MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management's discussion and analysis ("**MD&A**") dated February 27, 2024 is intended to assist the readers in the understanding of EcoSynthetix Inc. and its wholly owned subsidiaries ("**EcoSynthetix**" or the "**Company**"), its business environment, strategies and performance and risk factors. It should be read in conjunction with the audited annual consolidated financial statements for the year ended December 31, 2023. Financial data has been prepared in conformity with International Financial Reporting Standards ("**IFRS**") as issued by the International Accounting Standards Board ("IASB") and using the same accounting policies and methods as those used in the Company's audited consolidated financial statements for the year ended December 31, 2023.

The Company, together with its consolidated subsidiaries, is referred to as the "Company", "we", "us", or "our". Our functional currency and reporting currency is the U.S. dollar. Unless otherwise indicated, all references to "$" and "dollars" in this discussion and analysis mean U.S. dollars.

Certain measures used in this MD&A do not have any standardized meaning under IFRS. When used, these measures are defined in such terms as to allow the reconciliation to the closest IFRS measure. It is unlikely that these measures could be compared to similar measures presented by other companies. See "IFRS and non-IFRS Measures".

Forward-looking statements are included in this MD&A. See "Forward-Looking Statements" below for a discussion of risks, uncertainties and assumptions relating to these statements. For a description of the risks relating to the Company, refer to the "Risk Factors" section of this MD&A and the "Risk Factors" section of the Company's Annual Information Form dated February 27, 2024.

Forward-looking Statements

Certain statements contained in this MD&A constitute forward-looking statements. All statements other than statements of historical fact may be forward-looking statements. These statements relate to, but are not limited to, future events or future performance, our expectations regarding the Company's growth, results of operations, estimated future revenues, and requirements for additional capital, production costs, future demand for latex-based products, business prospects and opportunities, our ability to successfully commercialize our products, expectations as to the amount of reduction that the Company's products may have on a manufacturer's carbon footprint. Forward-looking statements are often, but not always, identified by use of words such as ''may'', ''will'', ''should'', ''could'', ''seek'', ''anticipate'', ''contemplate'', ''continue'', ''expect'', ''intend'', ''plan'', ''potential'', ''budget'', ''target'', ''believe'', ''estimate'' and similar expressions. The forward-looking statements in this document include, but are not limited to, statements regarding the Company's expected product pipeline, plans to expand the Company's business into new markets, the Company's ability to achieve organizational efficiencies, and other statements regarding the Company's plans and expectations in 2024. Such statements reflect our current views and beliefs with respect to future events, are subject to risks and uncertainties, and are based upon several estimates and assumptions that, while considered reasonable by us, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Those assumptions and risks include, but are not limited to, the Company's ability to successfully allocate capital as needed and to develop new products, as well as the fact that our results of operations and business outlook are subject to significant risk, volatility, and uncertainty. Many factors could cause actual results, performance, or achievements to be materially different from any future results, performance, or achievements that may be expressed or implied by such forward-looking statements.

We have made material assumptions regarding, among other things: that our intellectual property rights are adequately protected; our ability to obtain the materials or services necessary for the production of our products; our ability to convert prospects from the industrial trial phase into full commercial customers; our ability to market products successfully to our customers; that we will continue to possess unique intellectual property rights; changes in demand for and prices of our products or the materials required to produce those products; labour and material costs remaining consistent with our current expectations; the price and availability of substitute or competitive products; and that we do not and will not infringe third party intellectual property rights. Some of our assumptions are based upon internal estimates and analysis of current market conditions and trends, management plans and strategies, economic conditions and other factors and are necessarily subject to risks and uncertainties inherent in projecting future conditions and results.

