



**MANAGEMENT'S DISCUSSION & ANALYSIS**

**For the Fiscal Year Ended May 31, 2019**

## Introduction

This Management Discussion and Analysis (MD&A) explains the material changes in Thermal Energy International Inc.'s ("Thermal Energy" or the "Company") financial position and financial performance for the fiscal year ended May 31, 2019 (or "FY 2019"), and compares the FY 2019 financial results to the previous year ended May 31, 2018 (or "FY 2018"). The consolidated financial statements and notes to the consolidated financial statements constitute an integral part of the discussion and should be read in conjunction with this MD&A. Unless otherwise indicated, all comparisons to the fourth quarter of FY 2019 are against the fourth quarter of FY 2018. Additional information relating to the Company is available on SEDAR at [www.sedar.com](http://www.sedar.com).

### Currency

All financial information in this report is stated in Canadian Dollars, which is both the presentation and functional currency of the Company. Approximately 20% our operations, assets and liabilities are denominated in British Pound Sterling and 20% in US Dollar. As such, foreign currency fluctuations affect the reported values of individual lines on our statement of financial position and income statement. When the Canadian dollar strengthens, the reported values decrease and the opposite occurs when the Canadian dollar weakens.

### Review and Approval by the Board of Directors

The Board of Directors, on recommendation of the Audit Committee, approved the content of this MD&A on September 27, 2019. Disclosure contained in this document is current to September 30, 2019, unless otherwise stated.

### Forward-Looking Statements

This MD&A may include statements that are forward-looking. These statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. We discuss the principal risks of our business in Section 8 of this MD&A. We cannot provide any assurance that forecasted financial or operational performance will actually be achieved. If it is achieved, we cannot provide assurance that it will result in an increase in our share price. See Section 9 entitled "Forward-Looking Information".

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## 1. Our Business

### 1.1 Company Overview

Thermal Energy, established in 1991, is a global provider of proprietary and proven energy and water efficiency and emission reduction products and solutions to the industrial, commercial and institutional markets. The Company is headquartered in Ottawa, Canada, with offices in the U.K., Italy, Germany, U.S., and China.

Thermal Energy engages clients through a unique mix of process, energy, environmental and financial expertise to save our customers money and improve their bottom lines by reducing their fuel use and carbon emissions. The Company's award-winning products have an excellent track record of longevity, proven reliability and performance and have been shown to provide: significant energy savings; improved water efficiency; reduced greenhouse gas emissions; lower maintenance costs; improved product quality; and increased production efficiency. Thermal Energy's products are effective in a wide range of industries and applications.

More information on Thermal Energy can be found at [www.thermalenergy.com](http://www.thermalenergy.com). **GEM™**, **FLU-ACE®**, **THERMALONox™** and **DRY-REX™** are trademarks of Thermal Energy.

### 1.2 Core Businesses

The Company operates primarily in North America and Europe but also sells its products and services through representative agents throughout the rest of the world. The Company markets, sells, engineers, fabricates, constructs, installs and supports two technology lines – heat recovery solutions, including direct contact heat recovery solutions (e.g. **FLU-ACE®**) and indirect contact heat recovery solutions (**HEATSPONGE** and **SIDEKICK**), and condensate return system solutions (**GEM™** steam traps). The Company is also developing a number of other technology lines, including low, temperature biomass drying systems (**DRY-REX™**).

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

In 2008, the Company acquired Gardner Energy Management Limited, which owns, manufactures and sells the GEM™ steam traps throughout the world. As part of this transaction, the Company also acquired the 67% share of GEMchem Ltd, a UK-based water treatment company providing services within the UK only. On June 29, 2018, the Company acquired Boilerroom Equipment Inc., a company based in the U.S., which owns, manufactures and sells HEATSPONGE and SIDEKICK indirect contact heat recovery units.

The Company has two primary operational bases of operation, one in Ottawa, Canada covering North America (“Thermal Energy Ottawa”), and the other in Bristol, United Kingdom, covering Europe and the rest of the world (“Thermal Energy Bristol”). Although the Thermal Energy Ottawa is considered to be the center of excellence for heat recovery engineering and technical support, and Thermal Energy Bristol the center of excellence for GEM™ steam traps and condensate return systems engineering and technical support, continuous cross-training means that both Ottawa and Bristol have expertise across both major product lines.

Although the Company markets its products throughout the world, the majority of sales are from within North America and Europe where the Company has direct sales and engineering staff. While North American and European markets continue to be the Company’s strategic focus, the Company also continues to look for new agents and distributors in other regions deemed to have potential.

### 1.3 Strategy

The Company’s mission is to be a best-in-class provider of return on investment-driven thermal energy efficiency technology and solutions to the industrial, institutional, and commercial sectors, helping our clients around the world improve their bottom line, move towards sustainable operations and reduce their environmental and carbon footprint. The Company’s products and services are “best-in-class” with world-wide application in a broad range of sectors.

The Company has representation in 28 countries around the world with a current focus on the key markets of North America and Europe. Thermal Energy’s penetration in these markets remains low and therefore the Company plans to continue growing its sales and distribution capabilities in these markets while at the same time begin to build its business in other energy-intensive markets around the world.

We have sold our proprietary and proven products to hundreds of companies and institutions, including approximately 50 large companies in the pharmaceutical, food and beverage, pulp and paper, chemical and petrochemical sectors.

With an established global sales and distribution network, the Company is looking to develop and/or acquire additional complementary products and services that can be distributed through its existing network.

## 2. Performance Measures

The Company believes the following performance measures provide useful information to both management and investors to better understand the financial performance and financial position of the Company.

### 2.1 EBITDAS

Management believes that EBITDAS (earnings before interest, taxation, depreciation, amortization, impairment of goodwill and other intangible assets, share-based compensation expense and net write down of lease) is a useful performance measure as it approximates cash generated from operations, before tax, capital expenditures and changes in working capital and excludes non-operating items. EBITDAS also assists comparison among companies as it eliminates the differences in earnings due to how a company is financed. EBITDAS does not have a standardized meaning prescribed by International Financial Reporting Standards and therefore may not be comparable to similar measures presented by other companies. The most directly comparable measure calculated in accordance with International Financial Reporting Standards within the financial statements is income (loss) before income taxes, as disclosed in the statements of comprehensive income.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

### 2.2 Order Backlog

Order backlog is a useful performance measure that Management uses as an indicator of the short-term future revenue of our Company resulting from already recognized orders. The Company includes in "order backlog" any purchase orders that have been received by the Company but have not yet been reflected as revenue in the Company's published financial statements. It is important to note that once an order or partial order is recorded as revenue, the order backlog is reduced by the amount of the newly reported revenue. Order backlog does not have a standardized meaning prescribed by International Financial Reporting Standards and therefore may not be comparable to similar measures presented by other companies.

