

Thermal Energy International

Profitable energy efficiency & emission reduction solutions



An Innovative Technology Company Providing Sustainability Solutions

TSX-V: TMG | enq@thermalenergy.com | www.thermalenergy.com

Forward-looking Statements

TSX-V: TMG | January 2019

This presentation includes “forward-looking information”.

For example, statements about the opportunities for repeat business, additional orders, entry into new markets and growth of recurring revenue streams; upcoming projects; introduction of new products and services and growth opportunities and strategies are all forward looking information. Such forward looking information reflects **Thermal Energy International’s** (“TEI”) current expectations with respect to future events and are based on information currently available to management.

Forward-looking information involves significant known and unknown risks, uncertainties and assumptions. Should one or more of these risks or uncertainties materialize, or should assumptions underlying the forward-looking information prove incorrect, actual results, performance or achievements could vary materially from those expressed or implied by the forward-looking information contained in this presentation. Readers should not place undue reliance on forward-looking information. The forward-looking information is made as of the date of this presentation and TEI does not assume any obligation to update or revise it to reflect new events or circumstances, except as required by law.

Thermal Energy International

We engineer, design and deliver propriety energy efficiency solutions to companies worldwide

We save our customers' money and improve their bottom lines by:

- Reducing their fuel use
- Cutting their emissions
- Recovering water

Investment Highlights

1

Enormous, fast-growing global market with strong fundamentals

2

Proprietary products sold to leading companies in many sectors

3

Poised to continue strong track record of growth

Enormous Global Market

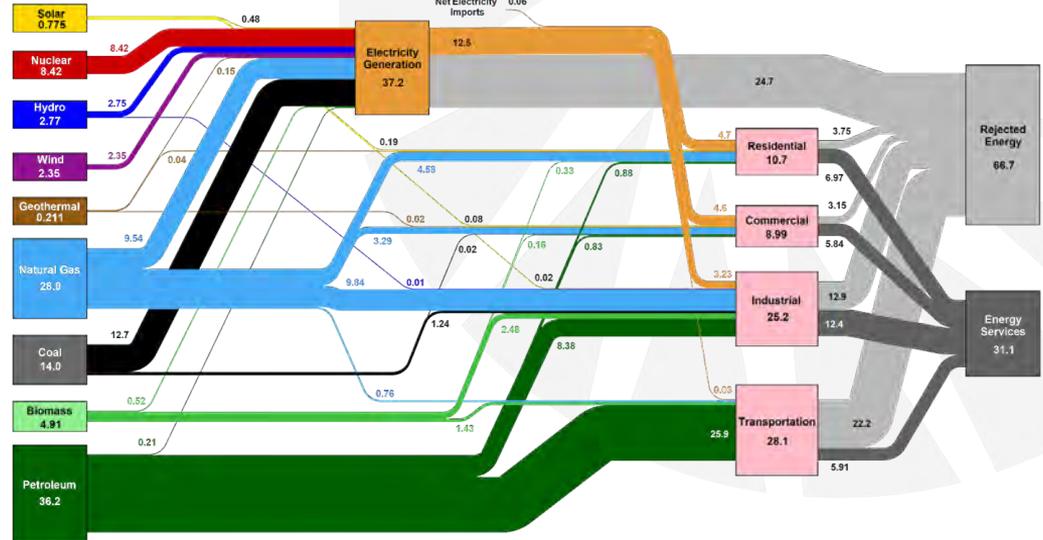
More than 50% of the world's energy is lost due to inefficiency

“Energy efficiency has been called a ‘hidden fuel’.

However, the degree of global investment in energy efficiency, and the resulting energy savings, are so massive that energy efficiency is not just a hidden fuel but rather the world's first fuel.”