Some of the risks that could affect our future results and could cause those results to differ materially from those expressed in the forward-looking information include, among other things: the impact of the conflict in Ukraine including the potential expansion of the conflict into other countries or regions; the availability and price of natural feedstocks used in the production of our products; agricultural risks that could impact crop yields and bio-based materials; a significant decrease in the market price of petroleum related feedstocks; inflationary pressures that may affect labor, raw materials, energy, agricultural commodities and other input costs; fluctuations in energy costs used to run production facilities; the inability to effectively expand our production facilities; dependence on certain customers and changes in customer demand; credit and concentration risk associated cash and cash equivalents as well as accounts receivable; the risk of volatility in global financial conditions, as well as significant decline in general economic conditions; increase in industry competition; variations in our financial results; our ability to effectively commercially market and sell our products; the inability to retain key personnel; the inability to develop new technologies and products; an inability to protect, defend or use our intellectual property and/or infringement of third-party intellectual property; enforcement of intellectual property rights; the ability to acquire intellectual property; the risk of litigation with respect to intellectual property and other matters; our ability to protect our know-how and trade secrets; changes to regulatory requirements, both regionally and internationally, governing development, production, exports, taxes, labour standards, waste disposal, and use, environmental protection, project safety and other matters; the impact of infectious disease outbreaks on our business including a resurgence of COVID-19; changes in government regulations and policies relating to our business; a shortage of supplies, equipment and parts; a breach in cyber-security; company growth and the impact of significant operating and capital cost increases; changes in the current political and regulatory environments in which we operate; the inability to secure additional government grants; a deterioration in our cash balances or liquidity; the inability to obtain equity or debt financing; insufficient product liability insurance; the impact of issuance of additional equity securities on the trading price of the common shares; the impact of ethical, legal and social concerns relating to genetically modified organisms and the food versus fuel debate; the risk of business interruptions; the impact of volatile market price for common shares; the impact of changes in interest rates; the impact of changes in foreign currency exchange; losses from hedging activities and changes in hedging strategy, as well as the factors identified in the “Risk Factors” section of the Company’s Annual Information Form dated February 27, 2024. Such factors are not intended to represent a complete list of the factors that could affect us. These factors should be considered carefully, and prospective investors should not place undue reliance on forward-looking information.

IFRS and Non-IFRS Measures

This MD&A makes reference to certain non-IFRS measures. These non-IFRS measures are not recognized measures under IFRS, do not have a standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other companies. Rather, these measures are provided as additional information to complement those IFRS measures by providing a further understanding of the results of operations of the Company from management’s perspective. Accordingly, they should not be considered in isolation or as a substitute for analysis of the financial information of the Company reported under IFRS. We use non-IFRS measures such as Adjusted EBITDA to provide investors with a supplemental measure of operating performance and thus highlight trends in our core business that may not otherwise be apparent when relying solely on IFRS financial measures. We also believe that securities analysts, investors, and other interested parties frequently use non-IFRS measures in the evaluation of issuers. Our management also uses non-IFRS measures in order to facilitate operating performance comparisons from period to period, prepare annual operating budgets and assess its ability to meet its capital expenditure and working capital requirements.

Adjusted EBITDA as presented herein is not a recognized measure under IFRS and should not be considered as an alternative to operating income or net income as measures of operating results or an alternative to cash flows as measures of liquidity. Adjusted EBITDA is defined as consolidated net income (loss) before interest, income taxes, depreciation, amortization, impairment loss on property, plant and equipment (PP&E), gain or loss on disposals of PP&E, accretion, and other non-cash expenses deducted in determining consolidated net income (loss).

Overview

We are a renewable chemicals company specializing in bio-based materials that are used as inputs in a wide range of products that allow customers to reduce their use of harmful materials, such as formaldehyde and styrene-based chemicals and enable carbon footprint reductions. Our flagship products, DuraBind™, Bioform™, Surflock™, and EcoSphere®, are used to manufacture wood composites, personal care, paperboard, graphic paper, and tissue products and enable performance improvements, economic benefits and sustainability. Our strategy is to commercialize a broad range of bio-based polymer and monomer products within specific market segments. We have developed processes that leverage “green” technology to produce bio-based materials from natural polysaccharide feedstocks, such as corn starch, as an alternative to petroleum-derived feedstocks.

To date, we have developed the following two bio-based technology platforms that support broad application across a wide range of industries: (i) a biopolymer nanosphere technology that has been fully scaled and validated; and (ii) a bio-based sugar macromer technology. Our biopolymer nanosphere technology has generated four product families, EcoSphere, Bioform, Surflock, and DuraBind biopolymers. Our bio-based sugar macromer technology has generated two product families, EcoMer® biomonomers and EcoStix® bio-based pressure sensitive adhesives. Substantially all our revenue has been generated from the sale of our biopolymer nanosphere technology into the graphic paper, paperboard, tissue and wood composite markets.