## 3. Performance

### 3.1 Summary of Fourth Quarter Results

	Q4 2019	Q4 2018
	\$	\$
Revenue	5,974,546	7,352,794
Cost of sales	(2,501,170)	(3,989,849)
Gross profit	3,473,376	3,362,945
Administration, selling, marketing and business development expenses	(2,636,178)	(2,530,424)
Research and development (expenses) recovery	60,608	(13,643)
Operating income	897,806	818,878
Finance costs	(102,787)	-
Finance revenue	3,922	7,034
Income before income taxes	798,941	825,912
Income taxes (expense) recovery	(198,983)	62,477
Net income for the period	599,958	888,389
Exchange differences on translation of overseas operations	(45,100)	(61,602)
Total comprehensive income for the period	554,858	826,787
EBITDAS for the fourth quarter	1,029,103	850,479

#### Revenues and Gross Profits

Revenues were \$5,974,546 in the quarter ended May 31, 2019, representing a decrease of \$1,378,248, or 18.7%, compared to \$7,352,794 in the quarter ended May 31, 2018. The decrease of revenue in the current quarter was mainly due to the decrease in sales of heat recovery systems while sales of GEM™ condensate return systems remained at the similar level the same quarter of prior year.

Revenues from sales of heat recovery systems in the current quarter decreased compared to the sales of the same quarter from the previous year by \$1,442,100. This was because in the last quarter of the previous year, the Company had partially delivered a heat recovery project to an existing Pulp & Paper customer with total contract value of \$11 million. In the current year, sales were from multiple projects with relatively smaller contract value. The Company acquired Boilerroom Equipment Inc. on June 29, 2018. The sales from Boilerroom Equipment Inc. was included in the revenue from heat recovery systems in the current quarter.

The gross profit of \$3,473,376 in the quarter ended May 31, 2019 represented an increase of \$110,431, or 3.3%, from the \$3,362,945 in the quarter ended May 31, 2018. Gross profit expressed as a percentage of sales was 58.1% in the final quarter of FY 2019 compared with 45.7% in the final quarter of FY 2018. The increase was mainly the result of the delivery of a few heat recovery systems with higher gross margin.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

### *Expenses*

**Administration, selling, marketing and business development expenses** in the quarter ended May 31, 2019 totaled \$2,636,178 compared to \$2,530,424 in the quarter ended May 31, 2018, an increase of \$105,754. This increase was mainly the result of adding Boilerroom Equipment Inc.'s costs to the consolidated results with the decreased costs in Company's incentive plan and decreased commission expense.

**Research and development expenses** related to expenditures on various research and development programs. The Company receives credits from the R&D claims related to product development and the credits are accounted as a reduction of research and development expenses. The total expenses net of R&D credits in the final quarter of FY 2019 gave rise to a net credit of \$60,608, compared to a net expense of \$13,643 in the final quarter of FY 2018. This was because the Company filed and claimed R&D credits in the last quarter of FY2019.

**Finance costs and finance revenue:** for the fourth quarter of FY 2019, finance costs of \$102,787 arose due to the issuance of long-term debt to finance the acquisition of Boilerroom Equipment Inc. Finance revenue of \$3,922 was recognized in the fourth quarter of FY 2019 compared to \$7,034 in the fourth quarter of FY 2018.

**Income before income taxes** for the quarter ended May 31, 2019 was \$798,941 compared to \$825,912 in the same quarter of the previous year. Income before income taxes decreased despite of the increased gross profit. The decrease of income before income taxes was mainly due to the new finance cost of \$102,787 related to the long-term debt.

**Income tax expense** in the fourth quarter of FY 2019 was \$198,983, as compared to income tax recovery of \$62,477 in the fourth quarter of FY 2018. In FY 2019 and FY 2018, the Company's subsidiary based in UK had an operational loss. Tax losses can be carried forward and used against future income, which gave rise to income tax recovery of \$252,231 relating to the UK subsidiary for the first three quarters of FY 2019. In the fourth quarter of FY 2019, after having a loss for eight consecutive quarters, the Company applied a valuation allowance to the UK subsidiary's deferred tax asset to decrease the income tax recovery recognized from the first three quarters of FY 2019, which resulted in the income tax expense of \$198,983 for the fourth quarter of FY 2019.

**Net income for the fourth quarter of FY 2019** was \$599,958 compared to \$888,389 in the same quarter of the previous year due to the decrease in income tax recovery amount and the decrease in income before income taxes.

**Comprehensive income** was \$554,858 for the final quarter of FY 2019 compared to \$826,787 for the final quarter of FY 2018. In the final quarter of FY 2019 and FY 2018, the pound sterling was weakened against the Canadian dollar which resulted in other comprehensive loss of \$45,100 and \$61,602, respectively.

**EBITDAS** was \$1,029,103 for the final quarter of FY 2019 compared to \$850,479 for the same quarter of the previous year.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

### 3.2 Review of Year End Results

	2019	2018
	\$	\$
Revenue	<b>21,083,256</b>	17,408,211
Cost of sales	<b>(11,849,880)</b>	(9,074,188)
Gross profit	<b>9,233,376</b>	8,334,023
Administration, selling, marketing and business development expenses	<b>(9,439,498)</b>	(7,732,044)
Research and development expenses	<b>(71,703)</b>	(113,200)
Operating income (loss)	<b>(277,825)</b>	488,779
Finance costs	<b>(302,394)</b>	-
Finance revenue	<b>20,413</b>	32,225
(Loss) income before income taxes	<b>(559,806)</b>	521,004
Income taxes recovery	<b>108,703</b>	98,475
Net (loss) income for the year	<b>(451,103)</b>	619,479
Exchange differences on translation of overseas operations	<b>(8,423)</b>	(64,600)
Total comprehensive (loss) income for the year	<b>(459,526)</b>	554,879
EBITDAS	<b>176,006</b>	616,905
Order backlog as at May 31	<b>14.0 million</b>	9.9 million
Order backlog as at September reporting date	<b>18.2 million</b>	12.7 million

#### *Revenues and Gross Profits*

Revenues were \$21,083,256 in FY 2019 compared to \$17,408,211 in FY 2018, an increase of \$ 3,675,045, or 21.1%. Sales of heat recovery systems increased by \$4,198,500 (37.0%), while sales of GEM™ condensate return systems decreased by \$523,455 (-8.6%).

The increase in sales of heat recovery systems was mainly due to the delivery of an \$11 million energy efficiency project with the Pulp & Paper Customer announced December 5, 2017. The project started in FY2018 (30% complete as at May 31, 2018) and substantially completed by the end of FY2019, which was the largest contract in the Company's history. In addition, the Company earned additional revenue from the Boilerroom Equipment Inc. that was acquired on June 29, 2018.

FY 2019 gross profit of \$9,233,376 represents an increase of \$899,353, or 10.8%, over the \$8,334,023 achieved in FY 2018. The gross profit expressed as a percentage of sales was 43.8% in FY 2019 compared with 47.9% in FY 2018. The decrease in gross profit percentage is due to the integration of BEI products with lower margin into the consolidated results.

#### *Expenses*

*Administration, selling, marketing and business development expenses* in FY 2019 totaled \$9,439,498 compared to \$7,732,044 in FY 2018, an increase of \$1,707,454, or 22.1%. The main increases included the integration of Boilerroom Equipment Inc's operating expenses into the consolidated results, additional depreciation and amortization expense on the intangibles and fixed assets acquired from Boilerroom Equipment Inc., the strategic addition of new sales and technical staff plus additional investments in advertisement and marketing activities to support the future growth of the business.

