

**VITREOUS GLASS INC.  
TWELVE MONTHS ENDED SEPTEMBER 30, 2017  
MANAGEMENT DISCUSSION AND ANALYSIS**

This Management Discussion and Analysis (“MD&A”) is dated December 7, 2017.

The following is management's discussion and analysis of the business and financial results of Vitreous Glass Inc. (“Vitreous” or the “Company”) for the three months and for the year ended September 30, 2017. This MD&A should be read in conjunction with the audited financial statements of the Company for the year ended September 30, 2017. The financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”). Additional information relevant to the Company's activities can be found on SEDAR at [www.sedar.com](http://www.sedar.com).

**Advisory Regarding Forward Looking Statements and Information**

This MD&A contains forward looking statements and information. Forward looking statements and information are based upon current expectations and assumptions that involve a number of risks and uncertainties, certain of which are beyond the Company's control and could cause actual events or results to differ materially from those reflected in the MD&A. Forward looking statements and information are based upon the estimates and opinions of the Company's management at the time the statements were made.

Readers of this MD&A are strongly cautioned that any statements relating to the future business prospects of the Company (and therefore its ability to meet its financial obligations, and potentially continue to pay dividends) are entirely subject to the continuation of satisfactory business conditions. These include, but are not limited to, availability of waste glass for processing, demand for fiberglass building insulation by the consumer, willingness and ability of the Company's customers to continue to use waste glass as part of their raw material, availability of hauling product to and from the Company's plant, adequate margins to cover the Company's costs, and the financial health of the Company's customers.

In particular, forward looking statements and information include:

- Assuming that (i) there is continuing market demand for fiberglass insulation; (ii) its customers continue to operate their Alberta plants at a level where historical levels of demand for glass are present; and (iii) glass supply and transportation continue to be available on an economically viable basis, management believes that Vitreous has sufficient cash and available credit facilities to meet its obligations as they fall due, and anticipates no change in the ability to meet such obligations on an ongoing basis.

The reader is cautioned that historical results are not necessarily indicative of future performance. The forward looking statements are made as of the date of this MD&A and the Company does not undertake any obligation to update publicly or revise any of the included forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable securities laws.

**The Company**

Vitreous operates a waste glass processing plant at Airdrie, Alberta. The plant gathers post-consumer waste glass from Alberta and elsewhere, crushes it, removes contaminants, and sells the final product to three manufacturers of fiberglass building insulation for use as a raw material in their production facilities in Alberta.

**Sales**

Sales for the three months ended September 30, 2017 increased by 9.4% from the same three months of the preceding fiscal year due to an increase in volume of product sold of 7.6% plus an increase in average product selling price of 1.7%.

Sales for the year ended September 30, 2017 decreased by 5.5% from the preceding fiscal year due to a decrease in volume of product sold of 7.0% partially offset by an increase in average product selling price of 1.7%.

Fluctuations in customer demand for the Company's product and the supply of raw glass are discussed under "Business Risks".

### **Cost of sales**

Cost of sales as a percentage of sales revenue for the three months ended September 30, 2017 increased by 0.5 percentage points to 46.5% for the current fiscal year from 46.0% for the same period of the preceding fiscal year. This increase in cost of sales as a percentage of sales revenue is due to (a) high costs of repairs and maintenance, offset by (b) the combined effect of lower cost per unit of glass sold and slightly higher average product selling price per unit in the three months ended September 30, 2017 compared to the same period of the prior year.

Cost of sales as a percentage of sales revenue for the year ended September 30, 2017 decreased by 0.9 percentage points to 45.2% for the current fiscal year from 46.1% for the preceding fiscal year. This reduction in cost of sales as a percentage of sales revenue is due to (a) lower cost per unit of glass sold, and (b) higher average product selling price per unit in the year ended September 30, 2017 compared to the preceding fiscal year.