Factors Affecting the Results of Operation

Commercialization

Our customers typically go through the following evaluation stages prior to commercial adoption of our products:

(i) laboratory evaluation;
(ii) pilot scale production testing; and
(iii) industrial trials representing full scale production.

Our performance is influenced by our ability to convert prospects from the industrial trial phase into full commercial customers. The industrial trial stage is an important part of the sales cycle; it requires potential customers to invest significant resources, including labour and operating expenditures, and the product must meet or surpass rigorous qualification procedures. Successfully reaching the mill trial stage with a potential customer reflects substantial interest and commitment from them.

Our financial condition and results of operations are influenced by a variety of other factors, including:

- Optimizing the formulation of existing products to allow higher substitution rates by current and new customers and the ability to effectively develop products for new markets which could be a significant source of revenue growth in the future

- Pricing of incumbent technologies and other substitutes for our products

- Feedstock, other input and production costs and availability

Net Sales

Revenue is recognized when the Company has satisfied its performance obligations as set out in the contract with the customer, the contract has commercial substance, and it is probable that the Company will collect the consideration it is entitled to on performance of its obligations in the contract. These criteria are generally met when the transfer of control of goods has occurred, which typically occurs at the time of shipment or delivery, depending on the terms of the agreement. Net sales are measured based on the price specified in the sales contract, net of any discounts and estimated returns at the time of sale.

Cost of sales and gross profit

Our gross profit is derived from our net sales less our cost of sales. Cost of sales includes raw material costs, contract manufacturing costs, freight costs and depreciation related to manufacturing equipment. Direct materials consist of the costs of natural feedstock and process chemicals. Cost of sales is mainly affected by natural feedstock costs and manufacturing costs.

Selling, general and administrative

Selling, general and administrative expense (SG&A) primarily relates to salaries & benefits and other employee related costs which collectively represent approximately 50% of total SG&A. In addition to this, SG&A includes travel expenses, professional fees, facility costs, foreign exchange gains and losses, insurance, marketing costs and share-based compensation.

Foreign exchange represents the revaluation of monetary assets and liabilities denominated in foreign currencies. The change in foreign exchange gains and losses are primarily due to foreign exchange rate fluctuations between the U.S. dollar (our functional currency) and foreign currencies on our net monetary position in those respective currencies.

Research and development

Expenditures during the research phase are expensed as incurred. Expenditures during the development phase are expensed as incurred unless they meet certain capitalization criteria. No development costs have been capitalized to date.

Our research and development expenses (R&D) consist of costs incurred to develop and test our products. Salaries & benefits related to employees directly involved in research and development activities represent approximately 50% of total R&D. In addition, R&D includes costs related to consultants, facility costs including depreciation on property, plant and equipment not utilized in our production process, supplies and other costs directly associated with product development. These costs are partially offset by government grants related to such expenditures.

Results of operations

The following is a summary of our results of operations for the three and twelve months ended December 31, 2023 and 2022:

	Three months ended		Change	
	December 31, 2023	December 31, 2022	$	%
Net sales	2,843,437	5,609,083	(2,765,646)	-49%
Gross profit	464,048	921,720	(457,672)	-50%
Loss from operations	(1,441,361)	(906,757)	(534,604)	59%
Net loss	(584,624)	(650,674)	66,050	-10%
Weighted average number of shares outstanding	58,635,640	58,994,283	(358,643)	-1%
Basic and diluted loss per share	(0.01)	(0.01)	0.00	-10%
Adjusted EBITDA[1] loss	(969,092)	(336,308)	(632,784)	188%

	Twelve months ended		Change	
	December 31, 2023	December 31, 2022	$	%
Net sales	12,659,623	19,034,526	(6,374,903)	-33%
Gross profit	2,781,831	4,154,106	(1,372,275)	-33%
Loss from operations	(4,507,675)	(2,903,281)	(1,604,394)	55%
Net loss	(2,821,047)	(2,375,244)	(445,803)	19%
Weighted average number of shares outstanding	58,926,302	58,898,673	27,629	0%
Basic and diluted loss per share	(0.05)	(0.04)	(0.01)	19%
Adjusted EBITDA[1] loss	(2,522,803)	(882,359)	(1,640,444)	186%

[1] *Refer to "IFRS and Non-IFRS Measures" and "Adjusted EBITDA" sections in this MD&A*