*Research and development expenses* in FY 2019 totaled \$71,703, compared to \$113,200 in FY 2018. The decrease was mainly due to the refundable R&D tax credits claimed by the Company's UK subsidiary in FY 2019. Prior to FY 2019, the UK subsidiary also filed R&D claims but did not choose the cash refund option, whereas in FY 2019, the cash refund option was elected so that the Company could collect cash refund on R&D tax credits as opposed to carrying a bigger tax loss.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

**Finance costs and finance revenue:** in FY 2019 finance costs of \$302,394 arose due to the issuance of long-term debt to finance the acquisition of Boilerroom Equipment Inc. Finance revenue of \$20,413 was recognized compared to \$32,225 recognized in FY 2018 on the finance lease that will expire on May 1, 2020.

**Loss before income taxes** for the fiscal year ended May 31, 2019 was \$559,806 compared to income of \$521,004 for the fiscal year ended May 31, 2018. Despite of the increase in sales and gross profit, the Company's income before taxes decreased by \$1,080,810. The decrease was mainly due to the new finance costs of \$302,394 on the long-term debt, additional amortization expense of \$253,976 on intangibles purchased upon the acquisition and the increased costs in administration and selling, marketing and business development (excluding Boilerroom Equipment Inc.) in the amount \$535,102.

**Income tax recovery** in FY 2019 was \$108,703, compared to \$98,475 in the previous year. The income tax recovery for FY 2019 was mainly related to the decrease in deferred tax liabilities recognized by the Company's US subsidiaries. Deferred tax liabilities arose as a result of the acquisition of Boilerroom Equipment Inc. The difference between the tax base and the carrying amount on intangibles and fixed assets acquired was recognized as deferred tax liability on the acquisition date. Subsequently, the carrying values of these intangibles and fixed assets decrease over time through amortization and depreciation, which decrease the difference between the carrying value and the tax base of these assets, hence decrease the deferred tax liabilities relating to these assets over time. The decrease in deferred tax liabilities between the acquisition date and the year-end was recognized as the income tax recovery in the income statement.

**Net loss** for FY 2019 was \$451,103, compared to net income of \$619,479 in the year ended May 31, 2018. The net loss was mainly due to the additional depreciation and amortization expense on the intangibles and fixed assets associated with the acquisition of Boilerroom Equipment Inc., the strategic addition of new sales and technical staff plus additional investments in advertisement and marketing activities, and the finance cost relating to the long-term debt.

**Comprehensive loss** was \$459,526 in the year ended May 31, 2019, compared to an income of \$554,879 in the previous year.

**EBITDAS** was \$176,006 for the FY 2019 compared to \$616,905 for the previous year. See EBITDAS reconciliation to GAAP measurement on page 12.

### 3.3 Liquidity & Capital Resources

Working capital was \$2,027,823 at May 31, 2019 compared to working capital of \$2,027,003 at May 31, 2018.

The Company's working capital position over the last eight quarters can be summarized as follows:

	Aug 31, 2017 \$	Nov 30, 2017 \$	Feb 28, 2018 \$	May 31, 2018 \$	Aug 31, 2018 \$	Nov 30, 2018 \$	Feb 28, 2019 \$	May 31, 2019 \$
Current Assets	4,245,864	4,450,013	4,933,877	6,613,125	8,310,609	7,244,731	7,337,334	7,984,367
Current Liabilities	3,079,805	3,099,395	3,706,345	4,586,122	5,984,275	5,178,449	8,816,994	5,956,544
Working Capital	1,166,059	1,350,618	1,227,532	2,027,003	2,326,334	2,066,282	(1,479,660)	2,027,823

Current assets increased in FY 2019 by \$1,371,242 to \$7,984,367, mostly due to in the increase in cash balances of \$895,052, increase in trade and other receivables of \$267,569, and increase in inventory of \$214,152. The increase in trade and other receivables and inventory was mainly due to the increased revenue for the year ended May 31, 2019 as compared to May 31, 2018.



## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

Current liabilities increased by \$1,370,422 to \$5,956,544. The change was mainly due to the increase in deferred revenue of \$1,919,967 relating to upfront cash deposits received on heat recovery projects in progress at year end, the addition of current portion of long-term debt of \$371,993, offset by the decrease in trade payables and other liabilities of \$1,024,266.

The Company's net cash position (Cash and cash equivalents less operating bank loans) increased by \$895,052 from \$3,282,208 as at May 31, 2018 to \$4,177,260 as at May 31, 2019.

Net cash provided by operating activities in the year ended May 31, 2019 was \$570,305 compared to \$307,690 in the year ended May 31, 2018, an increase of \$262,615. Despite the fact that the Company had a net loss of \$451,103 for FY 2019 as compared to a net income of \$619,479 for FY 2018, the cash from operating activities increased. The increase was mainly due to the increase in cash from working capital of \$712,782, the increase in the items not involving cash of \$568,495, the decrease in income tax payment of \$99,377, offset by the increase in interest paid on the long-term debt of \$240,358.

Net cash used by investing activities was \$2,694,270 for FY 2019 as compared to net cash provided of \$36,935 for FY 2018. The cash used in investing activities in FY 2019 was mainly due to the payments made for the acquisition of Boilerroom Equipment Inc. in the amount of \$2,672,894.

Net cash provided by financing activities was \$3,027,338 for FY 2019 compared to net cash used of \$8,291 for FY 2018. The increase in cash from financing activities was mainly due to the issuance of long-term debt of \$2,893,959 to finance the acquisition. In FY 2019, the Company received \$141,958 from the share options exercised during the year. No options were exercised in FY 2018.

After allowing negative \$8,321 for the effect of exchange rate fluctuations on cash and cash equivalents, the net result of the above activities was an increase in the cash balance of \$895,052.

The Company has two covenants on its long-term debt, namely Total Funded Debt to EBITDA ratio and Debt Service Coverage ratio. As at May 31, 2019, both of the Company's debt covenants were in breach. The lender waived the covenant breach for a period of twelve months until June 1, 2020.

At May 31, 2019, \$123,223 (6.2%) of the Company's trade receivables balance was over 90 days past due (\$165,420 (9.3%) at May 31, 2018). \$22,864 of the past due balance was impaired at May 31, 2019 (\$23,074 at May 31, 2018).

At May 31, 2019, the Company had operating lease commitments as shown below. The Company had no purchase obligations:

	Total \$	Less than 1 year \$	1-5 years \$	More than 5 years \$
Operating Leases	1,351,406	232,989	501,389	617,028

The Company's ability to realize its assets and discharge its liabilities depends on its ability to generate sufficient cash from operations or its ability to arrange debt or equity financing. No assurance can be given that any such additional funding will be available or that, if available, it can be obtained on terms favorable to the Company.

Management is of the opinion that sufficient working capital will be obtained from future cash flows by achieving profitable operations through continuing to manage expenditures, concentrating on building upon revenue levels experienced from FY 2016 to FY 2019, and growing revenues at growth rates experienced in the years ended May 31, 2010 through May 31, 2019.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

### Net Investment in Lease

The Company's net investment in lease includes the following:

	May 31, 2019 \$	May 31, 2018 \$
Total estimated minimum lease payments receivable	\$ 100,053	209,607
Less: unearned income	(6,796)	(27,209)
	93,257	182,398
Less: current portion	(93,257)	(89,141)
	-	93,257

Finance lease receivable relates to one arrangement. The estimated minimum lease payments receivable in this lease represent the estimated monthly energy outputs of the leased asset and are based on assumptions regarding the efficiency of the asset, the operations of the plant in which it is located and penalty payments resulting from temporary plant shut-downs.

