

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

The following management's discussion and analysis ("**MD&A**") dated March 7, 2012 is intended to assist the readers in understanding EcoSynthetix Inc. ("**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. Financial data has been prepared in conformity with International Financial Reporting Standards ("**IFRS**").

The Company directly or indirectly owns a majority of the equity interest in each of EcoSynthetix Ltd. ("**EcoSynthetix U.S.**"), EcoSynthetix B.V., EcoSynthetix Technologies Inc. and EcoSynthetix Corporation. The Company, together with its consolidated subsidiaries, is referred to as the "Company", "we", "us", or "our". All references to "Fiscal 2009" and "Fiscal 2010" are to EcoSynthetix U.S.' year ended December 31, 2009 and 2010, respectively. 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 supplemented prospectus.

### 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, requirements for additional capital, production costs, future demand for latex-based products, business prospects and opportunities. 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. Such statements reflect our current views and beliefs with respect to future events, are subject to risks and uncertainties, and are based upon a number of estimates and assumptions that, while considered reasonable by us, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. 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 necessary for the production of our products; our ability to market products successfully to our customers; that we will continue to face no direct competition; 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; and that we do not and will not infringe third party intellectual property rights. Some of our assumptions are based upon internal estimates and analyses 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: an inability to protect, defend, enforce or use our intellectual property and/or infringement of third-party intellectual property; dependence on certain customers and changes in customer demand; the availability and price of natural feedstocks used in the production of our products; the inability to effectively expand our production facilities; variations in our financial results; increase in industry competition; the risk of volatility in global financial conditions, as well as significant decline in general economic conditions; our ability to effectively commercially market and sell our products; our

ability to protect our know-how and trade secrets; Company growth and the impact of significant operating and capital cost increases; changes in the current political and regulatory environment in which we operate; the inability to retain key personnel; 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; enforcement of intellectual property rights; a significant decrease in the market price of petroleum; a shortage of supplies, equipment and parts; the inability to secure additional government grants; a deterioration in our cash balances or liquidity; the inability to obtain equity or debt financing; the ability to acquire intellectual property; the risk of litigation; changes in government regulations and policies relating to our business; losses from hedging activities and changes in hedging strategy; insufficient insurance coverage; the inability to expand technology; 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 changes in interest rates; the impact of changes in foreign currency exchange; and credit risk, as well as the factors identified in the "Risk Factors" section of the Company's supplemented prospectus dated July 27, 2011. 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.

Should one or more of these risks or uncertainties materialize, or should assumptions underlying those forward-looking statements prove incorrect, actual results may vary materially from those anticipated in such forward-looking statements. Although the forward-looking statements contained in this MD&A are based upon what we believe to be reasonable assumptions, there can be no assurance that such forward-looking information will prove to be accurate and we cannot assure that actual results will be consistent with these forward looking statements. Accordingly, readers should not place undue reliance on forward-looking statements. The information contained in this document, including the information provided under the heading "Risk Factors", identifies additional factors that could affect the Company's operating results and performance. Forward-looking information contained in this MD&A is made as of March 7, 2012 and we disclaim any obligation to update any forward-looking information, whether as a result of new information, future events or results, except as may be required by applicable securities laws. Accordingly, potential 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 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 use 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 is defined as consolidated net income (loss) before interest, income taxes, depreciation, amortization, accretion, other non-cash charges deducted in determining consolidated net income (loss), including the movement of unrealized gains and losses on the Company's redeemable preferred shares and warrants that were designated as financial liabilities prior to the initial public offering and share based compensation expense.

### **Initial Public Offering**

On August 4, 2011, the Company completed an initial public offering of 11,150,000 common shares issued from treasury at a price of Cdn\$9.00 per share for gross proceeds of Cdn\$100,350,000. During the fiscal year-ended December 31, 2011, the Company recognized approximately \$10.8 million of share issuance costs in equity related to the initial public offering.

The Company granted to the underwriters an over-allotment option, exercisable, in whole or in part, at the sole discretion of the underwriters, for a period of 30 days from the closing of the offering to purchase up to an additional 1,672,500 common shares at a price of Cdn\$9.00 per share. On September 12, 2011 the Company

announced that the underwriters had purchased an additional 300,000 common shares of the Company at a price of Cdn\$9.00 per share. The Company did not receive any proceeds from the sale of these additional shares.

In connection with the offering, EcoSynthetix U.S., which previously owned, either directly or indirectly, through its subsidiaries, all of the asset and operations relating to the EcoSynthetix business, was acquired by EcoSynthetix Inc. (Ontario) through an acquisition of 77% of the outstanding shares of common stock of EcoSynthetix U.S. from certain of the existing shareholders in exchange for approximately 33,640,663 Common Shares assuming no exercise of the over-allotment option. The remaining approximately 23% of the outstanding shares of common stock of EcoSynthetix U.S. will continue to be held by retained interest holders (the “**Retained Interest Holders**”).

On August 4, 2011, in connection with the initial public offering, the Retained Interest Holders and the Company entered into a put/call agreement. Pursuant to the put/call agreement, the Retained Interest Holders will be entitled to sell their shares of common stock of EcoSynthetix U.S. and shares of common stock of EcoSynthetix U.S. issued upon exercise of warrants (the “**Covered Shares**”) to the Company at any time prior to the date that is five years following the Closing (the “**Put Expiry Date**”) in exchange for common shares of the Company on the basis of seven common shares for one Covered Share, subject to adjustment. In addition, the Company will be entitled to purchase the Covered Shares held by the Retained Interest Holders at any time from the period commencing one year following the Put Expiry Date to the date that is two years following the Put Expiry Date in exchange for seven common shares for one Covered Share, subject to adjustment. In addition, the Company will be entitled to exercise its right to purchase the Covered Shares in the event of a change of control of the Company or a bankruptcy event of the Company or EcoSynthetix U.S. that occurs prior to the Put Expiry Date. Assuming all the Retained Interest Holders exchanged their shares of common stock of EcoSynthetix U.S. for Common Shares, an additional approximately 10,132,297 common shares will be issued by the Company.

In conjunction with the initial public offering, the Company’s preferred shares were automatically converted to common shares. As a result, the Company’s liability relating to its preferred shares were re-classified into common shares on August 4, 2011. Furthermore, warrants to acquire preferred shares will be automatically converted to warrants to acquire common shares. As a result, the Company’s liability relating to warrants to acquire preferred shares was re-classified into a separate component of shareholders’ equity on August 4, 2011.

On August 4, 2011 the Company completed a share exchange of its issued and outstanding common shares in conjunction with its initial public offering resulting in a ratio of seven post-exchange shares for every 1 pre-exchange share. The Company has amended the disclosures in the consolidated financial statements to reflect the share exchange as if it had occurred on December 31, 2009.

On August 4, 2011 the Company, in connection with the initial public offering mentioned above, provided certain retained interest shareholders an indemnity that covers potential shareholder tax liabilities. The potential liability related to this indemnity is approximately \$4 million. The indemnity is terminated on the date that is five years following the closing date. The Company has assessed the likelihood of incurring a liability as remote and accordingly has not recorded a provision as at December 31, 2011.