Maria van der Hoeven, IEA
Executive Director

Estimated U.S. Energy Consumption in 2017: 97.7 Quads

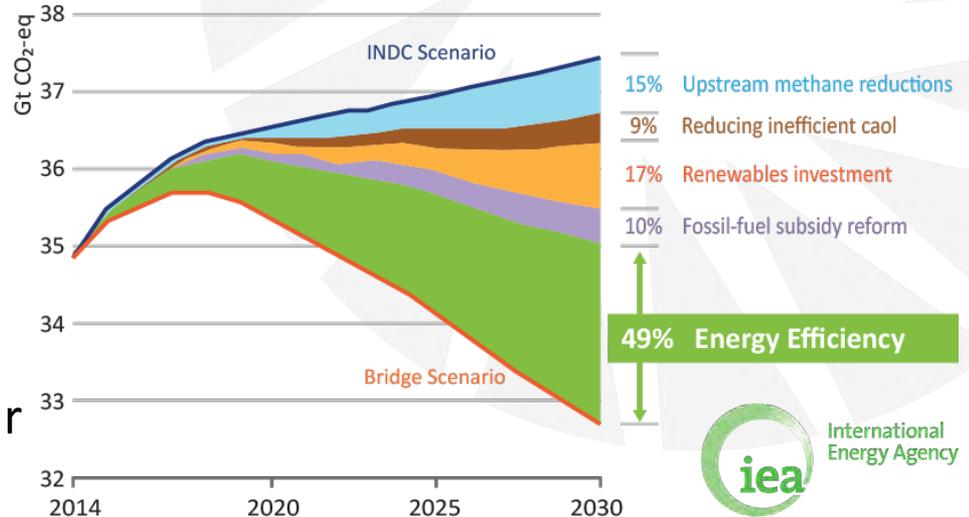


Source: LLNL April, 2018. Data is based on DOE/EIA MSR (2017). If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. This chart was revised in 2017 to reflect changes made in mid-2016 to the Energy Information Administration's analysis methodology and reporting. The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 45% for the residential sector, 65% for the commercial sector, 21% for the transportation sector, and 49% for the industrial sector which was updated in 2017 to reflect DOE's analysis of manufacturing. Totals may not equal sum of components due to independent rounding. LLNL-04-11037

Market fundamentals stronger than ever

Governments and industries around the world are taking unprecedented action on climate change

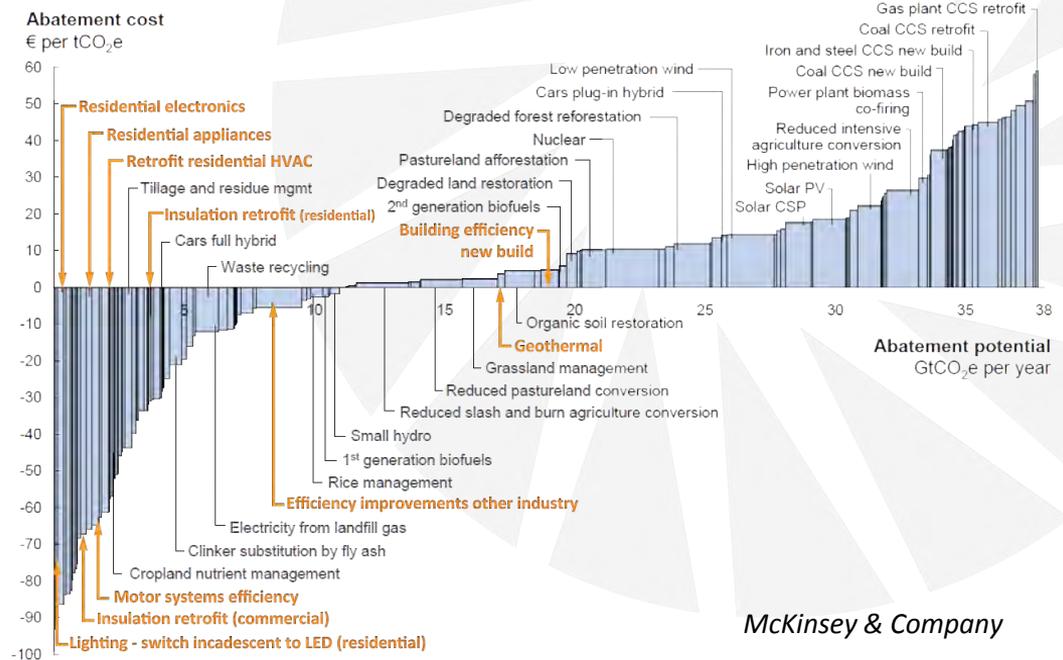
- Improved energy efficiency can meet 50% of the world's carbon reduction commitments
- 3x more than what all forms of renewable energy can achieve
- A 9x increase in annual energy investment is required to meet our carbon reduction commitments



Efficiency is the cheapest solution

Increasing energy efficiency is the **fastest, cheapest and easiest** way to reduce GHG emissions

- Systematically cheaper than other sustainability solutions
- Does not cost money
- Saves money and increases profitability
- Improves competitiveness