Net Sales – Net sales for the three months ended December 31, 2023 were $2.8 million compared to $5.6 million in the same period last year, a decrease of $2.8 million or 49%. The decrease was primarily due to lower volumes, which decreased sales $2.9 million, or 51% and was partly offset by a higher average selling price which increased sales $0.1 million or 2%. Net sales for the twelve months ended December 31, 2023 were $12.7 million compared to $19.0 million in the same period last year, a decrease of $6.4 million or 33%. The decrease was due to lower volumes, which decreased sales $7.6 million or 40%, and was partly offset by a higher average selling price which increased sales $1.2 million or 7%. The lower volumes in both periods were primarily due to continued demand deterioration and customer inventory de-stocking in the graphic paper market. The higher average selling price during the three months ended was primarily due to product mix and the higher average selling price during the twelve months ended was primarily due to product mix as well as the offsetting of inflationary pressure with price increases.

Gross profit – Gross profit for the three months ended December 31, 2023, was $0.5 million compared to $0.9 million in the same period last year, a decrease of $0.5 million or 50%. The decrease in gross profit was primarily due to lower volumes. Gross profit for the twelve months ended December 31, 2023 was $2.8 million compared to $4.2 million in the same period last year, a decrease of $1.4 million or 33%. The decrease in gross profit was due to decreases in sales volumes and higher costs of manufacturing, which were partially offset by a higher average selling price.

Gross profit as a percentage of sales for the three and twelve months ended December 31, 2023 was 16.3% and 22.0% and was comparable to 16.4% and 21.8% in the same periods last year. Gross profit as a percentage of sales adjusted for manufacturing depreciation for the three and twelve months ended December 31, 2023 was 21.9% and 28.9% compared to 21.4% and 25.5% in the same periods last year. Gross profit as a percentage of sales adjusted for manufacturing depreciation during the three months ended December 31, 2023 was comparable to the prior year and the increase during the twelve-month period was primarily due to a higher average selling price partly offset by higher costs of manufacturing.

Operating Expenses

The following table sets forth the breakdown of our operating expenses by category during the three and twelve months ended December 31, 2023 and 2022:

	Three months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Selling, general and administrative	1,347,909	1,272,605	75,304	6%
Research and development	557,500	555,872	1,628	0%
Total operating expenses	1,905,409	1,828,477	76,932	4%

	Twelve months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Selling, general and administrative	4,986,580	5,135,247	(148,667)	-3%
Research and development	2,302,926	1,922,140	380,786	20%
Total operating expenses	7,289,506	7,057,387	232,119	3%

Selling, general and administrative (SG&A) – SG&A expenses for the three months ended December 31, 2023 were $1.3 million compared to $1.3 million in the same period last year, an increase of $0.1 million or 6%.The increase was primarily due to asset relocation costs associated with the Company's manufacturing realignment strategy announced on February 28, 2023. SG&A expenses for the twelve-months ended December 31, 2023 were $5.0 million compared to $5.1 million in the same period last year, a decrease of $0.1 million or 3%. The decrease was primarily due to changes in foreign exchange gains and losses and lower compensation expense related to share-based awards partly offset by $0.2 million asset relocation costs.

Research and development (R&D) – R&D expenses for the three months ended December 31, 2023 were comparable to the same period last year. R&D expenses for the twelve months ended December 31, 2023 were $2.3 million compared to $1.9 million in the same period last year, an increase of $0.4 million or 20%. The increase was primarily due to an increase in new product scale up costs. R&D expense as a percentage of sales for the three and twelve months ended December 31, 2023 was 20% and 18% compared to 10% in both periods last year. The Company's R&D efforts continue to focus on further enhancing the value for our existing products and expanding addressable opportunities.

Loss from operations – Loss from operations for the three months ended December 31, 2023 was $1.4 million compared to $0.9 million in the same period last year, an increase in loss of $0.5 million or 59%. The increase in loss was primarily due to lower gross profit, primarily due to lower volumes, and higher operating expenses. Loss from operations for the twelve months ended December 31, 2023 was $4.5 million compared to $2.9 million in the same period last year, an increase in loss from operations of $1.6 million or 55%. The increase in loss from operations was primarily due to lower gross profit, primarily due to lower volumes, as well as higher operating expenses.