### **General and Administrative Expenses**

General and administrative expenses for the three months ended September 30, 2017 increased by 8.9% from the same period of the preceding fiscal year primarily due to the incentive based nature of compensation for the chief executive officer. This incentive based compensation is primarily determined by gross margin amount that increased by 8.4% in the three months ended September 30, 2017 compared to the same period of the preceding fiscal year.

General and administrative expenses for the year ended September 30, 2017 decreased by 1.5% from the same period of the preceding fiscal year primarily due to the incentive based nature of compensation for the chief executive officer. This incentive based compensation is primarily determined by gross margin amount that decreased by 3.9% in the year ended September 30, 2017 compared to the preceding fiscal year.

### **Accounts receivable**

Accounts receivable at September 30, 2017 were consistent with sales in the period leading up to the end of the fiscal year. All accounts receivable as at September 30, 2017 are considered collectible.

### **Inventory and Supply**

Inventory is maintained at levels that are dictated largely by available supply and customer demand as discussed under "Business Risks".

The total carrying value of inventory on hand as at September 30, 2017, comprising primarily raw glass on hand plus a modest amount of crushed glass in process, increased by 4.9% from the value on hand at September 30, 2016. This increase is due to the offsetting effect of (a) a 19.5% increase in the quantity of the raw glass portion of inventory on hand at September 30, 2017 compared to September 30, 2016, as further discussed in the next paragraph, and (b) a 10.0% decrease in the per-unit carrying cost of the raw glass portion of inventory at September 30, 2017 compared to September 30, 2016 plus (c) a modest reduction in the per unit carrying cost of finished goods at September 30, 2017 compared to September 30, 2016.

In the three months ended September 30, 2017 the Company implemented a new measurement technology that enables more precise measurement of its piles of raw glass inventory on hand. This more precise measurement process resulted in a one time upward adjustment of the quantity on hand because prior estimation techniques had been excessively conservative. If no such one time upward adjustment had been made due to this more precise measurement method, the Company would have reported a 4.7% decrease in the quantity of raw glass on hand at September 30, 2017 compared to September 30, 2016. The Company intends to continue using this new measurement technology for all measurements of raw glass on hand in the future.

As discussed under "Business Risks", the Company accepts deliveries of raw glass from its major supplier and other suppliers as it becomes available. The volume of supply of raw glass made available in the year ended September 30, 2017 declined by 4.7% compared to the prior year. This decrease comprises two separate factors: (a) 1.5% is due to

an expected decline arising from a change in supply contracts, and (b) 3.2% is due to an unanticipated decline in the level of supply from continuing suppliers. See comments under “Business Risks”.

### **Purchase of property, plant and equipment**

In the three months ended September 30, 2017, the Company spent \$4,946 on additions to plant equipment compared to \$61,700 spent on additions to property, plant and equipment in the same period of the prior fiscal year.

In the year September 30, 2017, the Company spent \$14,385 on additions to plant equipment compared to \$103,094 spent on property, plant and equipment in the prior fiscal year.

### **Cash and bank operating lines of credit**

The Company continues to carry an available operating line of credit in an authorized amount of \$750,000, secured by a general security agreement covering all property of the Company except for accounts receivable from one major customer. This line of credit is to be used to finance any short term operating cash requirements. The Company did not draw upon its operating credit during the year ended September 30 2017, and no balance was outstanding as at September 30, 2017 (\$Nil as at September 30, 2016).

### **Commitments**

The Company has entered into a lease for a front-end loader with monthly lease payments of \$2,494 expiring April 30, 2019.

The Company is committed to monthly payments of \$2,000 under a property lease expiring May 31, 2022 for storage of the Company’s raw material inventory.

On October 17, 2017, the Company declared a cash dividend of \$0.08 per common share payable on November 15, 2017 to shareholders of record as of November 1, 2017.

### **Business Risks**

All production from the Company’s Alberta glass plant is sold to two large customers and one smaller one in the fiberglass manufacturing industry in Alberta, which is heavily dependent on housing starts in Western Canada and the Northwest United States.