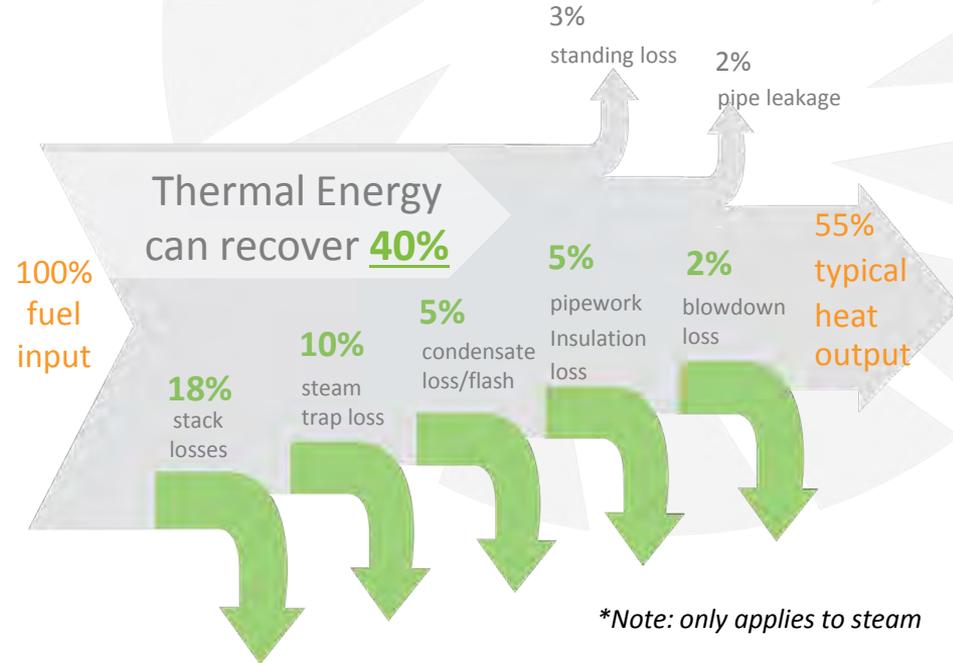
McKinsey & Company

Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.
Source: Global GHG Abatement Cost Curve v2.0

Significant market opportunity

Up to 50% of industrial energy consumption is lost as waste heat due to inefficiency

- Thermal Energy's proprietary solutions can recover **up to 80% of the energy** lost in a typical industrial application (**making it 90-95% efficient**)
- Industrial heat recovery is an **estimated \$450 billion market**



A suite of proprietary, proven solutions

- Over 20 years of expertise and proven performance
- 10-30% reduction in energy costs
- High ROI with short, compelling paybacks of 1-5 years

FLU-ACE[®]
HEAT RECOVERY SYSTEM

BEI BOILERROOM
EQUIPMENT
HEAT EXCHANGE & ECONOMY

Dry-Rex[™]
LOW TEMP BIOMASS DRYING

GEM STEAM TRAPS

 **CoGeneration**
Combined Heat and Power

GEM™ Steam Traps

The new generation of steam trapping

- More efficient than traditional mechanical traps
- No moving parts reduces maintenance and eliminates the need to replace
- Typical payback period 1 – 2 years
- 100's to 1,000's of traps per location
- Typical order \$5K - \$500K



FLU-ACE[®] Heat Recovery System

Recovers waste heat **and** water

- Waste heat is recovered from exhausts
- Returned as hot water for use in process or heating
- Typical annual fuel saving of between 5% and 25%
- Reduces CO₂ , NO_x and SO₂ emissions as well as particle matter (PM)
- Typical payback period 2 – 5 years
- Typical order \$100K to millions



Boilerroom Equipment Inc., Acquired June 2018

Complimentary heat recovery portfolio – growing our **offering, reach and channels**

FLU-ACE[®]
HEAT RECOVERY SYSTEM

BEI BOILERROOM
EQUIPMENT
HEAT EXCHANGE & ECONOMY

Direct contact condensing heat recovery systems

- Custom engineered
- Direct Sale
- Large industrial & institutional sites
- Order value \$100K - millions



Indirect contact condensing heat recovery products

- Mass customization via modulated design
- Sale via manufactures reps and OEM
- All sizes of industrial, commercial and institutional sites
- Order value \$5K to \$150K



Broad range of industries and customers

Our customers include a large number of Fortune 500 and other leading multinational companies across a wide range of industry sectors:

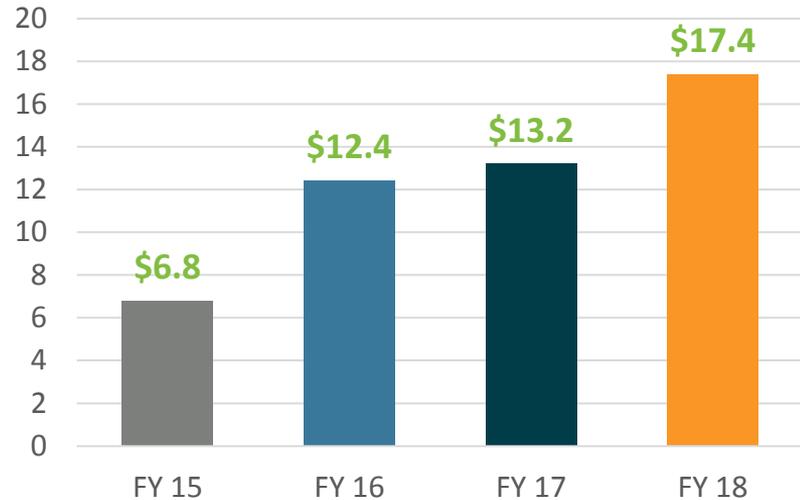


- Pulp & Paper
- Laundry
- Healthcare
- Food & Beverage
- Building materials
- Chemical
- Petrochemical
- Brewery
- Mining
- Rubber
- Pharmaceutical
- Agribusiness