Net Loss – Net loss for the three months ended December 31, 2023 was $0.6 million, or $0.01 net loss per common share, compared to $0.7 million, or $0.01 net loss per common share in the same period last year, a decrease in net loss of $0.1 million or 10%. The decrease in net loss was primarily due to a gain on the disposal of PP&E of $0.5 million and $0.1 million in higher net interest income earned during the period, offset by an increase in loss from operations of $0.5 million. During the three months ended December 31, 2023, the Company disposed of some redundant manufacturing equipment related to the Company's manufacturing realignment strategy announced on February 28, 2023 for cash proceeds of $0.5 million. Net loss for the twelve months ended December 31, 2023 was $2.8 million, or $0.05 net loss per common share, compared to $2.4 million, or $0.04 net loss per common share in the same period last year, an increase in net loss of $0.4 million or 19%. The increase in net loss was due to a $1.6 million higher loss from operations offset by an increase of $0.6 million in net interest income earned during the period as well as the gain on disposal of PP&E of $0.5 million. The higher net interest income during both periods was due to an increase in interest rates on cash and term deposits.

Financial Condition

Current assets

	December 31 2023	December 31 2022	Change $	%
Cash	4,915,445	4,808,606	106,839	2%
Term deposits	28,366,765	21,054,812	7,311,953	35%
Accounts receivable	1,549,443	2,930,386	(1,380,943)	-47%
Inventory	3,642,923	5,317,367	(1,674,444)	-31%
Prepaid expenses	91,917	85,131	6,786	8%
Total current assets	38,566,493	34,196,302	4,370,191	13%

Total current assets – Total current assets at December 31, 2023 were $38.6 million compared to $34.2 million at December 31, 2022, an increase of $4.4 million, or 13%. The increase in cash of $0.1 million is primarily due to cash flow generated from investing and operating activities of $2.0 million and $0.3 million respectively, offset by cash outflows from financing activities of $2.3 million. The increase in term deposits of $7.3 million was primarily due to $10.1 million of term deposits that have transferred from a non-current asset to a current asset, an increase in accrued interest on term deposits of $0.3 million, offset by $3.1 million in receipts from matured or redeemed term deposits, net of new term deposit purchases. The decrease in accounts receivable of $1.4 million was primarily due to the timing of revenue and collection of trade receivables. The decrease in inventory of $1.7 million was primarily due to a decrease in raw materials.

Total assets and liabilities

	December 31 2023	December 31 2022	Change $	%
Total assets	42,835,313	48,194,257	(5,358,944)	-11%
Total current liabilities	1,607,140	2,595,353	(988,213)	-38%
Total liabilities	1,865,418	3,138,992	(1,273,574)	-41%

Total assets – Total assets at December 31, 2023 were $42.8 million compared to $48.2 million at December 31, 2022, a decrease of $5.4 million, or 11%. The change was primarily due to $2.8 million in lower term deposits, both current and non-current, $1.7 million lower inventory, $1.4 million lower accounts receivable, as well as depreciation on PP&E of $1.3 million offset by an increase of PP&E of $1.6 million. The increase in PP&E was primarily due to purchases of machinery and equipment relating to the new manufacturing line in Burlington, Ontario and part of the Company's manufacturing realignment strategy announced on February 28, 2023.

Total current liabilities – Total current liabilities at December 31, 2023 were $1.6 million compared $2.6 million at December 31, 2022, a decrease of $1.0 million, or 38%. The decrease was primarily due to the timing of trade accounts payable and accrued liabilities.

Total liabilities – Total liabilities at December 31, 2023 were $1.9 million compared to $3.1 million at December 31, 2022, a decrease of $1.3 million or 41%. The decrease was primarily due to a decrease in current liabilities as well as a decrease in the non-current portion of the lease liability.

Liquidity and Capital Resources

We currently fund our business operations through cash flow generated from our operations and from existing cash and term deposits. We believe that ongoing operations, working capital and associated cash flow in addition to our cash resources provide sufficient liquidity to support our ongoing business operations for the foreseeable future.