## **Overview**

We are a renewable chemicals company specializing in biomaterials. Biomaterials are commonly used as inputs in industrial manufacturing for a wide range of end products. We have commercial bio-based products that have equal or superior performance and significant cost advantages compared to currently available petroleum-based products. Our strategy is to commercialize a broad range of bio-based polymer and monomer products across a wide range of industries. We have developed processes that leverage “green” technology to produce bio-based materials from natural feedstock, such as corn, tapioca and dextrose from cornstarch as an alternative to petroleum-derived feedstocks. To date, we have developed the following two bio-based technology platforms that support broad application across industries: (i) a biopolymer nanosphere technology that has been fully scaled and validated; and (ii) a bio-based sugar macromer technology that has been validated on a pilot scale and is being developed for the pre-commercialization plant stage. Our two bio-based technology platforms have generated three product families to date, namely ECOSPHERE BIOLATEX polymers, ECOMER and ECOSTIX. Our lead product, ECOSPHERE BIOLATEX binders, has achieved commercialization in the coated paper, paperboard and personal care industries. While our technology platform offers a significantly reduced carbon footprint, we market our products to customers on the basis of reduced cost, stable pricing and superior product performance.

## **Factors Affecting the Results of Operation**

### **Commercialization**

A major source of our revenue has resulted from the conversion of customer evaluations of our products into commercial sales. Generally, the adoption of our products by customers is evaluated in three stages prior to acceptance of the product on a commercial basis: (i) laboratory evaluation; (ii) pilot scale production testing; and (iii) mill trials representing full scale production.

Following a period of evaluations, we first achieved commercial sales in the first quarter of 2008. We are currently operating on a commercial scale in the coated paper and paperboard industry. Manufacturers representing greater than 60% of the global paper and paperboard market are either evaluating or commercial with our ECOSPHERE BIOLATEX binders. Due to the low capital expenditure required to switch to our products, reduced cost, improved performance and a significantly reduced carbon footprint, our experience suggests volume demand can be relatively steady post-conversion, which creates the potential for continuous recurring revenue.

Our performance will be influenced by our success in converting prospects from the mill trial phase into full commercial clients. The mill 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 with which the potential customer is evaluating the product. During 2011, we have conducted approximately 90 mill trials with approximately 50 potential customers, of which 9 mills have become customers during the year. Since entering commercial production, we have achieved significant sales growth. Our lead product, ECOSPHERE BIOLATEX binders, is used commercially by 4 of the global top 20 manufacturers in the coated paper and paperboard industry and an additional 10 of the global top 20 manufacturers are currently in the process of evaluating the Company's products. Given our past record of successfully converting a high number of evaluations into commercial clients, we expect that the conversion of current and future product evaluations into recurring commercial sales will be a continuous source of growth for us.

Our objective is to achieve significant growth across multiple industries. To sustain our growth, we expect to continuously innovate new bio-based polymer and monomer products using widely available raw materials and our scalable production techniques. We also intend to continue expanding the functionalities and applications of our existing products, which are readily applicable across numerous markets where petroleum-based polymers and monomers currently dominate.

### **Net Sales**

Our sales are primarily derived from the sale of our products to our customers. Net sales are measured based on the price specified in the sales contract, net of 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 include raw material costs, contract manufacturing costs, freight costs and depreciation related to manufacturing equipment. Direct materials consist of the costs of cornstarch feedstock and process chemicals. Cost of sales is mainly affected by the cost of cornstarch and contract manufacturing costs. Cornstarch is the most significant raw material cost.

### **Selling, general and administrative**

Selling, general and administrative expense primarily relates to personnel costs, including salaries & benefits, share-based compensation, recruitment and training costs, professional fees, marketing costs, corporate insurance costs, occupancy-related costs, depreciation on property, plant and equipment not utilized in our production process, amortization of intangible assets, and travel and relocation expenses. We anticipate incurring increases in selling and general and administrative expenses as we incur additional compliance costs following the initial public offering on August 4, 2011. These increases include increased costs for insurance, costs related to the hiring of additional personnel and payment to third-party consultants, lawyers and accountants. In addition,

we anticipate additional increases in selling, general and administrative expenses as we make additional investments to further develop our marketing and sales organizations.

## Research and development

Research and development costs are expensed as incurred. Our research and development expenses consist of expenses incurred to develop and test our products, and include personnel and related costs, share-based compensation, consultants, facility costs, supplies and other associated product development expenses. These costs are partially offset by government grants recorded related to such expenditures. We expect our research and development expense to grow as we focus on enhancing and expanding our product lines.

## Other Factors Affecting the Results of Operations and Financial Conditions

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

- Optimizing the formulation of existing products to allow higher substitution rates by current and new clients and the ability to effectively develop products for new markets which could be a significant source of revenue growth in the future. As result, we made a significant investment in a new research and development facility located in Burlington, Ontario, Canada. This facility has a laboratory and pilot production line for use in the advanced development of new or significantly enhanced products and to support sales activities.
- Pricing of petroleum substitutes for our products.
- Feedstock, other input and production costs. Cost of sales is mainly affected by the cost of cornstarch and contract manufacturing costs. Cornstarch is generally the most significant raw material cost. During the year we observed a significant increase in the cost of cornstarch, which is increasing the manufacturing cost of our products.

## Results of operations

The following is a summary of selected consolidated annual information extracted from the Company's audited consolidated financial statements over the latest three year period.

|   | Fiscal year-ended December 31 |              |              |
|---|-------------------------------|--------------|--------------|
|   | 2011                          | 2010         | 2009         |
| Net sales                               | 20,769,851                    | 15,879,080   | 2,428,052    |
| Gross Profit                            | 4,973,021                     | 3,951,995    | 472,457      |
| Operating expenses                      | 11,034,659                    | 5,893,328    | 4,231,201    |
| Loss from operations                    | (6,061,638)                   | (1,941,333)  | (3,758,744)  |
| Net loss                                | (252,708,148)                 | (49,194,031) | (13,987,090) |
| Basic and diluted loss per share        | (10.93)                       | (61.78)      | (21.32)      |
| Total current assets                    | 119,896,087                   | 40,977,830   | 11,519,400   |
| Total assets                            | 130,662,211                   | 42,712,214   | 12,245,604   |
| Total current liabilities               | 6,142,668                     | 5,096,128    | 2,428,704    |
| Total non-current financial liabilities | -                             | 136,697,726  | 64,643,764   |

## Fiscal year ended December 31, 2011 compared to fiscal year ended December 31, 2010

*Net Sales* – In fiscal 2011 net sales were \$20.8 million compared to \$15.9 million in fiscal 2010, an increase of \$4.9 million or 31%. 25% of this sales increase was generated from the commercialization of nine new mills in 2011. From a geographic perspective, sales increased \$3.6 million in North America, \$1.0 million in Latin America and \$0.6 million in EMEA. These increases were partially offset by lower sales in Asia Pacific of \$0.3 million. Price increases and higher sales volume in North America, Latin America and EMEA offset lower sales volume experienced in Asia Pacific in fiscal 2011 compared to the prior year. Lower sales volume in Asia Pacific was primarily due to a major customer that has reduced their raw material inventories and general market weakness in the paper and paper board industry.

The paper industry continues to face severe challenges due to high raw material costs and overcapacity. As a result, one of our commercial mills from a global top 20 coated paper and paperboard manufacturer was closed during the year. These industry challenges have made cost cutting a primary focus for coated paper and paperboard manufacturers which we believe over time will play directly into our value proposition.