Revenue

Fiscal year

(\$ millions)

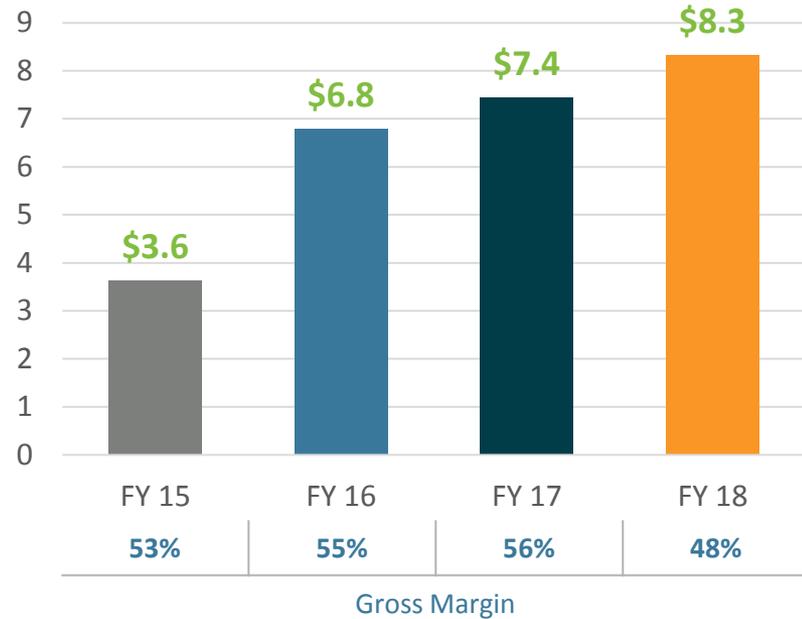


- \$17.4 million revenue is the strongest in the Company's history
- FY 2018 would have been a record revenue year even without the Resolute Forest Products project
- Increase of 32% over fiscal 2017's revenue of \$13.2 million
- 37% compound annual growth since FY2015

Gross profit

Fiscal year

(\$ millions)

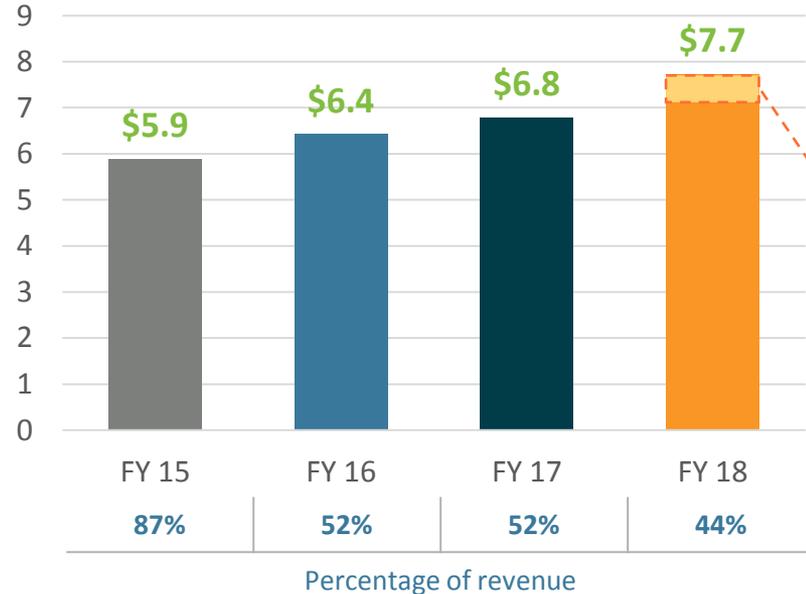


- Record Gross Profit
- Increase of 12% over FY 2017
- Gross margin impacted by project and product mix

Operating expenses

Fiscal year

(\$ millions)