Below is a summary of our cash flows provided by (used in) operating activities, financing activities, and investing activities for the three and twelve months ended December 31, 2023, and 2022:

	Three months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Cash (used in) operating activities	(976,400)	(1,224,649)	248,249	-20%
Cash (used in) investing activities	(438,986)	(3,419,878)	2,980,892	-87%
Cash (used in) financing activities	(403,273)	(6,107)	(397,166)	6503%
Effect of exchange rate changes on cash	119,032	276,921	(157,889)	-57%
Change in cash	(1,699,627)	(4,373,713)	2,674,086	-61%
Beginning cash	6,615,072	9,182,319	(2,567,247)	-28%
Ending cash	**4,915,445**	**4,808,606**	**106,839**	**2%**

	Twelve months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Cash provided by (used in) operating activities	316,989	(4,895,958)	5,212,947	-106%
Cash provided by (used in) investing activities	1,995,614	(31,153,339)	33,148,953	-106%
Cash (used in) financing activities	(2,268,131)	(1,514,594)	(753,537)	50%
Effect of exchange rate changes on cash	62,367	145,681	(83,314)	-57%
Change in cash	106,839	(37,418,210)	37,525,049	-100%
Beginning cash	4,808,606	42,226,816	(37,418,210)	-89%
Ending cash	**4,915,445**	**4,808,606**	**106,839**	**2%**

Cash provided by (used in) operating activities – During the three months ended December 31, 2023, cash used in operating activities of $1.0 million primarily relates to a $0.7 million net loss and comprehensive loss adjusted for non-cash items and gain on disposal of PP&E as well as accrued interest on term deposits of $0.3 million. During the three months ended December 31, 2022, cash used in operating activities of $1.2 million primarily relates to changes in working capital including cash used to increase inventory of $0.6 million as well as a $0.4 million net loss and comprehensive loss adjusted for non-cash items.

During the twelve months ended December 31, 2023, cash provided by operating activities of $0.3 million primarily relates to lower inventory of $1.7 million and cash received from accounts receivable of $1.4 million offset by cash used to settle trade accounts payables and accrued liabilities of $1.0 million and net loss and comprehensive loss net of items not affecting cash and gain on disposal of PP&E of $1.4 million. During the twelve months ended December 31, 2022, cash used in operating activities of $4.9 million primarily relates to cash used in inventory of $3.1 million as well as an increase in accounts receivable of $1.0 million.

Cash provided by (used in) investing activities – Cash used in investing activities for the three months ended December 31, 2023 was $0.4 million and was primarily due $1.0 million in purchases of PP&E relating to machinery and equipment offset by $0.5 million in proceeds received on the disposal PP&E. Cash used in investing activities for the three months ended December 31, 2022 was $3.4 million and related primarily to the purchase of term deposits of $8.4 million offset by receipts of matured term deposits of $5.0 million.

Cash provided by investing activities for the twelve months ended December 31, 2023 was $2.0 million and was primarily due to receipts on matured or redeemed term deposits of $27.1 million and proceeds received on disposal of PP&E of $0.5 million offset by the purchase of new term deposits of $24.0 million as well as purchases of PP&E relating to machinery and equipment of $1.6 million. Cash used in investing activities during the twelve months ended December 31, 2022 was $31.2 million and primarily related to $35.9 million in purchases of term deposits and $0.3 million in purchases of PP&E relating to machinery and equipment offset by $5.0 million receipts on matured term deposits.

Cash (used in) financing activities – Cash used in financing activities during the three months ended December 31, 2023 was $0.4 million and primarily related to the purchase of common shares through the NCIB of $0.7 million offset by cash proceeds received on the exercise of common share options of $0.4 million. Cash used in financing activities during the three months ended December 31, 2022 was a nominal amount. Cash used in financing activities during the twelve months ended December 31, 2023 was $2.3 million and primarily related to the purchase of common shares through the NCIB of $2.4 million offset by proceeds received on the exercise of common share options of $0.4 million. Cash used in financing activities during the twelve months ended December 31, 2022 was $1.5 million and primarily related to the purchase of common shares through the NCIB of $2.2 million offset by proceeds received on the exercise of common share options of $1.0 million.

Effect of exchange rate changes on cash – The effect of exchange rate changes on cash is primarily due to the revaluation of cash denominated in Canadian dollars and the impact of currency fluctuations between the Canadian dollar and U.S. dollar.

Capital Management

The Company's objective in managing capital is to ensure sufficient liquidity to pursue its growth strategy and fund research and product development, while at the same time taking a conservative approach towards managing financial risk. The Company's capital is composed of the net cash primarily received related to common shares, and cash flows generated from operating activities. Our primary uses of capital are financing operations, increasing non-cash working capital and capital expenditures. We currently fund these requirements from existing cash resources. Our objectives when managing capital are to ensure that we will continue to have enough liquidity to provide our products and services to our customers and a return to our shareholders. We monitor our capital on the basis of the adequacy of our cash resources to fund our business plan. In order to maximize the capacity to finance our ongoing growth, we do not currently pay a dividend to the holders of our common shares.