On May 1, 2017, a final extension agreement was signed for 36 months to May 1, 2020. Pursuant to this new extension, the customer has agreed to pay up to \$9,500 per month over three years, at the end of which the customer assumes full ownership of the equipment.

Until the expiry of the new lease on May 1, 2020, finance revenue will be recognized within the consolidated statements of comprehensive income at the interest rate implicit in the lease.

The estimated minimum lease payments receivable in this lease represent the estimated monthly energy outputs of the leased asset and are based on assumptions regarding the efficiency of the asset and the operations of the plant in which it is located.

Future estimated minimum lease payments receivable, and expected residual value of equipment at the end of the lease, under the sales-type lease are as follows:

	\$
Less than one year	100,053
Residual value of equipment	-
	100,053

As at the end of the reporting year, \$9,500 of the finance lease receivable included in the trade and other receivables is past due, but not impaired.

### 3.4 Segmentation Information

In fiscal 2019 and 2018, the Company operated in the energy efficiency industry in North America, Europe, China and Rest of the World. The Company markets, sells, engineers, fabricates, constructs, installs and supports two technology lines - heat recovery solutions and condensate return system solutions. The Company is also developing a third technology line - low temperature biomass drying systems. Assets are located in Canada, U.S. and Europe.

Management reporting comprises analysis of revenue and gross profit within two distinct geographical areas. All other items of revenue and expenses are considered on a geographical and/or global basis in making strategic decisions regarding the Company's future. The Company has two operational bases ("reporting units"), one in Ottawa, Canada covering North America and China, and the other in Bristol, United Kingdom, covering Europe and the rest of the world. These areas are determined by proximity of the region to the reporting unit, plus the location of the contracts in existence with agents and distributors in the

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

respective areas and the historical relationships with those agents and distributors. Corporate costs that cannot easily be attributed to either of the two reporting units are included in reconciling items. The chief operating decision maker focuses on revenues and costs by geographical segments, but manages assets and liabilities on a global basis.

Segment information for the year ended May 31, 2019 and the comparative year are detailed in the table below:

	Thermal Energy Ottawa		Thermal Energy Bristol		Reconciling Items		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
	\$	\$	\$	\$	\$	\$	\$	\$
Total revenue from external customers	<b>16,648,483</b>	12,505,454	<b>4,434,773</b>	4,902,757	-	-	<b>21,083,256</b>	17,408,211
Cost of sales	<b>(10,087,760)</b>	(7,408,364)	<b>(1,762,120)</b>	(1,665,824)	-	-	<b>(11,849,880)</b>	(9,074,188)
Gross profit	<b>6,560,723</b>	5,097,090	<b>2,672,653</b>	3,236,933	-	-	<b>9,233,376</b>	8,334,023
Other expenses	<b>(4,304,327)</b>	(3,288,837)	<b>(3,757,499)</b>	(3,340,178)	<b>(1,449,375)</b>	(1,216,229)	<b>(9,511,201)</b>	(7,845,244)
Net finance (costs) income	<b>20,413</b>	32,225	-	-	<b>(302,394)</b>	-	<b>(281,981)</b>	32,225
Income (loss) before taxation	<b>2,276,809</b>	1,840,478	<b>(1,084,846)</b>	(103,245)	<b>(1,751,769)</b>	(1,216,229)	<b>(559,806)</b>	521,004
Tax (expense) recovery	<b>52,969</b>	(22,391)	<b>(113,030)</b>	23,950	<b>168,764</b>	96,916	<b>108,703</b>	98,475
Profit (loss) after taxation	<b>2,329,778</b>	1,818,087	<b>(1,197,876)</b>	(79,295)	<b>(1,583,005)</b>	(1,119,313)	<b>(451,103)</b>	619,479
Attributable to:								
Owners of the parent	<b>2,378,592</b>	1,832,463	<b>(1,219,873)</b>	(74,152)	<b>(1,583,005)</b>	(1,119,313)	<b>(424,286)</b>	638,998
Non-controlling interest	<b>(48,814)</b>	(14,376)	<b>21,997</b>	(5,143)	-	-	<b>(26,817)</b>	(19,519)

Reconciling items comprise the following:

	2019	2018
Corporate administration costs	<b>\$ 696,564</b>	\$ 722,738
Share-based compensation	<b>115,346</b>	49,606
Professional fees	<b>138,092</b>	141,524
Depreciation of property, plant and equipment	<b>84,509</b>	44,342
Amortization of intangible assets	<b>253,976</b>	-
Acquisition costs	<b>148,849</b>	223,550
Bank charges and interest	<b>20,467</b>	33,306
Foreign exchange differences	<b>(8,428)</b>	1,163
<b>Total</b>	<b>\$ 1,449,375</b>	\$ 1,216,229

Corporate administration costs include directors' fees, all costs relating to both the CEO and CFO, directors and officers' insurance, corporate legal costs, public relations costs, professional fees relating to group tax planning and corporate filing costs as well as the Annual General Meeting.

Finance costs within the reconciling items include interest and deferred financing charge on the long-term debt and interest accretion on contingent consideration and holdback payable following the acquisition of Boilerroom Equipment Inc.

During the year ended May 31, 2019, the Company had two customers in North America that accounted for 33.4% and 13.8% of total consolidated revenue for the year.

During the year ended May 31, 2018, the Company had two customers in North America that accounted for 22.4% and 10.0% of total consolidated revenue for the year.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

Further geographical analysis:

	Sales for the year ended		Property, plant and equipment as at		Goodwill and intangibles assets as at		Finance lease receivable (non-current) as at	
	May 31,		May 31,		May 31,		May 31,	
	2019	2018	2019	2018	2019	2018	2019	2018
	\$	\$	\$	\$	\$	\$	\$	\$
Canada	9,037,678	5,274,196	49,136	41,789	–	–	–	93,257
U.S.A.	7,560,979	7,231,259	172,640	–	2,856,004	–	–	–
U.K.	3,373,480	3,793,527	38,426	35,606	1,839,813	1,856,739	–	–
Italy	416,046	291,663	–	–	–	–	–	–
Germany	226,504	173,145	–	–	–	–	–	–
Poland	147,459	–	–	–	–	–	–	–
Netherlands	106,779	85,652	–	–	–	–	–	–
Norway	19,655	122,870	–	–	–	–	–	–
Ireland	–	70,983	–	–	–	–	–	–
Rest of Europe	97,542	78,204	–	–	–	–	–	–
Kenya	46,115	73,551	–	–	–	–	–	–
India	27,125	103,854	–	–	–	–	–	–
Rest of world	23,894	109,307	–	–	–	–	–	–
<b>Total</b>	<b>21,083,256</b>	<b>17,408,211</b>	<b>260,202</b>	<b>77,395</b>	<b>4,695,817</b>	<b>1,856,739</b>	<b>–</b>	<b>93,257</b>

### Material Segmentation Variances

#### Thermal Energy Ottawa:

For the year ended May 31, 2019, revenue was \$16,648,483 as compared to \$12,505,454 for FY 2018. The increase in revenue was due to the delivery of the remaining 70% of the \$11 million energy efficiency project with the Pulp & Paper Customer announced December 5, 2017 and the integration of the financial result of Boilerroom Equipment Inc. into the consolidated results.