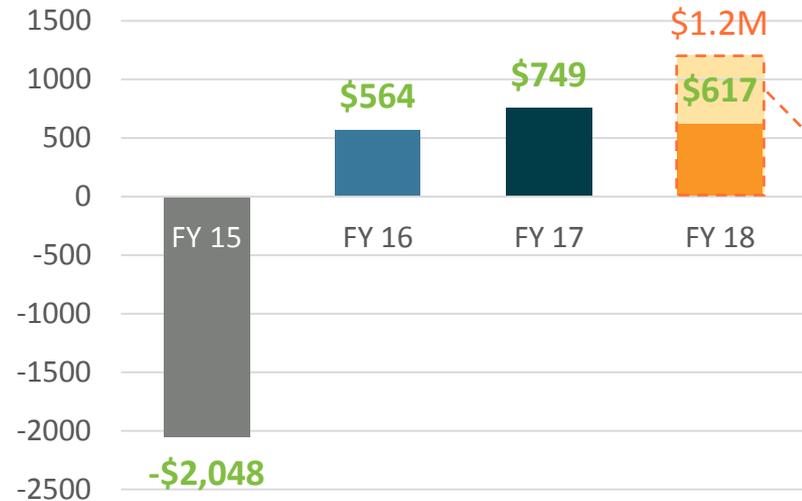
- Operating expenses as a percent of revenue continues to decrease despite continued strategic investments in future growth.

• Excluding \$613K strategic investments in future growth (\$389K for staff additions & \$224K in onetime acquisition related expenses) operating expenses would have been **\$7.1 million or 41% of revenue**

EBITDAS

Fiscal year

(\$ thousands)

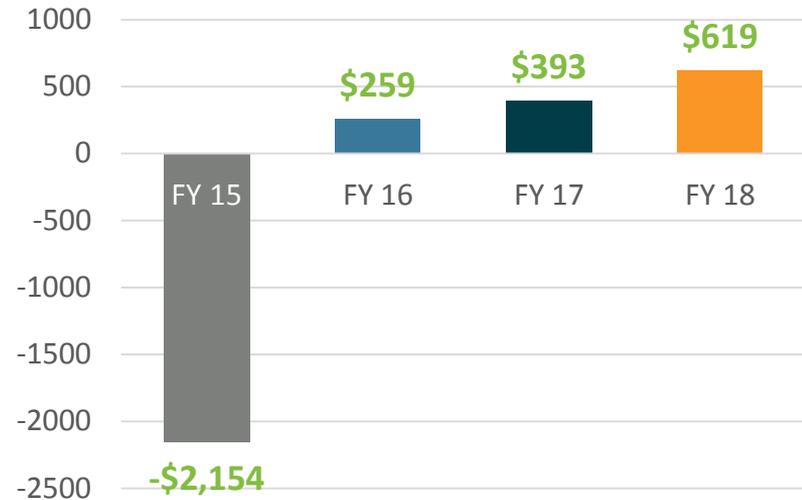


- EBITDAS decreased 17.7% to \$617K compared with \$749K in the prior year
- Excluding the \$613K strategic investments in future growth and onetime acquisition related expenses, EBITDAS would have been \$1.2 million - 64% increase

Net income

Fiscal year

(\$ thousands)

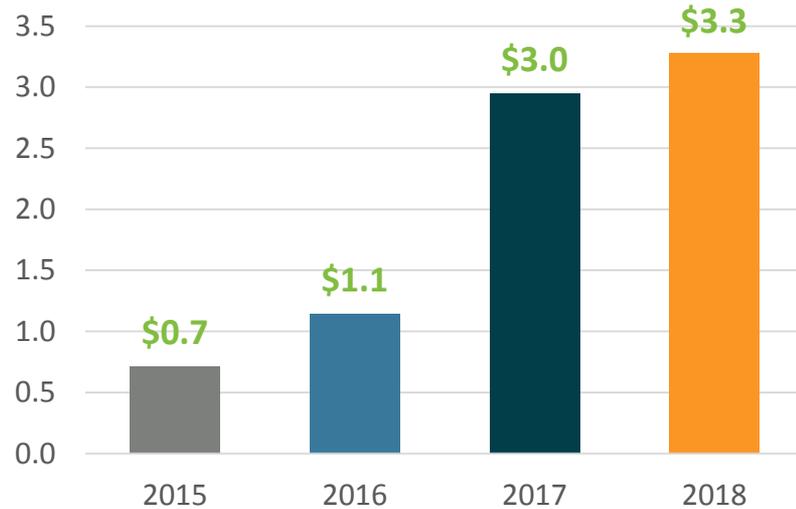


- Net income increased 58% to \$619K compared with \$393,000 in the prior year
- Figure includes \$613K of expenses related to strategic investments in future growth

Year end cash position

May 31, 2015 - 2018

(\$ millions)