*Gross profit* – Gross profit in fiscal 2011 was \$5.0 million or 23.9% of sales compared to \$4.0 million or 24.9% of sales in fiscal 2010, an increase of \$1.0 million or 25.8%. The increase in gross profit was primarily due to sales price increases and higher sales volume partially offset by an increase in raw material input costs primarily related to cornstarch. The decrease in gross profit as a percentage of sales was primarily due to sales price increases, which were more than offset by higher raw material input costs and depreciation expenses related to manufacturing equipment. Depreciation related to manufacturing equipment is expected to increase in 2012 reflecting the full year effect of equipment purchases related to our production facility expansions in the Netherlands and in Tennessee. Gross profit adjusted for non-cash items (manufacturing depreciation) as a percentage of sales was 25.5% in fiscal 2011 compared to 26.3% in fiscal 2010.

### *Operating Expenses*

The following table sets forth the breakdown of our operating expenses by category in fiscal 2011 compared to fiscal 2010:

|  | Fiscal year-ended December 31 |                  | Change           |            |
|--|-------------------------------|------------------|------------------|------------|
|  | 2011                          | 2010             | \$               | %          |
| Selling, general and administrative <sup>1</sup> | 7,320,603                     | 3,689,095        | 3,631,508        | 98%        |
| Research and development                         | 2,516,360                     | 1,051,810        | 1,464,550        | 139%       |
| Share-based compensation                         | 984,325                       | 1,095,911        | (111,586)        | -10%       |
| Depreciation and amortization                    | 249,872                       | 122,460          | 127,412          | 104%       |
| Foreign exchange loss (gain)                     | (36,501)                      | (65,948)         | 29,447           | -45%       |
| <b>Total operating expenses</b>                  | <b>11,034,659</b>             | <b>5,893,328</b> | <b>5,141,331</b> | <b>87%</b> |

<sup>1</sup> For the purposes of this MD&A, selling, general and administrative expenses excludes share-based compensation, depreciation and amortization and foreign exchange loss (gain)

Total operating expenses in fiscal 2011 were \$11.0 million compared to \$5.9 million in fiscal 2010, an increase of \$5.1 million or 87%. The increase in total operating expenses was principally due to an increase in selling, general and administrative expenses and research and development costs. The increase in total operating expenses is consistent with the growth in the business and reflects our continued investment in developing sales, marketing and research and development capabilities.

*Selling, general and administrative*<sup>1</sup> - Selling, general and administrative costs increased \$3.6 million or 98% from \$3.7 million in fiscal 2010 to \$7.3 million in fiscal 2011. The increase was principally due to higher salaries and benefits and office administration costs associated with increased headcount compared to the prior year. Our headcount increased 80% in fiscal 2011 compared to fiscal 2010. In addition, we incurred increased professional costs associated with operating as a public company.

Overall selling, general and administration activities are expected to increase as the Company grows and as we incur costs related to corporate governance, internal controls and similar requirements applicable to public companies.

*Research and development* – Research and development costs were \$2.5 million in fiscal 2011 compared to \$1.1 million in fiscal 2010, an increase of \$1.5 million or 139%. The increase represents continued investment in research and development net of higher levels of government assistance. Product development is a key focus of EcoSynthetix as it pursues the enhancement of ECOSPHERE BIOLATEX, as well as the development of its new offerings, ECOMER and ECOSTIX, to support market expansion. In 2011 we commissioned a new pilot production line at our Centre of Innovation (COI) in Burlington. The pilot plant is being used for research and development purposes to support new product development. We expect our research and development costs to increase as we continue to displace petrochemical polymers by further penetrating the paper and paperboard

industry and expanding into new markets with our low cost, bio-based alternative.

*Share-based compensation* - Share-based compensation was \$1.0 million in fiscal 2011 compared to \$1.1 million in the prior year, a slight decrease of \$0.1 million. In 2010 we incurred \$0.8 million of share-based compensation expense related to stock options provided to the guarantors of a liability to purchase an annuity related to a key employee. This expense did not recur in fiscal 2011. This was partially offset by an increase in share-based compensation expense related to stock options issued in the current fiscal year.

*Depreciation and Amortization* - Depreciation of property, plant and equipment and amortization of intangible assets in fiscal 2011 was \$0.2 million compared to \$0.1 million in fiscal 2010, an increase of \$0.1 million or 104%. The increase was primarily related to higher amortization of intangible assets in addition to depreciation related to equipment located at the Company's Center of Innovation (COI) which was commissioned in the fourth quarter of 2011.

*Foreign currency exchange loss (gain)* - Foreign exchange represents the revaluation of monetary assets and liabilities denominated in foreign currencies. In fiscal 2011 foreign exchange revaluation gains were \$0.04 million compared to foreign exchange revaluation gains of \$0.07 million in prior year. The change in foreign exchange revaluation gains are primarily related to foreign exchange rate fluctuations between the U.S. dollar (our functional currency) and the Canadian dollar on our net monetary position in Canadian dollars.

*Loss from operations* - Our loss from operations in fiscal 2011 was \$6.1 million compared to \$1.9 million in fiscal 2010, an increase of \$4.1 million. The increase in loss from operations was due to increased operating expenses, partially offset by higher gross profit.

*Interest income* - Interest income increased \$0.18 million from \$0.007 million in fiscal 2010 to \$0.18 million in fiscal 2011. The increase in interest income was principally due to higher cash balances during 2011 resulting from the initial public offering on August 4, 2011 compared to our cash balances during fiscal 2010.

*Loss related to change in fair value of warrants and redeemable preferred shares* - In conjunction with the initial public offering on August 4, 2011, the Company's preferred shares were automatically converted to common shares on a one to one basis. As a result, the Company's liability relating to its preferred shares were reclassified into common shares on August 4, 2011. Furthermore, warrants to acquire preferred shares were automatically converted to warrants to acquire common shares. Accordingly, the Company's previous liability relating to warrants to acquire preferred shares are included as a separate component of shareholders' equity as at December 31, 2011. Prior to the initial public offering on August 4, 2011, the redeemable preferred shares and warrants were designated as financial liabilities. They were measured at fair value with the changes in fair value recognized directly in earnings. In fiscal 2011, our loss related to warrants and preferred shares was \$246.8 million compared to \$47.3 million in the prior year.

*Net Loss* - We incurred a net loss of \$252.7 million or \$10.93 per common share in fiscal 2011 compared to a net loss of \$49.2 million or \$61.78 per common share in fiscal 2010. The increase in net loss is principally due to a higher loss related to the change in fair value of warrants and redeemable preferred shares and increased operating expenses partly offset by higher gross profit.

### **Fiscal year ended December 31, 2010 compared to fiscal year ended December 31, 2009**

*Net Sales* - Net sales in fiscal 2010 were \$15.9 million compared to \$2.4 million in fiscal 2009, an increase of \$13.5 million. The increase was a result of increased shipments to existing customers and \$12.2 million of shipments to new customers in fiscal 2010. The 2010 net sales growth was a result of successfully converting a high number of customer evaluations into commercial production, and we expect the conversion of current and future product evaluations into commercial production will be a continuous source of growth for us.