Gross profit increased from \$5,097,090 in FY 2018 to \$6,560,723 in FY 2019. The increase in gross profit was mainly due to the increased sales in heat recovery systems and the integration of Boilerroom Equipment Inc's results into the consolidated results upon acquisition. As a percentage of revenue, gross profit was 39.4% in FY 2019, compared to 40.8% achieved in FY 2018. Gross profit as a percentage of revenue decreased due to the lower margin on the heat recovery systems sold by Boilerroom Equipment Inc.

Other expenses in the region increased by \$1,015,490 (30.9%), due to the integration of operating expenses of Boilerroom Equipment Inc. to the consolidated results, the strategic investment in recruiting additional technical and sales staff to accommodate future growth, and the increased commissions due to the increased revenues.

With finance revenue decreasing by \$11,812 as the finance lease is being paid off by the customer, the resulting segment income before tax of \$2,276,809 represented an increase of \$436,331 from the previous year.

#### Thermal Energy Bristol:

Revenue for the year ended May 31, 2019 was \$4,434,773 compared to \$4,902,757 for the previous year, a decrease of \$467,984. The decrease in Europe and rest of world market was due to decreased sales in both heat recovery systems and condensate return systems.

Gross profit decreased in the year ended May 31, 2019 over the previous year by \$564,280, due to decreased sales and lower margins achieved. Gross profit as a percentage of revenue decreased from 66.0% to 60.3% due to lower margins in both heat recovery systems and GEM condensate return systems.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

Other expenses increased by \$417,321 mainly due to additional costs related to new sales and marketing staff hired as well as new costs related to advertising and marketing activities. The resulting pre-tax loss was \$1,084,846 as compared to \$103,245 in the prior year, an increase of \$981,601.

Other expenses within Reconciling items, which incorporates all costs not specifically attributable to either regional operational center, increased in FY 2019 from the prior year by \$233,146. The increase was mainly due to the increase in amortization cost of intangible assets of \$253,976. During the FY 2019, intangible assets of \$1,765,837 relating to Boilerroom Equipment Inc. were recognized upon acquisition.

### *Selected Annual Information*

The following table shows selected consolidated financial data for the three most recently completed financial years.

Financial information for the years ending May 31, 2017, 2018 and 2019

	2017 \$	2018 \$	2019 \$
Revenue	13,192,107	17,408,211	21,083,256
Gross Profit	7,438,575	8,334,023	9,233,376
Gross Profit Percentage	56.4%	47.9%	43.8%
EBITDAS <sup>(1)</sup>	749,762	616,905	176,006
Total net income (loss) attributable to owners of the parent	414,880	638,998	(424,286)
Net profit (loss) per share – basic and diluted	0.003	0.004	(0.003)

(1) EBITDAS represents earnings before interest, taxation, depreciation, amortization, impairment of goodwill and other intangible assets, share-based compensation expense and net write down of lease.

A reconciliation of net income (loss) to EBITDAS is shown below:

	2017 \$	2018 \$	2019 \$
Total net income (loss) attributable to owners of the parent	414,880	638,998	(424,286)
Total net income (loss) attributable to non-controlling interest	(22,148)	(19,519)	(26,817)
Interest charge	4,015	2,302	302,394
Interest received	(2,133)	(349)	(20,413)
Taxation	199,768	(98,475)	(108,703)
Depreciation and amortization	38,114	44,342	338,485
Share based compensation	117,266	49,606	115,346
EBITDAS	749,762	616,905	176,006

FY 2019 generated \$3,675,045 more revenue than FY 2018, an increase of 21.1%. This increase came from increased revenues of heat recovery systems in North America and the additional revenue brought in by Boilerroom Equipment Inc. As a result, the gross profit increased by \$899,353. Most of the increase in costs was the direct result of the increased revenue, with commissions payable being higher than in the previous year. In addition, the Company recruited additional sales, technical and administrative staff in FY 2019. In FY 2019, cash balances grew by \$895,052. With the acquisition of Boilerroom Equipment Inc., the total assets increased by \$4,562,812 from May 31, 2018. The increase in total assets included increase in goodwill and intangibles of \$2,839,078 relating to the acquisition.

FY 2018 generated \$4,216,104 more revenue than FY 2017, an increase of 32%. All of this increase came from increased revenues of heat recovery systems in North America, and the result was an increase in gross profit of \$895,448. Most of the increase in costs was the direct result of the increased revenue, with commissions and incentive payable being higher than in the previous year. In addition, the Company recruited additional sales, marketing, technical and administrative staff in FY 2018. In FY 2018, cash balances grew by \$332,068 contributing to the overall increase in total assets of \$315,359 from May 31, 2017.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

FY 2017 generated \$790,031 more revenue than FY 2016 despite the weakening of U.K. Sterling against the Canadian dollar, an increase of 6%. All of this increase came from sales of GEM traps, both within North America and Europe, and the result was an increase in gross profit of \$644,570. Most of the increase in costs was the direct result of the increased revenue, with commissions and incentive payable being higher than in the previous year. Over the current year, cash balances grew by \$1,806,992, contributing to the overall increase in total assets of \$2,396,080 from May 31, 2016.

Quarterly financial information (unaudited)  
For the eight quarters ended May 31, 2019

Quarter ended	31-May-19 \$	28-Feb-19 \$	30-Nov-18 \$	31-Aug-18 \$
Revenue	5,974,546	3,114,757	5,193,092	6,800,861
Gross Profit	3,473,376	1,447,605	2,102,510	2,209,885
Gross Profit Percentage	58.1%	46.5%	40.5%	32.5%
EBITDAS <sup>(1)</sup>	1,029,103	(734,366)	(67,995)	(50,736)
Total net income (loss)	599,958	(889,481)	(112,122)	(49,458)
Income (loss) per share, basic and diluted	0.004	(0.006)	(0.001)	0.000

Quarter ended	31-May-18 \$	28-Feb-18 \$	30-Nov-17 \$	31-Aug-17 \$
Revenue	7,352,794	3,228,386	3,729,447	3,097,584
Gross Profit	3,362,945	1,599,771	1,853,510	1,517,797
Gross Profit Percentage	45.7%	49.6%	49.7%	49.0%
EBITDAS <sup>(1)</sup>	850,479	(156,016)	108,711	(186,269)
Total net income (loss)	888,389	(158,644)	70,514	(180,780)
Income (loss) per share, basic and diluted	0.006	(0.001)	0.000	(0.001)

(1) EBITDAS represents earnings before interest, taxation, depreciation, amortization, impairment of goodwill and other intangible assets, share-based compensation expense and net write down of lease.

## 4. Related Party Transactions

Options outstanding for Directors (excluding the CEO) as at May 31, 2019 were 1,250,000 of which 416,667 were exercisable. There were no warrants outstanding for Directors.

Options outstanding for Senior Management (including the CEO) as at May 31, 2019 were 4,383,360 of which 2,008,360 were exercisable. There were no warrants outstanding for Senior Management.

### *Directors and Senior Management Compensation*

During the year ended May 31, 2019 compensation arrangements for directors was as follows:

\$13,500 per annum per Director plus an additional \$8,100 per annum payable to the Chairman of the Board, \$5,400 per annum payable to the chairperson of the Audit Committee, \$5,400 per annum payable to the chairperson of the Ethics Committee and \$1,000 payable for each in-person meeting.