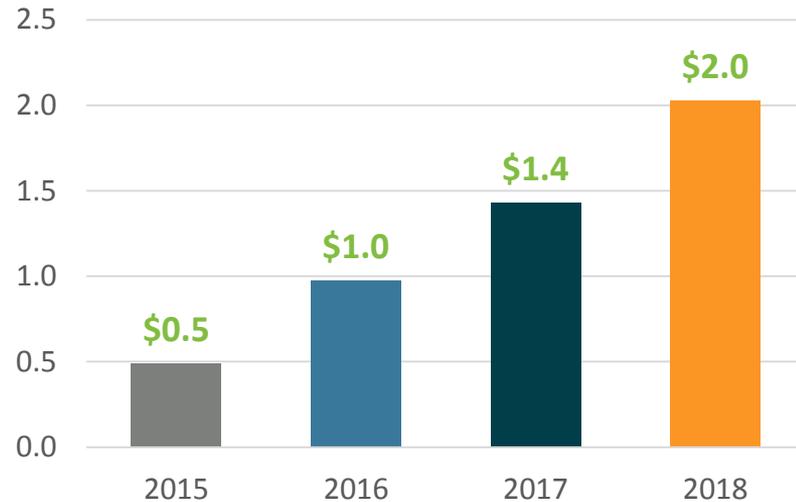


- Steady year over year increases
- Cash position up \$2.7 million since FY 2015

Year end working capital

May 31, 2015 - 2018

(\$ millions)



- Continued growth in working capital
- Up \$700K since last year and \$1.5 million since FY 2015

Revenue

First quarter

(\$ millions)

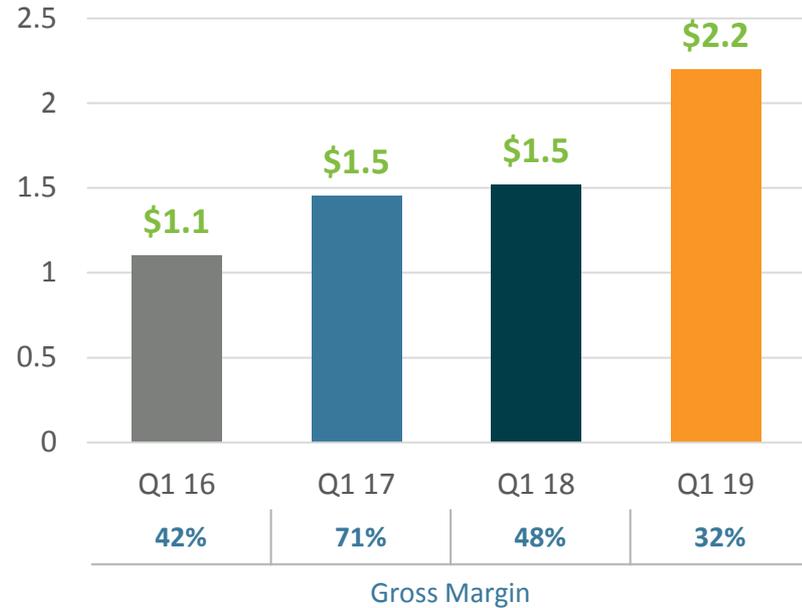


- Revenue increased 120% to \$6.8 million
- Record Q1 revenue for the past two fiscal years
- FY 2019 Includes two months of BEI revenue

Gross profit

First quarter

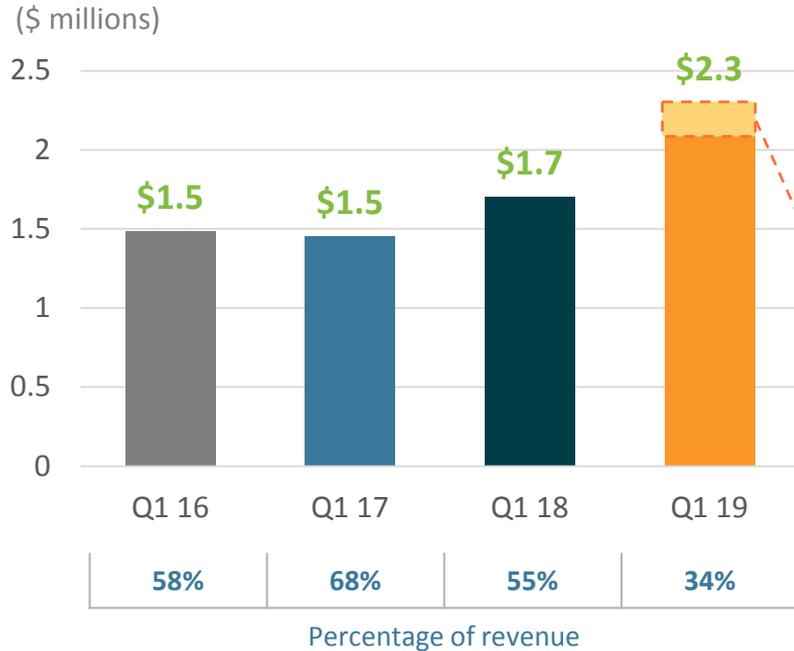
(\$ millions)



