.

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

In Q4-24, Q4-23, YE-24, and YE-23, the Company's IP and other expenses were associated with periodic patent maintenance and renewal fees required during these time periods.

Loss on fair value remeasurement. The Company recognized a loss of $296,535 in the 2024 financial year on the fair value remeasurement of the November Debentures and 2024 Debentures (each as defined herein) due to changes in the US$/CDN$ exchange rates and the Company's share price.

Loss on disposal of assets & lease modifications. During Q2-24, the Company reduced its office space by approximately 31% and extended its office lease until September 2030. In Q1-24, the Company extended its aircraft lease for three years, until March 28, 2027. As a result of the office space reduction and the extensions of the aircraft and office leases, the Company recognized the following losses during YE-24:

Asset/Lease (Figures are given in "$")	
Aircraft lease extension	31,686
Office lease extension	1,214
Write-off of leasehold improvements	101,006
Write-off of office furniture and equipment	1,549
Total	135,455

Income Tax Expense

There was no income tax expense in YE-24 or YE-23.

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 an 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. Deploying an SFD® survey 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 NXT's AIF for the year ended December 31, 2024, "Section 5 Risk Factors", dated March 27, 2025, 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 "$")	Q4-24	Q3-24	Q2-24	Q1-24
SFD®-related revenue	42,222	-	-	602,072
Net loss	(2,800,582)	(1,477,400)	(3,013,213)	(1,786,600)
Loss per share – basic	(0.04)	(0.02)	(0.04)	0.02)
Loss per share – diluted	(0.04)	(0.02)	(0.04)	(0.02)

(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)

During Q4-24, the Company's net loss increased due to unrealized foreign exchange losses due to the weakening CDN$ and interest increases due to the issuance of the 2024 Ataraxia Debenture. In Q3-24, the Company incurred additional G&A costs in anticipation of increased commercial activity, recognized a gain for the fair value remeasurement of the convertible debentures, and unrealized foreign exchange loss (gain) improved due to a strengthening CDN$. In Q2-24, the Company wrote off leasehold improvements due to the 31% office space reduction, recognized a loss for the fair value remeasurement of the convertible debentures, related increased interest expense, and unrealized foreign exchange loss increased due to the net US$ liabilities held by the Company. In Q1-24, SFD® related-revenues were from the Turkish SFD® Survey. Net loss reflected higher SFD®-related costs, net due to the Turkish SFD® Survey an additional headcount, sales commissions and higher business development travel costs as well as interest expense due to the Debentures issued during 2023 and 2024 financial years. 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 six 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. In each quarter between Q1-23 and Q4-24, 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 details are provided below:

- In Q4-24, the Company incurred additional interest costs due to the addition of the 2024 Ataraxia Debentures and the 6.5% weakening of the CDN$ during the quarter with the 2024 Ataraxia Debentures increasing the net US$ liability. The Company also recognized a gain for the fair value remeasurement of the 2024 Debentures and the November Debentures
- in Q3-24, the Company incurred additional G&A costs in anticipation of increased commercial activity, recognized a gain for the fair value remeasurement of the convertible debentures, and unrealized foreign exchange loss (gain) improved due to a strengthening CDN$;
- in Q2-24, the Company wrote off leasehold improvements due to the 31% office space reduction, interest expense increased and fair value remeasurement due to the addition of the 2024 Debentures, and with the strengthening US$ versus the CDN$ unrealized foreign exchange loss increased due to the net US$ liabilities;
- in Q1-24, SFD®-related revenue and SFD®-related costs increased due to the Turkish SFD® Survey. G&A increased due to an additional headcount and business development costs. Interest expense increased due to the issuance of the November Debentures;
- 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 five quarters. Interest expenses 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; and
- in Q1-23, costs were reduced primarily due to lower headcount and maintenance costs.

Liquidity and Capital Resources

Going Concern

The audited consolidated financial statements for YE-24 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 continues to be material uncertainties that cast 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.

During 2024, the Company completed an SFD® survey and has received deposits payments on three other SFD® surveys planned to be executed in 2025 (the "2025 SFD® Surveys"). As of the date of this MD&A, the Company has finished the acquisition phase of one of the 2025 SFD® Surveys and received milestone payments which has generated cash from operations for the Company. In addition, during 2023 and 2024 the Company completed private placements which resulted in raising an additional net proceeds of $9,757,366.

The Company continues to develop its pipeline of opportunities to secure additional revenue contracts. The Company's longer-term success remains dependent upon its ability to convert these revenue 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 certainty.