Commitments

The Company entered the following contractual obligations in the normal course of operations that were not recognized as liabilities as at December 31, 2023:

I. The Company is committed to purchasing $0.9 million of production raw materials, contract manufacturing and other operating expenses as well as $0.1 million of PP&E related to manufacturing equipment.

Summary of Quarterly Results

The following table sets out selected financial information for each of the eight most recent quarters, the latest of which ended December 31, 2023. This information has been prepared on the same basis as the annual financial statements and all necessary adjustments have been included in the amounts stated below to present fairly the unaudited quarterly results when read in conjunction with the quarterly and annual financial statements of the Company and the related notes to those statements.

	Three months ended							
	December 31, 2023	**September 30, 2023**	**June 30, 2023**	**March 31, 2023**	**December 31, 2022**	**September 30, 2022**	**June 30, 2022**	**March 31, 2022**
Net sales	2,843,437	3,800,564	2,954,114	3,061,508	5,609,083	5,019,650	4,167,838	4,237,955
Gross profit	464,048	1,151,985	549,875	615,923	921,720	1,034,861	1,117,485	1,080,040
Loss from operations	(1,441,361)	(588,702)	(1,238,551)	(1,239,061)	(906,757)	(545,818)	(759,327)	(691,379)
Net loss	(584,624)	(267,947)	(980,221)	(988,255)	(650,674)	(388,850)	(676,828)	(658,892)
Weighted average number of shares outstanding	58,635,640	58,711,122	59,098,730	59,269,038	58,994,283	58,809,507	58,855,891	58,913,708
Basic and diluted loss per share	(0.01)	(0.00)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Adjusted EBITDA (1) (loss)	(969,092)	(189,102)	(777,074)	(587,535)	(336,308)	(131,471)	(227,719)	(186,861)

The following table reconciles net loss to Adjusted EBITDA for the three months ended:

	Three months ended							
	December 31, 2023	**September 30, 2023**	**June 30, 2023**	**March 31, 2023**	**December 31, 2022**	**September 30, 2022**	**June 30, 2022**	**March 31, 2022**
Net loss	(584,624)	(267,947)	(980,221)	(988,255)	(650,674)	(388,850)	(676,828)	(658,892)
Depreciation	247,690	234,516	298,885	487,894	396,293	228,313	280,307	232,552
Share-based compensation	224,579	165,084	162,592	163,632	174,156	186,034	251,301	271,966
Gain on disposal of property, plant and equipment	(511,038)	-	-	-	-	-	-	-
Net interest income	(345,699)	(320,755)	(258,330)	(250,806)	(256,083)	(156,968)	(82,499)	(32,487)
Adjusted EBITDA (1) (loss)	(969,092)	(189,102)	(777,074)	(587,535)	(336,308)	(131,471)	(227,719)	(186,861)

Notes:

(1) *Refer to "IFRS and Non-IFRS Measures" section in this MD&A*

Adjusted EBITDA

The following table reconciles net loss to Adjusted EBITDA for the three and twelve months ended December 31, 2023 and 2022.

	Three months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Net loss	(584,624)	(650,674)	66,050	-10%
Depreciation	247,690	396,293	(148,603)	-37%
Share-based compensation	224,579	174,156	50,423	29%
Gain on disposal of property, plant and equipment	(511,038)	-	(511,038)	100%
Net interest income	(345,699)	(256,083)	(89,616)	35%
Adjusted EBITDA (1) loss	(969,092)	(336,308)	(632,784)	188%

	Twelve months ended		**Change**	
	December 31, 2023	**December 31, 2022**	**$**	**%**
Net loss	(2,821,047)	(2,375,244)	(445,803)	19%
Depreciation	1,268,985	1,137,465	131,520	12%
Share-based compensation	715,887	883,457	(167,570)	-19%
Gain on disposal of property, plant and equipment	(511,038)	-	(511,038)	100%
Net interest income	(1,175,590)	(528,037)	(647,553)	123%
Adjusted EBITDA (1) loss	(2,522,803)	(882,359)	(1,640,444)	186%

Notes:

(1) *Refer to "IFRS and Non-IFRS Measures" section in this MD&A*

Adjusted EBITDA loss for the three months ended December 31, 2023 was $1.0 million compared to $0.3 million in the same period last year, an increase in loss of $0.6 million. Adjusted EBITDA loss for the twelve months ended December 31, 2023 was $2.5 million compared to $0.9 million in the same period last year, an increase in loss of $1.6 million. The increase in loss in both periods is primarily due to lower gross profit and higher operating costs adjusted for non-cash items when compared to the prior period.