- Gross profit increased 46% to \$2.2 million
- Gross margin impacted by product and project mix

Operating expenses

First quarter

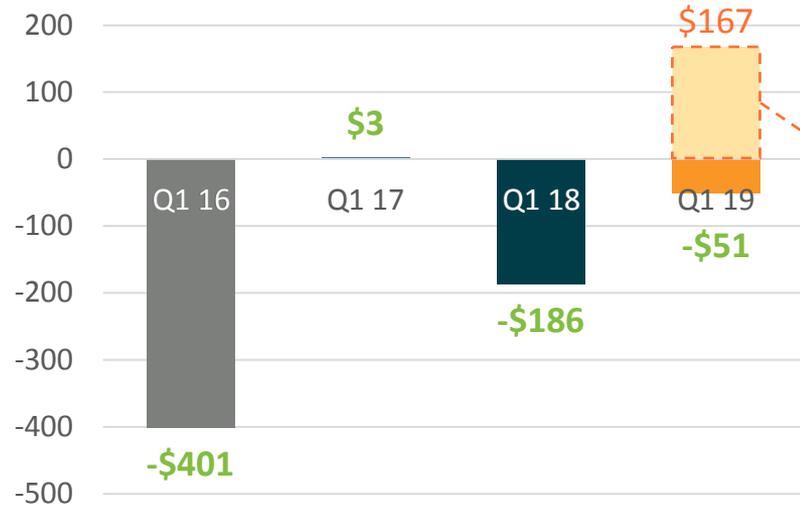


- Operating expenses as a percent of revenue continue to decrease despite continued strategic investments in future growth
- Excluding \$218K in strategic investments in future growth (\$111K in staff additions and \$107K onetime acquisition related expenses), cash operating expenses would have been **\$2.1 million or 31% of revenue**

EBITDAS

First quarter

(\$ millions)



- \$51K represents a \$135K improvement compared to Q1 last year
- Would have been **\$167K** excluding \$218K in strategic growth investments and onetime BEI acquisition costs

Net income

First quarter

(\$ millions)

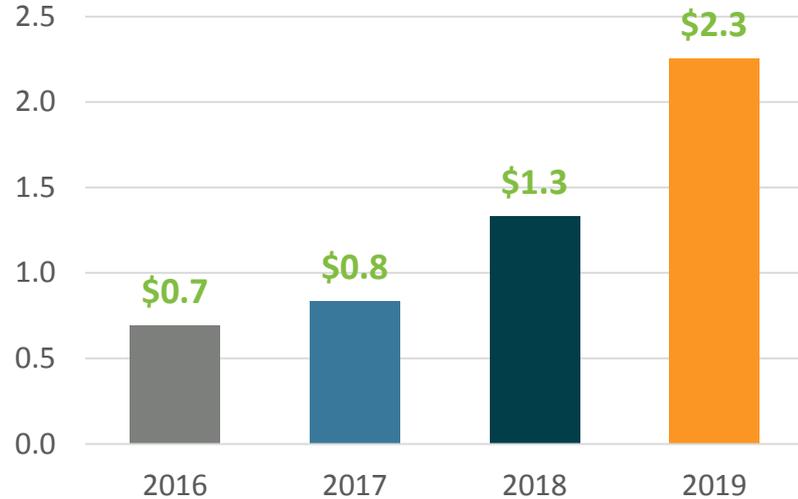


- \$132K improvement compared to last year
- Includes \$218K in expenses related to strategic investments on future growth

First quarter end cash position

August 31, 2016 - 2018

(\$ millions)