During the year ended May 31, 2019, Directors fees paid were \$74,138. Fees to the Chairperson of the Audit Committee were \$5,400; fees to the Chairperson of the Ethics, Governance and Compliance Committee were \$5,400, fees paid to the Chairman were \$8,100; and a total of \$24,000 was paid for in-person meetings.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

Compensation paid to directors and officers during the year ended May 31, 2019 (inclusive of the amounts described above but excluding share-based compensation) was as follows:

	Salaries and fees		Incentives		Other short-term benefits		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
	\$	\$	\$	\$	\$	\$	\$	\$
<b>Directors</b>								
M. Williams	18,500	18,500	-	-	-	-	18,500	18,500
J. Kelly	26,600	24,600	-	-	-	-	26,600	24,600
W. Ollerhead	22,900	23,900	-	-	-	-	22,900	23,900
J. Schoenmakers <sup>(1)</sup>	10,293	21,900	-	-	-	-	10,293	21,900
D. Spagnolo	20,245	18,500	-	-	-	-	20,245	18,500
K. Milsom <sup>(2)</sup>	-	4,375	-	-	-	-	-	4,375
W. White	18,500	16,500	-	-	-	-	18,500	16,500
<b>Total</b>	<b>117,038</b>	<b>128,275</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>117,038</b>	<b>128,275</b>

### Senior Management

W. Crossland	240,000	240,000	-	32,630	3,953	3,796	243,953	276,426
J. Flynn <sup>(3) (4)</sup>	35,429	154,939	-	20,492	5,619	25,280	41,048	200,711
J. Zhang <sup>(4)</sup>	104,167	-	-	-	9,442	-	113,609	-
R. Triebe	181,000	181,000	-	20,492	7,333	7,788	188,333	209,280
S. Mawby <sup>(3)</sup>	157,961	128,083	-	20,492	24,726	20,015	182,687	168,590
<b>Total</b>	<b>718,557</b>	<b>704,022</b>	<b>-</b>	<b>94,106</b>	<b>51,073</b>	<b>56,879</b>	<b>769,630</b>	<b>855,007</b>
Total Related Party Transactions	835,595	832,297	-	94,106	51,073	56,879	886,668	983,282

Other short-term benefits include cash payments for social security costs, employee benefits, and payments made into defined contribution pension plans of the Company's U.K. based subsidiaries.

- (1) Mr. Schoenmakers resigned on November 27, 2018.
- (2) Ms. Milsom resigned on July 31, 2017.
- (3) Ms. Flynn and Mr. Mawby are compensated in UK Pound sterling. Average exchange rate to Canadian dollar was 1.7184 and 1.7025 in FY 2019 and FY 2018 respectively.
- (4) Ms. Flynn stepped down as Chief Financial Officer effective July 31, 2018 and Ms. Zhang was appointed Chief Financial Officer of the Corporation effective the same date.

## 5. Business Outlook

Governments around the world are taking unprecedented action, including increasing regulations, to reduce carbon emissions. Energy efficiency can make the transition toward a clean energy economy faster and cheaper than other initiatives, and therefore is an important element in energy policies around the world. As such, the industrial sector has begun to feel the pressing need to adopt measures that can improve the energy efficiency of internal processes and operations, thus contributing to an increased demand for energy efficiency products, solutions and services globally.

Other than our order backlog, we do not provide specific financial performance guidance. However, we believe that we are well positioned to benefit from this increased demand, particularly in our key markets of North America, the United Kingdom, and the European Union. As mentioned in Section 2.2 earlier, Management uses order backlog as an indicator of the short-term future revenue of our Company resulting from already recognized orders.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

The Company's order backlog as at May 31, 2019 was approximately \$14.0 million. As at September 30, 2019, the Company had an order backlog of approximately \$18.2 million.

	2017 \$ million	2018 \$ million	2019 \$ million
Order backlog as at May 31	4.2	9.9	14.0
Order backlog as at September reporting date	9.0	12.7	18.2

- On August 22, 2019, the company announced that it had been commissioned by a multi-national food-products corporation to install a turn-key energy saving heat recovery system. The FLU-ACE® heat recovery project, valued at approximately \$1.4 million, is designed to improve efficiency and reduce emissions at the manufacturer's infant milk processing plant. Preliminary analysis shows it could improve fuel use by up to 12%, equating to an annual energy saving of up to \$570,000.
- On August 7, 2019, the company announced that it had been commissioned by a leading European brewer to install a high-efficiency heat recovery system. The FLU-ACE® heat recovery project, valued at over \$650,000, is designed to optimize efficiency at the UK production facility, helping the site to reach its sustainability goals. Preliminary analysis shows the initiative will provide an expected utility saving of \$400,000 per year.
- On May 21, 2019, the company announced that it had been commissioned by a leading snack food manufacturer to install a heat recovery system designed to support its sustainability goals. The custom-designed condensing project, valued at over \$1.5 million, is the first of its kind to be developed with this multinational snack company. Upon commissioning, the installation will provide an expected natural gas saving of almost \$400,000 per year.
- On April 1, 2019, the Company announced that it had been commissioned by a leading tissue manufacturer for a heat recovery system at one of its flagship production plants. The project, valued at \$850,000, will include the deployment of the Company's proprietary FLU-ACE® heat recovery technology, in a solution set to provide the site with natural gas savings of over \$350,000 a year.
- On March 27, 2019, the Company announced that it had been commissioned by a leading multinational animal nutrition and agricultural products company to improve energy efficiency at one of its European facilities. The project, valued at approximately \$2.3 million, will see the Company install two of its proprietary FLU-ACE® heat recovery systems to delivery greater fuel efficiency.
- On March 11, 2019, the Company announced that it had been commissioned by a major US dairy group to design and implement an extensive heat recovery project. This project, valued at \$1.8 million, will utilize the Company's recently acquired HEATSPONGE technology to heat boiler feed and process water. It is the first project between the Company and the dairy group.
- On January 29, 2019, the Company announced that it had been commissioned by a leading food ingredient company to install an innovative heat recovery system at one of its processing plants. This FLU-ACE® heat recovery project, valued at over \$2.4 million, is the first time Thermal Energy will apply its proprietary heat recovery technology in this Food & Beverage sub-sector.
- On December 13, 2018, the Company announced that it had been commissioned by a multinational food and beverage conglomerate to add a second FLU-ACE® to its existing heat recovery system. This heat recovery project, valued at approximately \$2.4 million, is an extension to the Company's proprietary FLU-ACE® technology already deployed at the beverage processing plant.



## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

- On November 26, 2018, the Company announced that it had been commissioned by a leading Fortune 500 food and beverage conglomerate to integrate a heat recovery process with a solar thermal water heating system. The landmark project, with an order value of approximately \$300,000, leverages Thermal Energy's expertise in low temperature heating systems.
- On November 19, 2018, the Company announced that it had been commissioned by a leading speciality chemicals producer to design, manufacture and install a turnkey heat recovery project. This \$960,000 contract is set to be implemented as part of a company-wide resource productivity and sustainability initiative and follows the successful deployment of a GEM™ Trap installation at the same location, which was designed to maximize steam system and energy efficiency via optimal steam trapping.
- On October 25, 2018, the Company announced that it had been commissioned by a leading Fortune 500 food and beverage company to implement a water recovery system as part of an ongoing sustainability drive. This landmark project has an order value of approximately \$1.3 million and highlights the Company's strategic goal of expanding its products and capabilities beyond energy efficiency to include water recovery and the broader sustainability market.