Internal control over financial reporting

There were no changes in the Company's internal control over financial reporting during the three and twelve months ended December 31, 2023 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Additional Information

Additional information relating to EcoSynthetix Inc., including continuous disclosure documents, are available on SEDAR at www.sedarplus.ca.

Common Share Trading Information

The Company's common shares trade on the Toronto Stock Exchange under the symbol "ECO". As at February 27, 2024 the Company had **58,608,263** common shares issued and outstanding. If all outstanding share options were exercised and assuming the settlement of outstanding RSU's and DSU's through common shares, there would be the equivalent of **62,377,637** common shares issued and outstanding on a fully diluted basis.

Outlook

The Company is commercializing DuraBind resin within the building materials space, Surflock strength aids within the paperboard, pulp and tissue markets, and Bioform all-natural ingredients within the personal care space. These products are positioned to help global leaders in these markets achieve their increasingly aggressive sustainability and climate goals.

The Company expects to continue making investments in areas of the business that allow it to accelerate growth while retaining a disciplined approach toward its cost structure. The Company remains confident in its ability to execute on the opportunities it has identified in the wood composites, personal care, paperboard, pulp and tissue end markets. Management believes it can leverage its next steps in growth and continued cost discipline to deliver long-term value to its shareholders.

EcoSynthetix is focused on the following core priorities to drive sustainable growth and profitability.

1. **Execute our commercial strategy to diversify across multiple end markets** – The Company goes to market with a focused offering of sustainable bio-based polymers to displace petro-based chemicals. The contributions from the wood composites, paperboard, pulp and tissue, and personal care end markets are already, and will continue to be, the primary drivers of growth. The legacy graphic paper end market, on which the business was established, has demonstrated the Company's ability to offer performance and cost savings at scale, and provides some valuable foundational relationships for new products in the pulp, tissue and paperboard industry; but with increasing digitization, graphic paper is already, and will continue to be, a declining portion of revenue.

2. **Drive growth in paperboard, pulp and tissue** – The Company's relationships with key customers in the paperboard, graphic paper, pulp, and tissue market provide a strong foundation for its business and EcoSynthetix will continue to pursue growth opportunities in these markets, specifically in the paperboard, pulp and tissue categories. Multiple accounts are commercial today with Surflock strength aids. Trial activity and the opportunity pipeline for Surflock continues to build, including global leaders that have conducted multiple trials.

3. **Drive growth in wood composites markets** – A top 15 global manufacturer of wood composite products that is backward integrated into a leading international retailer uses DuraBind resin commercially at one of its manufacturing lines. The international retailer has identified the use of bio-based glues as a key driver of its sustainability objectives. Opportunities to expand the usage of DuraBind exist at the retailer's other manufacturing lines and across the other supply chain partners it buys from, as well as other global wood composites manufacturers. The Company believes it is well-positioned to capitalize on the carbon footprint and air quality benefits DuraBind offers to rapidly grow its share of the $15 billion annual wood composite binder market.

4. **Drive growth in personal care markets** – Dow has an exclusive agreement with EcoSynthetix to bring innovative bio-based, biodegradable and low-carbon solutions to the personal care industry based on the Company's Bioform biopolymer technology. The Dow and EcoSynthetix engagement currently includes

the Dow MaizeCare™ polymers portfolio which addresses multiple applications including hair gel, liquid hair gelt, hair styling jelly and pump hair spray. Beyond hair care, these all-natural ingredients can also be leveraged to provide a variety of benefits in color cosmetic applications.

5. **Product Development** – The Company's product development efforts focus on applications for its existing DuraBind, Surflock, and Bioform biopolymer products in market segments where their value proposition is strong, and on further improvements to the product lines to further enhance value and expand addressable opportunities. The Company is also pursuing new product categories in specific markets where strong commercial interest from recognized leaders exists.