*Gross profit* - Gross profit in fiscal 2010 was \$4.0 million or 24.9% of net sales, compared to \$0.5 million or 19.4% of net sales in fiscal 2009. The increase in gross profit was the result of increased net sales of \$13.5 million during fiscal 2010 compared to fiscal 2009. The increase in gross profit as a percent of net sales in fiscal 2010 over fiscal 2009 is primarily the result of improved production efficiencies from higher production volumes and higher sale prices.

*Operating Expenses* - The following table sets forth the breakdown of our operating expenses by category and the change from fiscal 2009 to 2010:

|  | Fiscal year-ended December 31 |           | Change    |      |
|--|-------------------------------|-----------|-----------|------|
|  | 2010                          | 2009      | \$        | %    |
| Selling, general and administrative <sup>1</sup> | 3,689,095                     | 2,608,007 | 1,081,088 | 41%  |
| Research and development                         | 1,051,810                     | 1,143,180 | (91,370)  | -8%  |
| Share-based compensation                         | 1,095,911                     | 439,434   | 656,477   | 149% |
| Depreciation and amortization                    | 122,460                       | 74,135    | 48,325    | 65%  |
| Foreign exchange loss (gain)                     | (65,948)                      | (33,555)  | (32,393)  | 97%  |
| Total operating expenses                         | 5,893,328                     | 4,231,201 | 1,662,127 | 39%  |

<sup>1</sup> For the purposes of this MD&A, selling, general and administrative expenses excludes share-based compensation, depreciation and amortization and foreign exchange loss (gain)

Overall operating expenses in fiscal 2010 increased 39%, or \$1.7 million, to \$5.9 million compared to \$4.2 million over the same period in fiscal 2009. The significant increase in operating expenses is primarily due to the increase in the number of employees as well as higher stock based compensation expense as described below. Our average employee count grew 63% in 2010 compared to 2009. The increase in operating expenses is consistent with the growth in the business and reflects our investment in sales and marketing capabilities.

*Selling, general and administrative* — Selling, general and administrative costs increased 41% or \$1.1 million to \$3.7 million in fiscal 2010 to compared to \$2.6 million in fiscal 2009. The increase from the prior year reflects the growth in the average employee count dedicated to selling and administration activities as required due to the growth of the business.

*Research and development* — Research and development expenses, declined 8%, or \$0.1 million to \$1.1 million in fiscal 2010 compared to fiscal 2009. The decline represented higher levels of assistance from government agencies during the year. Our research and development is focused on developing new products and significantly enhancing our existing products.

*Stock based compensation* — Stock based compensation increased \$0.7 million to \$1.1 million in fiscal 2010 compared to \$0.4 million in fiscal 2009. We were required to purchase an annuity in 2011 in the amount equal to a pension that a key employee would have received from a former employer had he continued his employment with that employer. We have limited our obligations under this agreement to a maximum pension payment limit of Cdn\$1,000,000 (US\$1,005,371). The Chief Executive Officer and a major shareholder (collectively the “guarantors”) issued respective guarantees to the employee, guaranteeing among other matters, that if the required pension payment exceeded our pension payment limit, the guarantors would personally pay the excess to this employee on the basis that the guarantors would share the key employee’s stock options with the company in proportion to the amount of the pension payment contribution made by each. In fiscal 2010, the Company incurred \$750,000 of stock based compensation for the stock options provided to the guarantors of the liability.

*Depreciation and amortization* — Depreciation and amortization of property and equipment in fiscal 2010 was \$0.12 million, compared to \$0.07 million for the same period in fiscal 2009, representing an increase of 65%. The increase in amortization is due to our overall growth in infrastructure to support the growth of our business which required the acquisition of machinery and equipment during 2010 of \$2.5 million compared to 2009 of \$0.2 million.

*Foreign currency exchange gain/loss* — In fiscal 2010 our foreign exchange gain was \$0.07 million compared to \$0.03 million in the previous year. The change in the foreign exchange impact was the result of significant fluctuations in exchange rates between the U.S. dollar (our functional currency) and the Canadian dollar. From the end of fiscal 2009 to the end of fiscal 2010, the U.S. dollar weakened by approximately 6% against the Canadian dollar from Cdn\$1.05 to Cdn\$0.99, which resulted in a foreign exchange gain on some of our working capital balances such as Canadian dollar cash and Canadian dollar government assistance receivable.

*Loss from operations* - We reported a loss from operations of \$1.9 million in fiscal 2010 compared to \$3.8 million in fiscal 2009. The \$1.8 million decrease in loss from operations was primarily due to significant growth in revenues and gross profit offset by increases in selling and administrative costs.

*Interest income and other finance charges, net* - Net interest income and other finance charges, net was \$6,901 in fiscal 2010 compared to \$4,645 in the previous year, representing an increase of 49%. The increase was primarily a result of higher average cash and cash equivalent balances.

*Loss related to change in fair value of warrants and redeemable preferred shares* - The redeemable preferred shares and warrants have been designated as financial liabilities. They are measured at fair value, with changes in fair value recognized directly in earnings. For the year ended December 31, 2010 our loss related to change in fair value of warrants and redeemable preferred shares was \$47.3 million compared to \$10.2 million in the previous year as a result of increased fair values of the warrants and preferred shares.

*Net Loss* - We reported net loss and comprehensive loss of \$49.2 million or \$61.78 per common share (basic and fully diluted), in fiscal 2010 compared to a loss of \$14.0 million, or \$21.32 per share (basic and fully diluted), in fiscal 2009. The \$35.2 million increase in net loss was mainly due to the loss related to change in fair value of warrants and redeemable preferred shares, and offset by the lower loss from operations.

## **Financial condition**

### **Fiscal year ended December 31, 2011 compared to fiscal year ended December 31, 2010**

*Total current assets* – Total current assets increased \$78.9 million from \$41.0 million at December 31, 2010 to \$119.9 million at December 31, 2011. The increase was mainly due to an increase in cash of \$70.5 million principally due to the proceeds received from the IPO on August 4, 2011 and an increase in inventories of \$8.3 million.

*Total assets* – Total assets at December 31, 2011 were \$130.7 million compared to \$42.7 million at December 31, 2010, an increase of \$88.0 million. The increase was primarily due to higher current assets of \$78.9 million and an increase in property, plant and equipment as we continued to invest in our COI facility in Burlington, Ontario and additional production lines in Tennessee and The Netherlands. These investments are further described under the 'liquidity and capital resources' section.

*Total current liabilities* – Total current liabilities increased from \$5.1 million at December 31, 2010 to \$6.1 million at December 31, 2011, an increase of \$1.0 million. The increase is primarily due to increased trade payables related to equipment purchases, partly offset by lower liabilities related to deferred government grants and accrued compensation. As at December 31, 2010, we were required to purchase an annuity of \$1.0 million which was settled during 2011.

*Total long-term liabilities* – Long-term liabilities as at December 31, 2011 were nil compared to long-term liabilities of \$136.7 million as at December 31, 2010. As noted earlier, in conjunction with the IPO, our redeemable preferred shares were converted to common shares and our warrants exercisable for preferred shares were converted to warrants exercisable for common shares. Accordingly, the liability with respect to the redeemable preferred shares were reclassified to common shares and the warrants exercisable for common shares (previously for preferred shares) were reclassified to a component of shareholders' equity.