Inventory is maintained at levels that are dictated largely by available supply and customer demand. The Company is subject to unpredictable variations in demand for its product and in supply of raw glass. The Company is required to manage an appropriate balance between supply and demand while maintaining an appropriate level of inventory of raw glass on hand.

Revenue is dependent upon the quantity of Vitreous product purchased by its customers. Customer demand is in turn driven by demand for fiberglass building insulation that is affected by seasonal variations in the building industry, cyclical variations in the building industry and unexpected events including events of a nature that can cause unexpected increases or decreases in building activity. The Company ships to its customers based on their day-to-day consumption.

On the supply side the Company generally must accept glass as it becomes available from one major supplier, and two other suppliers of modest scale, all three of which involve a different cost, including hauling. The Company makes every effort not to interrupt supply. Interruptions in supply cause operational challenges for the Company’s suppliers that have resulted in certain suppliers severing their relationship with the Company in the past.

For the past several quarters, demand for product has been exceeding the available supply of raw glass. Accordingly the Company has limited its sales to levels determined by its supply of raw glass. This limit will remain in effect until demand for product is equal to or exceeded by the available supply of raw glass on an annualized basis. The Company continues to seek additional sources of raw glass.

There are indications in the North American market that there has been a trend of decline in the market share of glass containers versus other beverage containers. As discussed in “Inventory and Supply”, the volume of raw glass available to the Company declined in the year ended September 30, 2017 compared to the prior fiscal year. There is a risk that the volume of glass beverage containers sold may decline which would result in a decline in the available supply of raw glass. Furthermore, the return of recyclable glass beverage containers to depots is erratic in quantity and timing. The Company is not able to forecast the volumes of raw glass that may be available in the future.

The Company continues to monitor the balance between supply and demand. See comments under “Inventory and Supply”.

### **Liquidity and capital resources**

The Company’s debt at September 30, 2017 comprised normal trade payables and accrued liabilities. Assuming that there is continuing market demand for fiberglass insulation, assuming that its customers continue to operate their Alberta plants at a level where sufficient levels of demand for glass are present, and assuming that glass supply and transportation continue to be available on an economically viable basis, management believes that Vitreous will generate sufficient cash flows from operations and has available credit facilities to meet its obligations as they fall due, and anticipates no change in the ability to meet such obligations on an ongoing basis.

Any modest plant capital expenditures are generally financed from ongoing cash flows from operations before payment of dividends. The Company also sets aside funds on a regular basis against the possibility of a major capital replacement or upgrade.

### **Share Capital**

As at September 30, 2017 and December 7, 2017, there were 6,283,667 shares outstanding (6,283,667 at September 30, 2016). As at September 30, 2017 and December 7, 2017, there were no options outstanding (nil at September 30, 2016).

### **Selected Annual Information**

The following charts and related comments provide selected annual information for the fiscal years 2017, 2016 and 2015.

<i><b>Year ended September 30:</b></i>	<i><b>2017</b></i>	<i><b>2016</b></i>	<i><b>2015</b></i>
Total revenue	\$7,584,266	\$8,022,291	\$8,443,319
Net income	\$1,917,980	\$2,093,092	\$1,971,877
Per share	\$0.30	\$0.33	\$0.32
Diluted per share	\$0.30	\$0.33	\$0.32
Total assets	\$5,512,130	\$5,790,485	\$6,428,711
Long-term financial liabilities	\$ 0	\$ 0	\$ 0
Dividends paid, per share	\$0.34	\$0.43	\$0.32

### **Comments on Selected Annual Information**

In the year ended September 30, 2017, total revenue decreased by 5.5% from the preceding fiscal year due to a decrease in volume of product sold of 7.0% partially offset by an increase in average product selling price of 1.7%. The decrease in amount of product sold is due to reductions in volume of supply of raw glass available for purchase as discussed under “Inventory and Supply” and “Business Risks”.