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 additional SFD® related revenues and obtaining financing on terms that are acceptable to both the Company and the financier.

The 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 these 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 and short-term deposits as at December 31, 2024 totaled $0.73 million. Net working capital totaled $(6.70) 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 projects, which often span three to four months. In addition, where possible, risk of default on client billings are 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 if the Company were to default on its office lease, where the current month's rent plus the next three months would 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.

Net Working Capital (Non-GAAP Measure)

Net Working Capital (Figures are given in "$")	December 31, 2024	December 31, 2023	Net Change	%[1.]
Current assets (current liabilities)				
Cash and cash equivalents	730,395	401,713	328,682	82
Accounts receivable	105,858	1,828,523	(1,722,665)	(94)
Prepaid expenses and deposits	274,799	53,673	221,126	412
Accounts payable and accrued liabilities	(1,233,974)	(1,836,741)	602,767	33
Unearned revenue	(840,768)	-	(840,768)	(100)
Current portion of convertible debentures	(4,915,248)	(1,842,566)	(3,072,682)	(167)
Current portion of long-term debt	(111,111)	(111,111)	-	-
Current portion of lease obligation	(693,607)	(343,513)	(350,094)	(102)
Total Net Working Capital	(6,683,656)	(1,850,022)	(4,833,634)	(261)

1. Percentages disclosed are approximate figures.

NXT had net working capital of $(6,683,656) as at December 31, 2024.

Net working capital as at December 31, 2024 compared to December 31, 2023 decreased by $4,833,634, or 261%. Funds were received from the 2024 Debentures, 2024 Ataraxia Debentures, accounts receivable payments on the Turkish SFD® Surveys and deposits on the other 2025 SFD® Surveys. These funds were used to settle accounts payable, accrued liabilities long-term debt, and lease obligations. Current lease obligations increased as the Company's building and aircraft leases were extended in 2024. In addition, most of the November Debentures are due within one year as of December 31, 2024. Please see "*Advisories – Non-GAAP measures*" for further information.

Accounts Payable and Accrued Liabilities

(Figures are given in "$")	December 31, 2024	December 31, 2023	Net Change	%[1.]
Trade accounts payable	(342,189)	(386,194)	44,005	11
Deferred advisory board payable	(26,972)	(24,805)	(2,167)	(9)
Accrued liabilities	(82,971)	(633,850)	550,879	87
Accrued interest	(109,028)	(38,222)	(70,806)	(185)
Accrued directors' fees payable	(201,218)	(228,199)	26,981	12
Salaries payable	(312,119)	(444,857)	132,738	30
Vacation pay accrued	(88,042)	(78,246)	(9,796)	(13)
RSU and ESP Plan liability	(71,435)	(2,368)	(69,067)	>(100)
Total accounts payable	(1,233,974)	(1,836,741)	602,767	33

1. Percentages disclosed are approximate figures.

Accounts payable and accrued liabilities decreased by $602,767 or approximately 33%, as at December 31, 2024 compared to December 31, 2023 for the following reasons:

- trade accounts payable decreased by $44,005, or approximately 11%, as the Company improved its payment schedule timing to vendors;
- accrued liabilities decreased by $550,879, or approximately 87%, as due to the payment of working capital requirements from the Turkish SFD® Survey and reducing deferred costs with cash received from the 2024 Debentures and operating cash receipts;

- accrued interest increased $70,806, or approximately 185%, due to the issuance of the 2023 Ataraxia Debentures, the November Debentures and the 2024 Debentures;
- accrued directors' fees payable decreased by $26,981, or approximately 12%, as some directors elected to receive their fees as DSUs;
- salaries payable decreased by $132,738, or approximately 30%, as the Company paid a portion of the deferred salary that was outstanding as at December 31, 2023;
- vacation pay accrued increased by $9,796, or approximately 13%, due to the timing of vacations; and
- RSU and ESP Plan liability increased $69,067 or approximately >100% due to the issuance of RSUs to employees during the Q1-24. None were outstanding as at December 31, 2023.