## 6. Summary of Outstanding Shares and Dilutive Instruments

The Company currently has the following shares and dilutive instruments outstanding:

### Shares

161,885,616 class A common shares.

### Options

Range of exercise prices	Options outstanding		Options exercisable		
	Number outstanding May 31, 2019	Weighted average remaining contractual life	Weighted average exercise price	Number exercisable at May 31, 2019	Weighted average exercise price
0.05-0.07	2,770,833	2.00	0.05	2,770,833	0.05
0.08-0.10	11,238,360	3.38	0.08	3,563,360	0.08
0.11-0.12	250,000	2.50	0.12	166,666	0.12
	14,259,193	3.10	0.07	6,500,859	0.07

## 7. Critical Accounting Estimates and Changes in Accounting Standards

### Critical Accounting Estimates

The preparation of financial statements in accordance with IFRS necessitates the use of management estimates, assumptions and judgment that affect reported amounts of assets, liabilities, revenues and expenses and disclosure of contingent assets and liabilities at the date of the financial statements. Although management reviews its estimates on an ongoing basis, actual results may differ from these estimates as confirming events occur. The following components of the financial statements depend most heavily on such management estimates, assumptions and judgment, any changes in which may have a material impact on the Company's financial condition or results of operations. For more information about certain assumptions

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

and risks that may affect these estimates, assumptions and judgments, please see the “Forward Looking Information” section of this MD&A.

### ***Business combinations***

The identifiable assets acquired and liabilities assumed as part of a business combination are measured at the date of acquisition at their fair values. In estimating fair value the Company uses market observable data to the extent it is available. In cases when Level 1 inputs are not available, the measurement of fair value involves the selection of an appropriate valuation model and consideration as to the inputs necessary for the valuation model chosen.

### ***Valuation of goodwill and intangible assets and asset impairment***

Goodwill and intangible assets are tested annually for impairment, or earlier if circumstances indicate an impairment.

An impairment loss is recognized for the amount by which an asset's or cash-generating unit's carrying amount exceeds its recoverable amount. To determine the recoverable amount, management estimates expected future cash flows from each asset or cash-generating unit and determines a suitable interest rate in order to calculate the present value of those cash flows. In the process of measuring expected future cash flows, management makes assumptions about future operating results and, in the case of other intangible assets, determines an applicable royalty rate. These assumptions relate to future events and circumstances. The actual results may vary and may cause significant adjustments to the Company's assets within the next financial period.

In most cases, determining the applicable discount rate involves estimating the appropriate adjustment to market risk and the appropriate adjustment to asset-specific risk factors.

### ***Future production outputs relating to the finance lease***

When a new finance lease or amendment is signed, in determining minimum lease payments receivable, management makes estimates regarding monthly energy outputs of the leased asset based on assumptions regarding the efficiency of the asset, the operations of the plant in which it is located, penalty payments resulting from temporary plant shut-downs and residual value of the equipment. These assumptions relate to future events and circumstances. Actual results may vary from estimate.

### ***Assumptions used in the Black-Scholes fair value calculations***

The estimation of share-based payment expense requires the selection of an appropriate valuation model and consideration as to the inputs necessary for the valuation model chosen. In calculating the share-based payment expense, key estimates such as the rate of forfeiture of options granted, the expected life of the option, the volatility of the Company's stock price and the risk-free interest rate are used.

### ***Expected credit loss***

The valuation of allowances for uncollectable trade receivables requires assumptions including estimated credit losses based on the Company's knowledge of the financial conditions of its customers, historical experience and general economic conditions.

### ***Revenue recognition relating to contracts for heat recovery solutions***

The stage of completion of any heat recovery solutions contract is assessed by management by taking into consideration all information available at the reporting date. In this process, management exercises significant estimate about milestones, actual work performed and the estimated costs to complete work.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

### *Deferred tax assets*

Deferred tax assets are recognized for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable income will be available against which they can be utilized. These estimates are reviewed at every reporting date. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of the reversal of existing differences, future taxable income and future tax planning strategies.

### *Changes in Accounting Standards*

The Company has adopted the following new or amended accounting standards.

#### *Amendments to IFRS 2: Share Based Payments (“IFRS 2”)*

In June 2016, the IASB issued amendments to IFRS 2. The amendments, which were developed through the IFRS Interpretations Committee, provide requirements for accounting for the effects of vesting and non-vesting conditions on the measurement of cash-settled share based payments. They also provide guidance on the accounting for share-based payment transactions with a net settlement feature for withholding tax obligations; and a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. The company adopted the amendments on June 1, 2018. The adoption of these amendments did not have a material impact on the consolidated financial statements.

#### *IFRS 9, Financial Instruments*

Effective June 1, 2018, the Company adopted IFRS 9, which sets out requirements for recognition and measurement, impairment, derecognition and general hedge accounting. This standard simplifies the classification of a financial asset as either at amortized cost or at fair value as opposed to the multiple classifications which were permitted under IAS 39. This standard also requires the use of a single impairment method as opposed to the multiple methods in IAS 39. The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of the financial assets. The standard also adds guidance on the classification and measurement of financial liabilities.

The following table summarizes the original measurement categories under IAS 39 and the new measurement categories under IFRS 9 for each class of the Company’s financial assets and financial liabilities:

	Classification under IAS 39	Classification under IFRS 9
Financial assets:		
Cash and cash equivalents	FVTPL	Amortized cost
Trade and other receivables	Loans and receivables	Amortized cost
Finance lease receivables	Loans and receivables	Amortized cost
Financial liabilities:		
Trade payables	Other liabilities	Amortized cost
Other liabilities	Other liabilities	Amortized cost

Trade and other receivables as well as finance lease receivables that were classified as loans and receivables under IAS 39 are classified as financial assets measured at amortized cost. Trade payables and Other liabilities that were classified as other liabilities under IAS 39 are classified as financial liabilities measured at amortized cost. There is no change to the measurement of the Company’s financial assets and financial liabilities upon the adoption of new classification under IFRS 9.

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

Impairment of financial assets is based on an expected credit loss (“ECL”) model under IFRS 9, rather than the incurred loss model under IAS 39. ECLs are a probability-weighted estimate of credit losses, where credit losses that are expected to transpire in future years are provided for, irrespective of whether a loss event has occurred or not as at the statement of financial position date. The Company calculated ECLs based on consideration of customer-specific factors, historical credit loss experience and general economic conditions. The Company has assessed the impairment of its trade and other receivables using the expected credit loss model. No material difference was noted.

There was no impact of transition to IFRS 9 on the Company’s statement of financial position at June 1, 2018.

### **IFRS 15, Revenue from Contracts with Customers**

Effective June 1, 2018, the Company adopted IFRS 15.

IFRS 15 provides a single, principles based five-step model to be applied to all sales contracts as outlined below. It is based on the transfer of control of goods and services to customers and replaces the separate models for goods, services and construction contracts.