### **Fiscal year ended December 31, 2010 compared to fiscal year ended December 31, 2009**

*Total Current Assets* - Total current assets increased by \$29.5 million from \$11.5 million at December 31, 2009 to \$41.0 million at December 31, 2010. This increase is mainly attributable to a financing completed in November of 2010 resulting in net cash proceeds of \$28.4 million as well as an increase in accounts receivable and inventory.

*Total Assets* - Total assets increased by \$30.5 million from \$12.2 million at December 31, 2009 to \$42.7 million at December 31, 2010. This increase is mainly attributable to a financing completed in November of 2010 resulting in cash proceeds of \$28.4 million as well as an increase in working capital items, and machinery and equipment.

*Total Current Liabilities* - Total current liabilities increased \$2.7 million from \$2.4 million at December 31, 2009 to \$5.1 million at December 31, 2010. This increase was mainly due to a significant increase in the purchases of machinery and equipment mainly for the Center of Innovation during the fourth quarter of 2010 as well as increases in the number of employees year over year.

*Total Long-Term Liabilities* - We have redeemable preferred shares that have a financial liability component and warrants that are treated as financial liabilities. The December 31, 2009 to December 31, 2010 increase in long-term liabilities of \$72.1 million was mainly due to the changes in the fair value of the redeemable preferred shares and warrants of \$47.3 million and issuance of the additional redeemable preferred shares of \$28.4 million. These changes resulted in an ending balance of \$136.7 million as at December 31, 2010 compared to \$64.6 million as at December 31, 2009.

## Liquidity and Capital Resources

Our growth is financed through a combination of the cash flows from operations and the issuance of equity. 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 at least the next 12 months.

Below is a summary of our cash flows used in operating activities, financing activities and investing activities for the fiscal year ended December 31, 2011 and 2010:

|                                       | Fiscal year-ended December 31 |             | Change       |      |
|---------------------------------------|-------------------------------|-------------|--------------|------|
|                                       | 2011                          | 2010        | \$           | %    |
| Cash used in operating activities     | (13,776,207)                  | (1,635,154) | (12,141,053) | 743% |
| Cash used in investing activities     | (10,012,325)                  | (2,535,582) | (7,476,743)  | 295% |
| Cash provided by financing activities | 94,309,200                    | 29,813,639  | 64,495,561   | 216% |
| Net increase in cash                  | 70,520,668                    | 25,642,903  | 44,877,765   | 175% |
| Beginning cash                        | 35,193,037                    | 9,550,134   | 25,642,903   | 269% |
| Ending cash                           | 105,713,705                   | 35,193,037  | 70,520,668   | 200% |

*Cash used in operating activities* – In fiscal 2011, \$13.8 million of cash was utilized in operating activities compared to \$1.6 million in the previous year, an increase of \$12.1 million. The increase in utilization of cash in operations was principally due to higher investments in working capital and increased loss from operations.

During fiscal 2011, working capital increased \$9.5 million compared to a working capital increase of \$1.1 million in fiscal 2010. The increase in working capital in fiscal 2011 was primarily attributable to an increase in inventory of \$8.3 million from \$2.0 million as at December 31, 2010 to \$10.2 million as at December 31, 2011 in addition to a reduction in accrued compensation of \$1.0 million.

In fiscal 2010, the working capital increase was primarily related to an increase in accounts receivable, inventory and government assistance receivable partially offset by higher accounts payable and accrued liabilities. The increase in accounts receivable was due to a higher amount of sales recognized in December 2010 compared to December 2009. The increase in accounts payable and accrued liabilities was primarily due to higher trade payables as a result of increased purchases of property, plant and equipment and raw materials inventory.

*Cash used in investing activities* – Cash used in investing activities during fiscal 2011 was \$10.0 million compared to \$2.5 million during fiscal 2010, an increase of \$7.5 million. The increase was due to purchases of capital equipment as we continue to make additional investments in our production capacity and our research facility which was completed during 2011. We have made significant investments to expand our production facilities. In the first quarter of 2011 we commissioned a European facility in the Netherlands with an annualized capacity of 40 million pounds. Subsequent to this initial increase in annualized capacity, we announced on November 4, 2011 the commissioning of a new 80 million pound (annualized) production line within the existing facility in the Netherlands, bringing the Company's current annualized capacity to 155 million pounds. In addition we are commissioning an additional 80 million pound production line at our operating facility in Tennessee increasing total annualized operating capacity to 235 million pounds. Having additional capacity puts us in a stronger position as we build our customer base globally.

*Cash provided by financing activities* – Cash flows from financing activities during fiscal 2011 were \$94.3 million compared to \$29.8 million during fiscal 2010, an increase of \$64.5 million. The increase was due to proceeds received on the issuance of common shares, net of share issuance costs, through the initial public offering (IPO) on August 4, 2011 and government grants in association with our COI. In 2010 we raised proceeds of \$28.4 million on the issuance of preferred shares which were subsequently converted to common shares upon completion of the IPO in 2011.

## Capital Management

Our objective in managing capital is to ensure sufficient liquidity to pursue our growth strategy and fund research and product development, while at the same time taking a conservative approach towards managing financial risk. Our capital is composed of common shares and the net proceeds from the issuance of common shares redeemable preferred shares. 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 and cash raised through share issuances. Our objectives when managing capital are to ensure that we will continue to have enough liquidity so that we can 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 holders of our common shares.

## Contractual Obligations

Our contractual obligations include operating leases for premises. The following table summarizes our cash commitments as of December 31, 2011 for operating leases.

|                  |                  |
|------------------|------------------|
| 2012.....        | 362,244          |
| 2013.....        | 362,244          |
| 2014.....        | 356,904          |
| 2015.....        | 378,318          |
| 2016.....        | 378,318          |
| Thereafter ..... | <u>1,450,220</u> |
| Total.....       | <u>3,288,248</u> |

In addition, as at December 31, 2011, we are committed to equipment purchases in the approximate amount of \$0.9 million over the next twelve months. This commitment is primarily due to purchases of equipment as we continue to make additional investments in our production facilities.

## 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, 2011. 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 financial statements of the Company and the related notes to those statements.

Historically, our quarterly operating results have fluctuated significantly and may continue to fluctuate significantly in the future. Therefore, we believe that past operating results and period-to-period comparisons should not be relied upon as an indication of our future performance. See “Risk Factors” outlined elsewhere in this document.

|   | Three months ended (unaudited) |                       |                  |                   |                      |                       |                  |                   |
|---|--------------------------------|-----------------------|------------------|-------------------|----------------------|-----------------------|------------------|-------------------|
|   | December 31,<br>2011           | September 30,<br>2011 | June 30,<br>2011 | March 31,<br>2011 | December 31,<br>2010 | September 30,<br>2010 | June 30,<br>2010 | March 31,<br>2010 |
| Net sales                                     | 3,719,129                      | 5,282,495             | 5,609,095        | 6,159,132         | 5,861,880            | 4,828,696             | 3,547,891        | 1,640,613         |
| Gross profit                                  | 796,474                        | 1,331,328             | 1,354,593        | 1,490,626         | 1,396,191            | 1,028,625             | 1,039,420        | 487,759           |
| Loss from operations                          | (2,421,212)                    | (2,350,475)           | (1,121,679)      | (168,272)         | (372,870)            | (347,227)             | (633,232)        | (588,004)         |
| Net loss                                      | (2,345,937)                    | (2,288,612)           | (192,018,852)    | (56,054,747)      | (10,899,394)         | (18,236,407)          | (18,991,589)     | (1,066,641)       |
| Weighted average number of shares outstanding | 55,239,412                     | 34,406,703            | 1,079,036        | 796,278           | 796,278              | 796,278               | 796,278          | 796,278           |
| Basic and diluted loss per share              | (0.04)                         | (0.07)                | (177.95)         | (70.40)           | (13.69)              | (22.90)               | (23.85)          | (1.34)            |
| Adjusted EBITDA                               | (1,886,654)                    | (2,020,697)           | (758,038)        | 171,456           | 27,450               | 71,395                | (212,969)        | (379,828)         |