Cash Flow

Cash Flow-from/(used in) (Figures are given in "$")	Q4-24	Q4-23	YE-24	YE-23
Operating activities	(1,388,806)	(1,468,589)	(3,969,591)	(4,831,950)
Financing activities	1,146,120	1,539,226	4,305,807	5,009,117
Investing activity	68,417	(32,322)	(27,029)	(32,322)
Effect of foreign exchange changes on cash	29,693	(6,010)	19,495	(6,569)
Net source (use) of cash	(144,576)	32,305	328,682	138,276
Cash and cash equivalents, start of period	874,971	369,408	401,713	263,437
Cash and cash equivalents, end of period	730,395	401,713	730,395	401,713
Short-term investments, end of period	-	-	-	-
Total cash and short-term investments, end of the period	730,395	401,713	730,395	401,713

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, funds from and repayment of financings and property, and plant and equipment 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 "$")	Q4-24	Q4-23	YE-24	YE-23
Net loss for the period	(2,800,582)	(425,701)	(9,077,795)	(5,452,708)
Total non-cash expense and lease items	996,814	481,372	3,239,208	1,914,845
Operating activities before change in non-cash working capital balances	(1,803,768)	55,671	(5,838,587)	(3,537,863)
Change in non-cash working capital balances	414,962	(1,524,260)	1,868,996	(1,294,087)
Total cash used in operating activities	(1,388,806)	(1,468,589)	(3,969,591)	(4,831,950)

Operating cash flow increased by $79,783 in Q4-24 as compared to Q4-23 due to deposits received on 2025 SFD® Surveys. In Q4-23, the Company accrued costs related to the Turkish SFD® Survey.

Operating cash flow increased by $862,359 in YE-24 as compared to YE-23 due to payment of outstanding accounts receivable from the Turkish SFD® Survey, net of accounts payable and accrued liability payments related to the Turkish SFD® Survey and deposits received on the 2025 SFD® Surveys.

Financing Activities (Figures are given in "$")	Q4-24	Q4-23	YE-24	YE-23
Repayment of long-term debt	(27,778)	(27,778)	(111,111)	(111,111)
Proceeds from stock compensation plans	10,693	6,963	41,620	40,616
Net proceeds from Private Placement	-	-	-	1,622,057
Proceeds from convertible debentures	1,227,291	1,560,041	4,677,754	3,457,555
Repayment of financial liability and lease obligations	(121,336)	-	(359,706)	-
Total cash from financing activities	1,088,870	1,539,226	4,248,557	5,009,117

Proceeds were received from employee contributions under the ESP Plan. Proceeds from convertible debentures were received in both YE-23 and YE-24. Please see the sections *"November Debentures", "2024 Debentures" and "Ataraxia Debentures"*.

In Q1-23 net proceeds from the Private Placement (as defined herein) was $1,622,057. Please see the section *"Private Placement"*.

Beginning in Q2-24, the Company began payment on its revised aircraft lease, which as of Q2-24 is a finance lease. Please see the section *"Contractual Obligations Leases"*

Investing Activity (Figures are given in "$")	Q4-24	Q4-23	YE-24	YE-23
Purchase of property, plant & equipment	-	(32,322)	(27,029)	(32,322)
Proceeds from short-term investments	68,417	-	-	-
Total Cash (provided by) used in investing activity	68,417	(32,322)	(27,029)	(32,322)

The Company upgraded certain SFD® equipment in YE-24 and YE-23 to enhance data acquisition of the SFD® Survey.

Contractual Obligations

Leases

Office Lease. On May 1, 2024, the Company surrendered approximately 3,207 square feet of its office lease to the landlord and as consideration, agreed to extended its lease for an additional five years until September 30, 2030. Please see the section "Other Expenses (Income) *Loss on disposal of assets & lease modifications"* for other costs associated with the surrendered space. Additional terms of the lease extension include an implied interest rate of 10% and monthly payments of $19,771. The lease will continue to be treated as an operating lease.

Aircraft Lease. On March 22, 2024, the Company extended its aircraft lease for three years, until March 28, 2027. The Company will own the aircraft at the end of the lease term. Terms of the lease extension include an interest rate of 12% and monthly payments of US$40,189. The Company has an early purchase option to acquire the aircraft only at 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. The lease is being treated as a finance lease.

The estimated minimum annual commitments for the Company's lease components as at December 31, 2024 are listed in the following table:

Lease payments[1]	Office	Operating Costs	Aircraft [2]	Printer	Total
2025	237,252	163,401	693,743	3,424	1,097,820
2026	237,252	163,401	693,742	3,139	1,097,534
2027	237,252	163,401	116,615	-	517,268
2028	237,252	163,401	-	-	400,653
2029	237,252	163,401	-	-	400,653
2030	177,939	122,551	-	-	300,490
Total	1,364,199	939,556	1,504,100	6,563	3,814,418