Gross margin as a percentage of sales improved in the current year by 0.9 percentage points to 54.8% compared to 53.9 % for the year ended September 30 2016 due to (a) lower cost per unit of glass sold, and (b) higher average product selling price per unit in the year ended September 30, 2017 compared to the prior fiscal year.

Despite improvements in gross margin percentage in the current year compared to the prior year, the reduction in total sales volume resulted in a decrease of 3.9% in the amount of gross margin for the current year compared to the year ended September 30, 2016.

Net income for the year ended September 30, 2017 declined by 8.4% compared to the prior fiscal year primarily due to the decrease in amount of gross margin for the current year compared to the prior fiscal year.

In the year ended September 30, 2016, the total volume of glass purchased by the Company was 6.8% less than the total volume purchased in the prior year primarily due to changes in supplier arrangements beginning January 1, 2016 that resulted in a smaller volume of raw glass from one supplier. However, the Company experienced a 9.5% reduction in the overall average cost of raw glass purchased in the year ended September 30, 2016 compared to the prior year. Primarily due to this lower cost of raw glass, gross margin as a percentage of sales increased by 1.5 percentage points to 53.9% for the year ended September 2016 compared to 52.4% for the prior year.

Despite a 7.0% reduction in total volume sold in the 2016 fiscal year compared to the 2015 fiscal year, net income for the year ended September 30, 2016 increased by 6.1% over the net income for the 2015 fiscal year. This was due to the combined positive effect of (a) an increase in product selling price, (b) an increase in gross margin percentage as discussed above, and (c) recording a non recurring gain on disposal of assets in the 2016 fiscal year compared to recording a non recurring loss on disposal of assets in the 2015 fiscal year.

During the year ended September 30, 2015, the Company was able to use up a modest quantity of overstocked raw material remaining from earlier years, plus some unanticipated supplies that occurred in 2015, to achieve a strong volume of product sold, which was modestly less than in the prior fiscal year. A price increase to customers effective January 1, 2015 and further operating efficiencies (for example, the shipment of a portion of the Company's waste material to a compost facility rather than landfill) helped to create a very strong financial result for the year ended September 30, 2015, making 2015 the second in a row with financial results well above those achieved in fiscal 2013 and prior years.

The combined effect of inventory reduction, low cost of sales, high sales levels and price increases effective January 2015 and January 2016 created higher profitability for the company in the fiscal years ended September 2016 and 2015. While the Company strives to achieve the best possible financial result, the financial successes of the 2016 and 2015 fiscal years cannot be relied upon to repeat themselves in future years. As discussed above, in the current fiscal year of 2017, total revenue and net income declined in comparison to the 2016 and 2015 fiscal years.

**[THIS SPACE LEFT BLANK]**

## Selected Quarterly Information

The following charts and related comments provide selected information for the eight most recent fiscal quarters.

<i>Quarter ended:</i>	<i>Sep 17</i>	<i>Jun 17</i>	<i>Mar 17</i>	<i>Dec 16</i>
Total revenue	\$1,891,979	\$1,898,734	\$1,963,973	\$1,829,580
Net income	\$456,325	\$489,020	\$565,423	\$407,212
Per share	\$0.07	\$0.08	\$0.09	\$0.06
Diluted per share	\$0.07	\$0.08	\$0.09	\$0.06

  

<i>Quarter ended:</i>	<i>Sep 16</i>	<i>Jun 16</i>	<i>Mar 16</i>	<i>Dec 15</i>
Total revenue	\$1,729,664	\$1,930,621	\$2,072,772	\$2,289,234
Net income	\$466,000	\$465,021	\$564,101	\$597,970
Per share	\$0.07	\$0.07	\$0.09	\$0.10
Diluted per share	\$0.07	\$0.07	\$0.09	\$0.10

## Comments on Selected Quarterly Information

Quarterly results vary significantly depending upon demand and supply factors beyond the control of the company as discussed in “Business Risks”.