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

|  | December 31,<br>2011 | September 30,<br>2011 | June 30,<br>2011 | March 31,<br>2011 | December 31,<br>2010 | September 30,<br>2010 | June 30,<br>2010 | March 31,<br>2010 |
|--|----------------------|-----------------------|------------------|-------------------|----------------------|-----------------------|------------------|-------------------|
| Net loss & comprehensive loss                    | (2,345,937)          | (2,288,612)           | (192,018,852)    | (56,054,747)      | (10,899,394)         | (18,236,407)          | (18,991,589)     | (1,066,641)       |
| Depreciation and amortization                    | 258,341              | 33,005                | 145,974          | 146,060           | 79,894               | 81,583                | 67,533           | 122,460           |
| Share-based compensation                         | 276,217              | 296,773               | 217,667          | 193,668           | 320,426              | 337,039               | 352,730          | 85,716            |
| Change in value of warrants and preferred shares | -                    | -                     | 190,925,114      | 55,904,423        | 10,523,868           | 17,901,593            | 18,353,699       | 480,439           |
| Interest expense (income)                        | (75,275)             | (61,863)              | (27,941)         | (17,948)          | 2,656                | (12,413)              | 4,658            | (1,802)           |
| Adjusted EBITDA <sup>(1)</sup>                   | (1,886,654)          | (2,020,697)           | (758,038)        | 171,456           | 27,450               | 71,395                | (212,969)        | (379,828)         |

Notes:

- (1) The common shares issued and outstanding reported prior to the initial public offering completed on August 4, 2011 have been adjusted to reflect the exchange ratio applied, being seven common shares of EcoSynthetix for one share of common share of EcoSynthetix U.S.
- (2) Adjusted EBITDA is not a measure recognized under IFRS and does not have a standardized meaning prescribed by IFRS. See "IFRS and Non-IFRS Measures." The Company presents Adjusted EBITDA because the Company believes it facilitates investors' use of operating performance comparisons from period to period and company to company by backing out potential differences caused by variations in capital structures (affecting relative interest expense), the book amortization of intangibles (affecting relative amortization expense) and the age and book value of property and equipment (affecting relative depreciation expense). The Company also presents Adjusted EBITDA because it believes it is frequently used by securities analysts, investors and other interested parties as a measure of financial performance. Adjusted EBITDA as presented herein are not recognized measures 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 net interest expense, income taxes, depreciation, amortization, other non-cash expenses and charges deducted in determining consolidated net income (loss), including both the movement in the unrealized gains and losses on the Company's redeemable preferred shares and warrants and share-based compensation.

Key factors that account for the fluctuations in quarterly results include the growth in the Company's revenue and the pace at which the Company's sales and administrative personnel are expanding.

## Fourth Quarter Results

|   | Three months ended |                   | Change      |        |
|---|--------------------|-------------------|-------------|--------|
|   | December 31, 2011  | December 31, 2010 | \$          | %      |
| Net sales                                     | 3,719,129          | 5,861,880         | (2,142,751) | -37%   |
| Gross profit                                  | 796,474            | 1,396,191         | (599,717)   | -43%   |
| Loss from operations                          | (2,421,212)        | (372,870)         | (2,048,342) | 549%   |
| Net loss                                      | (2,345,937)        | (10,899,394)      | 8,553,457   | -78%   |
| Weighted average number of shares outstanding | 55,239,412         | 796,278           | 54,443,134  | 6837%  |
| Basic and diluted loss per share              | (0.04)             | (13.69)           | 13.65       | -100%  |
| Adjusted EBITDA                               | (1,886,654)        | 27,450            | (1,914,104) | -6973% |

*Net sales* – Sales in the fourth quarter of 2011 decreased \$2.1 million from \$5.9 million in the fourth quarter of 2010 to \$3.7 million. From a geographic perspective, sales increased \$0.9 million, \$0.5 million and \$0.3 million in North America, Latin America and EMEA, respectively. In addition, a new customer added to the continued market growth in Latin America in the fourth quarter of 2011. These increases were more than offset by lower sales volume in Asia Pacific of \$3.8 million. Price increases and higher sales volume in North America, Latin America and EMEA helped mitigate the lower sales volume experienced in Asia Pacific in the fourth quarter of 2011 compared to the same period last year. The lower year-over-year sales volume experienced in Asia Pacific is primarily related to a major customer that has reduced their raw material inventories and general market weakness in the paper and paper board industry.

*Gross profit* – Gross profit decreased from \$1.4 million or 23.8% sales in the fourth quarter of 2010 to \$0.8 million or 21.4% of sales in the fourth quarter of 2011, a decrease of \$0.6 million or 43%. The decrease in gross profit and decline in gross profit as a percentage of sales is primarily due to lower sales volume, increased raw material input costs related to corn starch and higher depreciation expense related to manufacturing equipment. These decreases were partially offset by an increase in sales prices. Depreciation related to manufacturing equipment is expected to increase in 2012 reflecting the full year effect of equipment purchases related to our production facility expansions in The Netherlands and in Tennessee. Gross profit adjusted for non-cash items (manufacturing depreciation) as a percentage of sales was 25.2% in the fourth quarter of 2011 compared to 24.9% in 2010.

### Operating Expenses

The following table sets forth the breakdown of our operating expenses by category for the fourth quarter of 2011 compared to the fourth quarter of 2010:

|  | Three months ended |                   | Change    |      |
|--|--------------------|-------------------|-----------|------|
|  | December 31, 2011  | December 31, 2010 | \$        | %    |
| Selling, general and administrative <sup>1</sup> | 1,843,284          | 1,133,144         | 710,140   | 63%  |
| Research and development                         | 1,088,845          | 313,757           | 775,088   | 247% |
| Share-based compensation                         | 276,217            | 320,426           | (44,209)  | -14% |
| Depreciation and amortization                    | 117,872            | 13,561            | 104,311   | 769% |
| Foreign exchange loss (gain)                     | (108,532)          | (11,827)          | (96,705)  | 818% |
| Total operating expenses                         | 3,217,686          | 1,769,061         | 1,448,625 | 82%  |

<sup>1</sup> For the purposes of this MD&A, selling, general and administrative expenses excludes share-based compensation, depreciation and amortization and foreign exchange loss (gain)

Total operating expenses in the fourth quarter of 2011 were \$3.2 million compared to \$1.8 million for the same period in 2010, an increase of \$1.4 million. The increase was principally due to higher selling, general and administration costs and research and development costs. The increase in total operating expenses is consistent with the growth in the business and reflects our continued investment in developing sales, marketing and research and development capabilities.