1. Figures are given in "Canadian $"
2. US$ payments have been converted to CDN$ at a rate of 1.4385.

Debentures

Repayment of principal and interest as of December 31, 2024	US$	CDN$[1]
2025	3,102,200	4,462,515
2026	3,830,050	5,509,527
Total principal and interest payments	6,932,250	9,972,042
Less interest	(760,250)	(1,093,619)
Principal remaining	6,172,000	8,878,423
Change in fair value of convertible debentures	206,141	296,534
Net principal remaining	6,378,141	9,174,957
Current portion of convertible debentures	3,416,926	4,915,248
Non-current portion of convertible debentures	2,961,215	4,259,709

1. US$ payments have been converted to CDN$ at a rate of 1.4385.

2024 Debentures

On May 31, 2024, the Company issued convertible debentures (the "2024 Debentures") to MCAPM LP for the principal amount of US$2,000,000 (approximately CDN$2,773,660). The 2024 Debentures bear interest at 10.0% per annum, paid quarterly in arrears, and are due and payable on May 31, 2026. The 2024 Debentures are convertible into common shares at a conversion price of US$0.25 (approximately CDN$0.3428) per common share, which provides MCAPM LP with the right to obtain up to 8,000,000 common shares of the Company.

The proceeds from the Debenture were used to support the working capital needs of SFD® surveys and other G&A costs, which include business development and marketing activities required to transform the existing pipeline of SFD® opportunities into firm contracts.

November Debentures

On November 8, 2023, the Company issued the first tranche of a multi-tranche unsecured 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 in the capital of NXT at a fixed conversion price of US$0.1808 (CDN$0.25). During 2023, the Company issued the first two tranches of the November Debentures for US$1,150,000 (approximately CDN$1,577,600).

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

Mork Capital has the right to own, after conversion of all of its 2024 Debentures and November Debentures, 30,526,321 common shares. This represents approximately 32.5% of the issued and outstanding common shares of the Company as of the date of the financial statements (after giving effect to the conversion of the full amount of their 2024 Debentures and the November Debentures).

Ataraxia Debentures

In May 2023, the Company signed a subscription agreement with Ataraxia in which Ataraxia would purchase US$2,300,000 of convertible debentures. The terms of the convertible debentures issued to Ataraxia include an annual interest rate of 10% paid quarterly in arrears. The convertible debentures can 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 convertible debentures are payable on demand two years after the issue date and are secured by a general security agreement, subordinate to the long-term debt.

On May 31, 2023, the Company issued a two-year term convertible debenture for US$1,200,000 (approximately CDN$1,631,954) to Ataraxia and an additional US$200,000 (approximately CDN$265,560) on July 10, 2023 (the "2023 Ataraxia Debentures"). The 2023 Ataraxia Debentures have a fixed conversion price of US$0.143 per common share.

On November 4, 2024, the Company issued a two-year term convertible debenture for US$500,000 (approximately CDN$676,995) to Ataraxia and an additional US$400,000 (approximately CDN$550,296) on November 12, 2024 (the "2024 Ataraxia Debentures"). The 2024 Ataraxia Debentures have a fixed conversion price of US$0.24 per common share. The proceeds from the 2024 Ataraxia Debentures have been used to support the working capital needs of the SFD® surveys in Africa.

Ataraxia has the right to own, after conversion of all of their 2023 Ataraxia Debentures and 2024 Ataraxia Debentures, 13,540,209 common shares. This represents approximately 14.6% of the issued and outstanding common shares as of the date of these financial statements (after giving effect to the conversion of the full amount of the 2023 Ataraxia Debentures and 2024 Ataraxia Debentures).

As of the date of this MD&A, no preferred or common shares have been issued pursuant to the conversion of the 2023 Ataraxia Debentures or the 2024 Ataraxia Debentures.

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 meetings as an observer (except any portion of a Board 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.

Private Placement

On December 22, 2022, the Company announced a multi-tranche private placement (the "Private Placement") at $0.195 per share. On 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 the Private Placement were used to support G&A, which include business development and marketing activities required to transform the pipeline of SFD® survey opportunities into firm contracts. Mork Capital purchased 8,750,000 common shares or $1,706,250 of the Private Placement along with two members of the Board for a total of $83,515.

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 "$")	
2025	137,593
2026	133,148
2027	128,704
2028	124,259
2029	119,815
2030 to 2031	162,129
Total principal and interest payments	805,648
Less interest	(92,685)
Total principal remaining	712,963
Current portion of long-term debt	111,111
Non-current portion of long-term debt	601,852

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 NXT's office lease agreement. If the Company were to default on its office lease, the current month's 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 "$")	Q4-24	Q4-23	YE-24	YE-23
Legal fees	36,747	13,472	164,373	129,600
Interest Expense[1.]	184,039	48,172	441,986	107,792
Board of director fees	53,750	38,750	182,500	158,199
Management compensation	136,526	192,682	436 526	389,451

1. US$137,356 for Q4-24 and US$35,288 for Q4-23. US$322,905 for YE-24 and US$79,356 for YE-23. Includes interest expense for Ataraxia, Mork Capital and the Board.