Sales revenue in the three months ended September, 2017 and in the prior six quarters ended June 2017, March 2017, December 2016, September 2016, June 2016 and March 2016 decreased from the quarter ending December 2015 due to limitations in supply of raw glass. These limitations in supply are expected to require the Company to limit sales in the foreseeable future. See “Inventory and Supply” and “Business Risks”.

Sales revenue in the three months ended December 2015 remained strong due to adequate supply of raw glass to meet customer demand.

Net income in the quarter ended September, 2017 decreased as a percentage of revenue by 2.8 percentage points to 24.1% compared to 26.9% for the same quarter of the prior year primarily due to (a) a gain in sale of assets was reported in the three months ended September 30, 2016 whereas there is no such gain in the three months ended September 30, 2017, and (b) an increase in cost of sales as a percentage of sales revenue for the three months ended September 30, 2017 compared to the same period of the prior year, as discussed under “Cost of sales”.

Net income in the quarter ended June 2017 increased as a percentage of revenue by 1.7 percentage points to 25.8% compared to 24.1% for the same quarter of the prior year primarily due to a reduction in cost of sales as a percentage of sales revenue.

Net income in the quarter ended March 2017 increased as a percentage of revenue by 1.6 percentage points to 28.8% compared to 27.2% for the same quarter of the prior year primarily due to a reduction in cost of sales as a percentage of sales revenue.

Net income in the quarter ended December 2016 decreased as a percentage of revenue by 3.9 percentage points to 22.2% compared to 26.1% for the same quarter of the prior year due to (a) cost of sales increasing as percentage of revenue, and (b) higher than usual amortization in the quarter ended December 2016.

## **Critical Accounting Estimates**

IFRS require management to make estimates and assumptions that reported amount of assets, liabilities, revenue and expenses during the reporting periods presented. Significant estimates include the assessment of the recoverability of carrying value of the Company's inventory, property plant and equipment, and deferred income taxes. By their nature, these estimates are subject to measurement uncertainty and the effect on the financial statements of changes in such estimates in future periods could be significant.

The Company has no off-balance sheet arrangements.

## **Related Party Transactions**

The Company obtained consulting services from David Birkby, a director of the Company, at a cost of \$2,000 in the three months ended September 30, 2017 and \$8,000 for the year ended September 30, 2017 (\$2,000 and \$8,000 for the same periods in the prior fiscal year). These services are related to plant operations and plant management.

The Company obtained consulting services from Timothy H. Rendell CPA, a director of the Company, at a cost of \$10,000 in the three months ended September 30, 2017 and \$36,515 for the year ended September 30, 2017 (\$6,515 and \$26,032 for the same periods in the prior year). These services are related to providing Chief Financial Officer services under a personal services contract.

## **Future plans**

The Company plans to continue to manage its waste glass processing operation cautiously.

## **Shareholder value and dividends**

Having reviewed a variety of alternatives over the years, the Company's Board has concluded that the optimum value for shareholders at this time is obtained by continuing to run the Company's business and to pay dividends as the results of business allow.

Dividend amounts are primarily affected by net cash flow from operations, timing of receipts on accounts receivable, timing of payment of accounts payable, and fluctuations in inventory levels.

Since September 30, 2015 the Company has paid cash dividends on its common shares as follows:

November 15, 2017	\$0.08
August 15, 2017	\$0.05
May 15, 2017	\$0.12
February 15, 2017	\$0.10
November 15, 2016	\$0.07
August 15, 2016	\$0.12
May 16, 2016	\$0.06
December 4, 2015	\$0.16
November 16, 2015	\$0.09

The Company's ability to pay dividends is contingent on the ongoing results of operation of the business. The Company believes that quarterly dividends, if any, should reflect actual business results of the most recent completed quarter. The Board of Directors made a one-time exception to this practice by paying a dividend of \$0.16 per share on December 4, 2015. No dividend was paid in February 2016. In conjunction with the declaration of a dividend of \$0.06 payable May 16, 2016, the Board returned to the practice of paying dividends solely on the basis of operating results.

All dividends paid to date are "eligible" dividends when calculating the dividend tax credit for income tax purposes.