*Selling, general and administrative*<sup>1</sup> – Selling, general and administration expenses increased \$0.7 million from \$1.1 million in the fourth quarter of 2010 to \$1.8 million in the fourth quarter of 2011. The increase was primarily due to higher salaries and benefits, professional fees and other administration costs directly related to the increase in headcount.

*Research and development* – Research and development costs were \$1.1 million in the fourth quarter of 2011 compared to \$0.3 million for the same period in prior year, an increase of \$0.8 million. In the fourth quarter of 2010 we recognized approximately \$0.3 million of government grants against research and development costs which did not recur in the fourth quarter of 2011. The balance of the increase in research and development costs represents our ongoing investment in further penetrating the paper and paperboard industry and efforts to expand into new markets, as we continue to displace petrochemical polymers with our low cost, bio-based alternative.

*Share-based compensation* - Share-based compensation was \$0.28 million in the fourth quarter of 2011 compared to \$0.32 million in the same period last year, a decrease of \$0.04 million or 14%. The slight decrease was due to additional share-based compensation expense incurred in 2010 related to stock options provided to the guarantors of a liability to purchase an annuity related to a key employee. This expense did not recur in fiscal 2011. This was partially offset by an increase in share-based compensation related to stock options issued in the current fiscal year.

*Depreciation and Amortization* - Depreciation of property, plant and equipment and amortization of intangible assets in the fourth quarter of 2011 was \$0.1 million compared to \$0.01 million in the same period in prior year. The increase was primarily related to an increase in amortization of intangible assets and increase in depreciation expense of equipment related to the COI, which was commissioned in the fourth quarter of 2011.

*Foreign currency exchange loss (gain)* - Foreign exchange represents the revaluation of monetary assets and liabilities denominated in foreign currencies. In the fourth quarter of 2011 foreign exchange revaluation gains were \$0.1 million compared to foreign exchange revaluation gains of \$0.01 million. The change in foreign exchange revaluation gains in the fourth quarter of 2011 compared to the same period in prior year were primarily related to foreign exchange rate fluctuations between the U.S. dollar (our functional currency) and the Canadian dollar on our net monetary position in Canadian dollars.

*Loss from operations* – Our loss from operations in the fourth quarter of 2011 was \$2.4 million compared to a loss from operations in the same period in prior year of \$0.4 million, an increase of \$2.0 million. The increase was due to higher operating expenses and lower gross profit.

*Interest income* – Interest income in the fourth quarter of 2011 was \$0.1 million compared to nil in the fourth quarter of 2010. The increase in interest income is due to higher cash balances during the fourth quarter in 2011 compared to the same period in 2010.

*Loss related to change in fair value of warrants and redeemable preferred shares* - In conjunction with the initial public offering on August 4, 2011, the Company's preferred shares were automatically converted to common shares on a one to one basis. As a result, the Company's liability relating to its preferred shares was re-classified into common shares on August 4, 2011. Furthermore, warrants to acquire preferred shares were automatically converted to warrants to acquire common shares. Accordingly, the Company's previous liability relating to warrants to acquire preferred shares are included as a separate component of shareholders' equity as at August 4, 2011. Prior to the initial public offering on August 4, 2011, the redeemable preferred shares and warrants were designated as financial liabilities. They were measured at fair value with the changes in fair value recognized directly in earnings. As a result the change in the fair value of warrants and preferred shares was nil in the fourth quarter of 2011 compared to a loss of \$10.5 million in the fourth quarter of 2010.

*Net Loss* – We incurred a net loss of \$2.3 million or (\$0.04) per common share in the fourth quarter of 2011 compared to a net loss of \$10.9 million or (\$13.69) per common share in the fourth quarter of 2010. The decrease in net loss of \$8.6 million was principally due to a lower loss related to the change in fair value of warrants and redeemable preferred shares partly offset by an increase in operating expenses and lower gross profit.

### *Liquidity*

Below is a summary of our cash flows from (used in) operating activities, financing activities and investing activities for the three months ended December 31, 2011 and 2010:

|   | Three months ended December 31 |            | Change       |        |
|---|--------------------------------|------------|--------------|--------|
|   | 2011                           | 2010       | \$           | %      |
| Cash provided by (used in) operating activities | (2,782,135)                    | 281,106    | (3,063,241)  | -1090% |
| Cash used in investing activities               | (3,766,427)                    | (866,608)  | (2,899,819)  | 335%   |
| Cash provided by financing activities           | 15,454                         | 29,166,183 | (29,150,729) | -100%  |
| Net increase in cash                            | (6,533,108)                    | 28,580,681 | (35,113,789) | -123%  |
| Beginning cash                                  | 112,246,813                    | 6,612,356  | 105,634,457  | 1598%  |
| Ending cash                                     | 105,713,705                    | 35,193,037 | 70,520,668   | 200%   |

*Cash provided by (used in) operating activities* – Cash used in operations in the fourth quarter of 2011 was \$2.8 million compared to cash provided by operating activities of \$0.3 million, a decrease in cash provided by operations of \$3.1 million. The decrease was principally due to a higher loss from operations of \$2.0 million and higher investment in working capital of \$1.0 million in the fourth quarter of 2011 compared to cash provided by working capital of \$0.3 million over the same period in 2010.

For the three months ended December 31, 2011, the increase in working capital was due to increased inventory partially offset by lower accounts receivable. Accounts receivable decreased principally due to lower trade receivables and commodity taxes receivable.

For the three months ended December 31, 2010, working capital decreased principally due to increased government assistance receivable, higher inventory and accounts receivable more than offset by higher accounts payable and accrued liabilities and deferred government assistance.

*Cash used in investing activities* – Cash used in investing activities increased from \$0.9 million in the fourth quarter of 2010 to \$3.8 million in the fourth quarter of 2011, an increase of \$2.9 million. The increase was due to purchases of capital equipment as we continue to make additional investments in our production capacity and our research facility which was completed during 2011. We have made significant investments to expand our production facilities. On November 4, 2011 we announced the commissioning of a new 80 million pound (annualized) production line within the existing facility in The Netherlands, bringing the Company's current annualized capacity to 155 million pounds. In addition an additional 80 million pound production line is being commissioned at our operating facility in Tennessee, which will increase total annualized operating capacity to 235 million pounds. Having additional capacity puts us in a stronger position as we build our customer base globally.

*Cash provided by financing activities* – Cash provided by financing activities in the fourth quarter of 2011 was \$0.01 million compared to \$29.2 million in the fourth quarter of 2010 which was generated through the issuance of preferred shares which were subsequently converted to common shares upon completion of the IPO in 2011.

### **Adjusted EBITDA**

Adjusted EBITDA in the fourth quarter of 2011 was a loss of \$1.9 million compared to a profit of \$0.03 million in the fourth quarter of 2010. The decrease in adjusted EBITDA is primarily due to higher operating expenses and lower gross profit.

## **Critical Accounting Policies and Estimates**

The preparation of the financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and the disclosure of contingent assets and liabilities. These estimates and assumptions are affected by management's application of accounting policies and historical experience, and are believed by management to be reasonable under the circumstances. Such estimates and assumptions are evaluated on an ongoing basis and form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ significantly from these estimates.

Management believes the following critical accounting policies reflect the more significant estimates and assumptions used in the preparation of our financial statements. We believe that there have been no significant changes in our critical accounting estimates for the time periods presented in our interim financial statements.