1. Identify the contract(s) with a customer
2. Identify the performance obligations in the contract
3. Determine the transaction price
4. Allocate the transaction price to the performance obligations in the contract
5. Recognise revenue when or as the entity satisfies its performance obligations

The Company adopted IFRS 15 using the cumulative effect method, with the effect of adopting this standard recognized on June 1, 2018, the date of initial application. Accordingly, the information presented for 2018 has not been restated. It remains as previously reported under IAS 18, IAS 11 and related interpretations. Adoption of IFRS 15 has not impacted the accounting for the sale of goods, rendering of services and contracts for heat recovery solutions. The Company has elected to make use of the following practical expedients:

- The Company expenses sales commission costs when incurred if the amortization period is less than 12 months.
- The Company is not adjusting the transaction price for the effects of financing component when the period between customer payment and the transfer of goods and services to the customer is less than 12 months.

### **New standards and amendments yet to be adopted:**

At the date of approval of the accompanying consolidated financial statements, certain new standards, amendments and interpretations to existing standards have been published but are not yet effective, and have not been adopted early by the Company. These standards will be adopted at the effective date.

Management anticipates that all of the pronouncements will be adopted in the Company’s accounting policy for the first period beginning after the effective date of the pronouncement. Information on new standards, amendments and interpretations that are expected to be relevant to the Company’s consolidated financial statements is provided below. Certain other new standards and interpretations have been issued, but are not expected to have an impact on the Company’s consolidated financial statements.

### *IFRS 16, "Leases"*

In January 2016, the IASB issued IFRS 16, Leases, which specifies how to recognize, measure present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize all assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Consistent with its predecessor, IAS 17, the new lease standard continues to require lessors to classify leases as operating or finance. IFRS 16 is to be applied retrospectively for annual periods beginning on or after January 1, 2019. Earlier application is permitted if IFRS 15 Revenue from Contracts with Customers has also been applied.

The Company expects the adoption of this standard to increase assets and liabilities as it will be required to record a right-of-use asset and a corresponding lease liability in its financial statements. The Company does not intend to adopt this standard early and continues to evaluate the financial impact of adopting this standard on the consolidated financial statements. The company will adopt the new standard on June 1, 2019.

## 8. Risk Factors and Risk Management

Management is confident about our long-term prospects, but does recognize that the company is exposed to a number of risks in the normal course of business that could negatively impact the financial condition of the Company.

Operational risks of the company include the ability to continue to secure and implement sales contracts for its GEM™ and FLU-ACE® technology solutions.

Financial risks and uncertainties of the Company include:

- The Company's history of operating losses and uncertainty of future profitability;
- The ability to grow sales through the establishment of new cooperative partnerships and strategic alliances;
- The ability to grow sales through the licensing of the corporation's technologies;
- The ability to secure and maintain the required outside working capital financing;
- The ability to achieve profitable operations through increased sales;
- Reliance on third party collaborations and license arrangements;
- Reliance on proprietary technology;
- Competition in the energy conservation and environmental compliance solutions;
- Product liability claims and insurance;
- Reliance on key personnel;
- The ongoing litigation with its former President & CEO;
- The ability to control costs and achieve a positive gross margin on projects;
- The effect of a continuing prolonged recession in Canada, U.S.A. and Europe to the financial markets in securing project financing and in particular to industrial and commercial customers in committing capital to projects.
- The impact of the pending departure from the European Union by the U.K.

### *Management's addressing of the risks:*

FY 2012 saw the Company's first ever net profit, which was the result of increased revenues and strict cost control. FY 2013, however, produced an operating loss of \$844,328, resulting from diminished revenues and increasing costs. Despite further cost increases as management continue to build the sales force, FY 2014 produced the company's best ever post-tax income of \$634,023 as well as an increase in cash balance of

## Management Discussion and Analysis for the Fiscal Year Ended May 31, 2019

\$742,022, but this was again followed by a net loss of \$2,154,817, accompanied by a cash decrease of \$1,331,074 in FY 2015. FY 2016 and FY 2017 saw a return to profitability and an increase in cash balances of \$427,805 and \$1,806,992 respectively, and this was followed in FY 2018 by another profitable year which saw cash balances increase by \$336,334. In FY 2019, sales increased by 21.1% due to the increase revenue in heat recovery systems and the acquisition of Boilerroom Equipment Inc. Despite of the loss incurred in FY 2019, Management is confident that the profitable trend is set to continue as EBITDAS for F2019 was positive \$176,006.

The Company actively protects its proprietary technology through registered trademarks and confidentiality agreements.

The Company maintains adequate forms of general liability insurance including product liability and errors and omission coverage.

Management still believes that competition against its core technology of GEM™, FLU-ACE® and DRY-REX™ is limited at this time and believes that the market place is sufficiently large enough to mitigate the risk of stronger competition in the future.

On June 23, 2016 a referendum was held in the U.K., resulting in the decision to leave the European Union. One immediate effect was a significant fall in the value of U.K. Pound Sterling against most other major currencies, although it has now stabilized. Negotiations regarding how trade will continue after U.K. leaves are ongoing, the outcome of which is difficult to predict. Management continues to monitor the situation, but at this point cannot comment on how the eventual break will impact the Company. In the meantime, business continues as normal.

Management continues to focus on strengthening relationships with key customers, as well as securing new relationships with multi-site organizations, which is anticipated to provide repeat business into the foreseeable future. Management continually monitors costs and cash flow to ensure that the Company has sufficient funds for operations while providing for future growth.

## 9. Forward-Looking Information

This MD&A contains certain “forward-looking statements.” All statements, other than statements of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future (including, without limitation, statements regarding financial and business prospects and financial outlook) are forward looking statements. These forward-looking statements reflect the current expectations or beliefs of Management, based on information currently available to the Company. Forward-looking statements are subject to a number of risks, uncertainties and assumptions that may cause the actual results of the Company to differ materially from those discussed in the forward-looking statements and, even if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on the Company. Factors that could cause actual results or events to differ materially from current expectations include, among other things, changes in general economic and market conditions, changes to regulations affecting the Company’s activities, and uncertainties relating to the availability and costs of financing needed in the future. Any forward-looking statement speaks only as at the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking statement, whether as a result of new information, future events or results or otherwise. Although Management believes that the assumptions inherent in the forward-looking statements are reasonable, forward-looking statements are not guarantees of future performance and, accordingly, undue reliance should not be put on such statements due to the inherent uncertainty therein.

## 10. Management's Responsibility for Financial Reporting

In compliance with the Canadian Securities Administrators' National Instrument 52-109 ("NI 52-109"), the Company has filed with applicable Canadian securities regulatory authorities, certificates signed by its Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") that, among other things, report on the design and effectiveness of disclosure controls and procedures and the design of internal controls over financial reporting.

Under the supervision of the CEO and CFO, the Company maintains systems of internal accounting and administrative controls to provide reasonable assurance that the financial information is relevant, reliable and accurate and that transactions are authorized, assets are safeguarded and proper records are maintained. Internal controls over financial reporting, no matter how well designed, have inherent limitations and may not prevent or detect all misstatements. There were no changes to the Company's internal control over financial reporting during the year ended May 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

The Board of Directors is responsible for ensuring that management fulfills its responsibility principally through its Audit Committee.

Thermal Energy's auditors, KPMG LLP, conducted an independent audit of the consolidated financial statements for the year ended May 31, 2019, performing such tests and other procedures as they consider necessary to express an audit opinion. The external auditors have full and unrestricted access to the Audit Committee to discuss their audit and related findings.