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 include a total of $55,455 ($36,938 as at December 31, 2023) 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 2023 Ataraxia Debentures and 2024 Ataraxia Debentures. Accounts payable and accrued liabilities include a total of $40,011 (US$27,814), ($19,699 or US$14,890, as at December 31, 2023) to Ataraxia for accrued interest.

A third member of NXT's Board is an employee of MCAPM LP, which holds convertible debentures. Accounts payable and accrued liabilities include a total of $57,063 (US$39,669) to Mork Capital for accrued interest.

All members of the Board elected to have most of their Board fees payable as at December 31, 2023 converted into the November Debentures, for a total of US$147,000 (CDN$196,686). Accounts payable and accrued liabilities include a total of $4,680 (US$3,253) ($nil as at December 31, 2023) to Board members for accrued interest.

Accounts payable and accrued liabilities include $201,218 ($228,199 as at December 31, 2023) for Board fees and $35,250 ($98,708 as at December 31, 2023) for management compensation.

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 2024 audited 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 December 31, 2024 audited 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 2024 and 2023, 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.

The Company recognizes SRD® related revenue in the consolidated financial statements based on the performance obligation for NXT in SFD® surveys, which are the acquisition, processing, interpretation and integration of SFD® data. Revenue from the sale of SFD® survey contracts is recognized over time by measuring the progress toward satisfaction of its performance obligation to the customer. The Company uses direct survey costs as the input measure to recognize revenue in any fiscal period. The percentage of direct survey costs incurred to date over the total expected survey costs to be incurred, provides an appropriate measure of the stage of the performance obligation being satisfied over time. The accounting for contracts that are not complete at the reporting date involves significant judgment, particularly as it relates to determining the total anticipated costs at completion.

Changes in Accounting Policies

The audited consolidated financial statements of NXT for YE-24 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, 2024, 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, deferred revenue, 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. The Company does not currently enter into hedging contracts, but instead uses alternative strategies to reduce the volatility of US dollar liabilities including holding excess US dollars before converting to CDN dollars.

As at December 31 2024 and December 31, 2023, 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

Figures provided are Common Shares	March 27, 2025	December 31, 2024	December 31, 2023
Common shares	79,455,385	78,495,184	78,025,237
Dilutive securities:			
2023 Ataraxia Debentures at US$0.1430	9,790,209	9,790,209	9,790,209
November Debentures at US$0.1808	10,353,982	10,353,982	6,360,619
2024 Debentures at US$0.2500	8,000,000	8,000,000	-
2024 Ataraxia Debentures at US$0.2400	3,750,000	3,750,000	-
Stock Options	4,017,820	2,647,820	2,927,820
DSUs	120,226	120,226	37,354
RSUs	2,484,998	915,000	-
Marketing consultant compensation	-	634,439	360,139
Total share capital and dilutive securities	**117,972,620**	**114,706,860**	**97,501,378**

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.

Current Director & Officer Common Share Holdings

Figures provided are Common Shares	March 27, 2025	December 31, 2024	December 31, 2023
Peter Mork [1,3]	380,237	380,237	-
Charles Selby [1]	408,161	408,161	408,161
Gerry Sheehan [1]	77,000	77,000	77,000
Jeffrey Tilson [1,4]	6,118,234	5,254,961	-
John Tilson[5]	-	-	6,887,490
Bruce G. Wilcox [1,2]	793,667	767,000	500,005
Eugene Woychyshyn [1,2,3]	1,044,550	955,985	730,176
Total director and officer share capital	**8,821,849**	**7,843,344**	**8,602,832**

[1] Director of NXT

[2] Officer of NXT

[3] Elected directors as of July 15, 2024

[4] Appointed as director as of December 16, 2024

[5] Resigned as director as of December 11, 2024

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

NXT's CEO and Chief Financial Officer (the "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 for 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 is of the greatest concern; and

- NXT does not have a sufficient number 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 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 public disclosure.

The Responsible Officers concluded that, as at December 31, 2024, NXT's 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 a 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 regarding 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 Q4-24.

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 AIF is available on NXT's website at www.nxtenergy.com and on SEDAR+ at www.sedarplus.ca.