### ***Inventory***

Inventory valuation assessments are performed periodically or when indicators of impairment are present. These assessments may involve significant uncertainty and are subject to change in that they could require the use of forward looking assumptions such as estimating the amount and timing of revenues as well as projecting the likelihood of an item becoming obsolete or unusable in the future. Recognition of inventory valuation provisions may have a material impact on our net income and the value of our inventory.

### ***Impairment of long-lived assets***

Long-lived assets (including property, plant and equipment and intangible assets with definite lives) are reviewed for impairment at each reporting date to determine whether there is an indication that an asset may be impaired. If any indication exists we estimate the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating units (CGU) fair value less costs to sell and its value in use and is determined for individual assets unless the asset does not generate cash inflows that are largely independent of those from other assets or group of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and it is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and this risks specific to the asset. Asset impairment assessments involve significant uncertainty and are susceptible to change they require the use of forward looking assumptions such as sales, costs, foreign exchange rates and market growth rates. Recognition of impairment may have a material impact on our net income and the value of our long-lived assets. Whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable, a long-lived asset or asset group is required to be tested for possible impairment.

### ***Redeemable Preferred Shares and Warrants***

Upon completion of our IPO on August 4, 2011, all of the redeemable preferred shares were automatically converted into common shares and warrants to acquire redeemable preferred shares were automatically converted to warrants to acquire common shares. As a result the Company's liability relating to redeemable preferred shares were reclassified into common shares and warrants were reclassified to a separate component of shareholders' equity (deficiency). Prior to the conversion on August 4, 2011, our redeemable preferred shares had a liability component that was designated a financial liability, and outstanding warrants that were convertible into such shares that were also designated as financial liabilities. They were measured at fair value, with changes in fair value recognized directly in earnings.

### ***Share-based compensation***

We have a share-based compensation plan which is described in note 14 to the consolidated financial statements. We account for all share-based payments using the fair value-based method.

We use a Black-Scholes option pricing model to determine fair value of share options at the grant date, electing to use the minimum value valuation model. This pricing model requires management to make highly subjective assumptions with respect to volatility, dividend yield, expected life and risk free interest rate. Changes in the input

assumptions can materially affect the fair value estimate and, therefore, the existing models do not necessarily provide a reliable measure of the fair value of our share options. Share-based compensation is charged to operations over the vesting period and the offset is credited to contributed surplus. On exercise of share options, the related amount in contributed surplus is transferred to common shares.

### ***Valuation of Future Income Tax Assets***

Significant management judgment is required in determining the valuation allowance recorded against our net income tax assets. We record a valuation allowance to reduce our future income tax assets recorded on our consolidated balance sheet to the amount of future income tax benefit that is more likely than not to be realized. We have recorded a full valuation allowance to reflect the uncertainties associated with the realization of our future income tax assets based on management's best estimates as to the certainty of realization.

### **Internal control over financial reporting**

Management is responsible for establishing and maintaining a system of disclosure controls and procedures to provide reasonable assurance that all material information relating to the Company and its subsidiaries is gathered and reported to senior management on a timely basis so that appropriate decisions can be made regarding public disclosures. Management is also responsible for establishing and maintaining adequate internal controls over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial reports for external purposes in accordance with IFRS.

As required by National Instrument 52-109 (Certification of Disclosure in Issuer's Annual and Interim Filings), the Executive Chairman, as Chief Executive Officer and the Chief Financial Officer have caused to be evaluated under their supervision the effectiveness of such internal controls over financial reporting using the framework as established by The Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on the evaluation, they have concluded that the design and operation of the Company's internal controls over financial reporting were effective as at December 31, 2011.

In designing such controls, it should be noted that due to inherent limitations, any controls, no matter how well designed and operated can provide reasonable assurance of achieving the desired control objectives and may not prevent or detect misstatements. Additionally management is necessarily required to use judgment in evaluating controls and procedures.

There were no changes in the Company's internal control over financial reporting during the fourth quarter of 2011 that have materially affected, or are reasonable likely to materially affect, the Company's internal control over financial reporting.

### **Outlook**

The world needs to reduce its dependence on oil. The global economy is predicated on cheap oil and many of the consumer goods we rely on are manufactured using petroleum-based synthetic polymers. The market for these polymers uses up to 15% of global oil production every year and is worth approximately \$600 billion on an annual basis. In addition, environmental and health concerns have come to the forefront not only in relation to the extraction of fossil fuels, but also in relation to their use in certain products.

We expect strong demand for our products over the coming years. Not only are we low cost relative to petroleum based latex alternatives, but we are also performance-equivalent and based on sustainable, green chemistry. It is the only case we know of where customers don't have to pay-up or trade product performance for green.

Currently, we are focused on winning market share in the \$5.6 billion annual coated paper and paperboard binder market and we expect to see significant growth from this segment. This is a commodity market, which means that the low cost provider will win the largest market share. We are the low cost provider in this market already, and with consumers increasingly concerned about making sustainable decisions, our product is well positioned from an environmental standpoint as well.

In the short term, there are three primary factors that are impacting the rate of adoption. The first is that industry overcapacity has caused manufacturers to focus on rationalizing production before adopting ongoing operating

cost saving measures. This industry is no stranger to capacity rationalization and we expect a shift to EcoSphere to be the first item on the agenda once this round of consolidation is complete. The second item is that this is a slow moving industry. Particularly in the Western world, mills have been working with roughly the same ingredients in their coating mixture for 50 years or more. Given the margin sensitivity of these businesses, it takes time for them to get comfortable with switching, even in the face of large potential cost savings. The third hindrance has been that what we are offering is not an exact replica of existing latexes. Our product performs the same or better than what they are already using but it takes additional sales effort and trialing time to win business because we are selling a different product than what they are used to.

We expect to see a meaningful increase in volumes in the years to come and we are prepared for this growth. During 2011 we strengthened our sales, R&D and management teams, added 120 million pounds of capacity and strengthened our balance sheet. We have scaled our production process and have produced and sold greater than 50 million pounds of EcoSphere biolatex to date.

We have also recently announced the shipment of our first commercial volumes of EcoSphere biolatex for use as a binder in fiberglass insulation. The global fiberglass insulation market is large, representing approximately \$8.7 billion of annual revenue; in the United States, this market is concentrated in the hands of five large players, which makes it an easier market to penetrate. For EcoSynthetix, this represents an addressable market size of approximately \$1.0 billion annually and it is being strongly driven by regulation and consumer aversion to formaldehyde binders, which are the current standard.

### **Risk Factors**

For a detailed description of the risk factors associated with the Company, refer to the “Risk Factors” section of the supplemented prospectus dated July 27, 2011. The Company is not aware of any significant changes to the Company’s risk factors from those disclosed at that time.

### **Additional Information**

Additional information relating to EcoSynthetix Inc., including continuous disclosure documents, is available on SEDAR at [www.sedar.com](http://www.sedar.com).

### **Common Share Trading Information**

The Company’s common shares trade on the Toronto Stock Exchange under the symbol “ECO” and commenced trading on August 4, 2011. As at March 7, 2012, the Company had the equivalent of 55,248,260 common shares issued and outstanding. Assuming conversion of all rights pursuant to the put/call agreement, exercise of all outstanding warrants and exercise of all outstanding share options, there would be the equivalent of 61,370,159 common shares issued and outstanding on a fully diluted basis as at March 7, 2012.