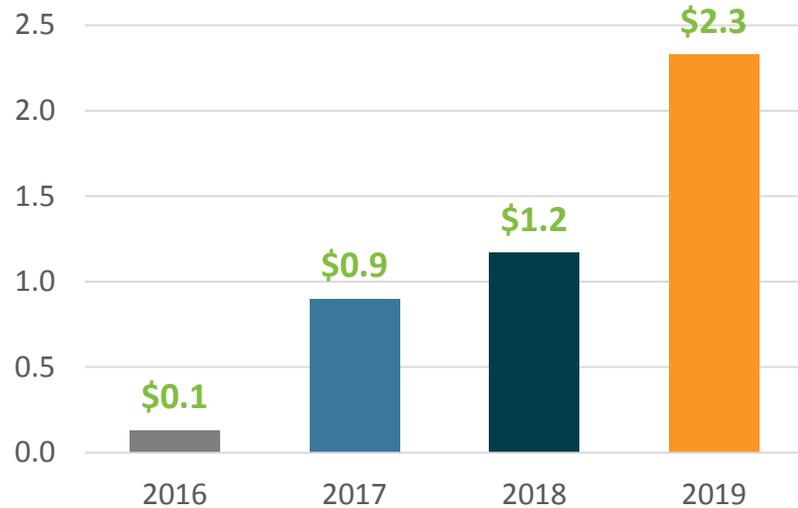


- Steady year over year increases
- Cash position up \$1.6 million since Q1 2016

First quarter end working capital

August 31, 2016 - 2018

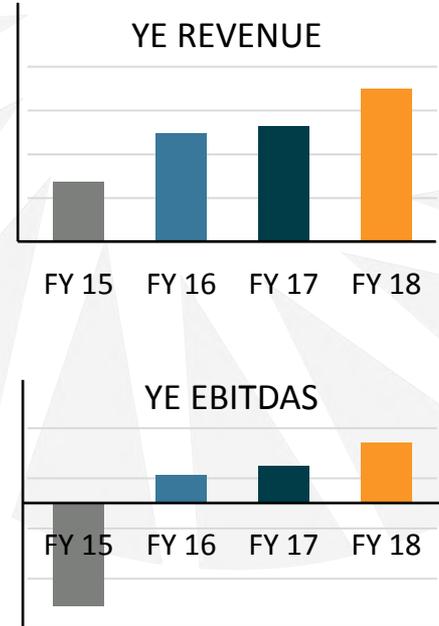
(\$ millions)



- Continued growth in working capital
- Up \$1.1 million since last year and \$2.2 million since Q1 2016

Financial summary

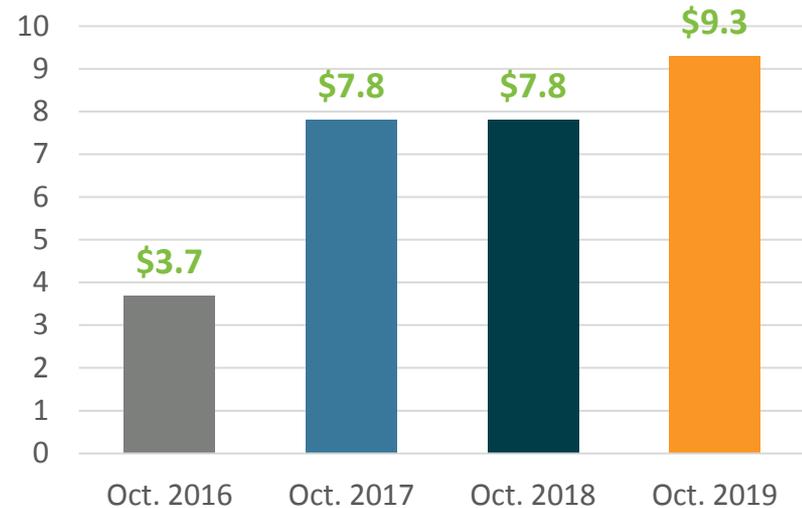
- Consistent year over year growth
- Record revenue and gross profit for FY 2018 and Q1 FY 2019
- Operating expenses as a percent of revenue continue to decrease despite continued discretionary strategic investments in the future growth of the company
- Profitability continues to increase despite continued discretionary strategic investments in the future growth of the company
- Continued growth in cash and working capital



Order book

Order backlog reported with Q1 results

(\$ millions)



- October order backlog up 19% to \$9.3 million

Since then we have announced...

- \$960K FLU-ACE and HEATSPONGE heat recovery project for global chemical company
- \$300K to integrate a FLU-ACE heat recovery system into a solar thermal system for a global beverage company
- \$2.4 million to expand an existing FLU-ACE heat recovery system at a beverage company

Sample Orders



- \$300K order from a global **beverage** company
- Integrate heat recovery with **solar thermal water heating**



- Order from major **petrochemical** company
- Innovative **water** and heat recovery project



- \$960K order from a leading **chemical** producer
- Turnkey project to combine **FLU-ACE** and **HEATSPONGE**



- \$2.4M order from Fortune 500 **food & beverage** customer
- Second **FLU-ACE** to be installed at same site as an extension **heat and water recovery** project

Sample Orders



- \$1M GEM™ order
- Key pulp & paper corporate account



- \$1.2M in multiple GEM™ orders
- Leading chemical manufacturer



- \$866K GEM™ orders from one of the largest pharmaceutical corporations



- \$160K GEM™ order from a multinational food & beverage corporate account

Sample BEI Orders



- \$ 55.2K for a pair of **RAINMAKERS** for a US **public school** system



- \$ 83.5K for a **HEATSPONGE** for a **cheese manufacturing** facility



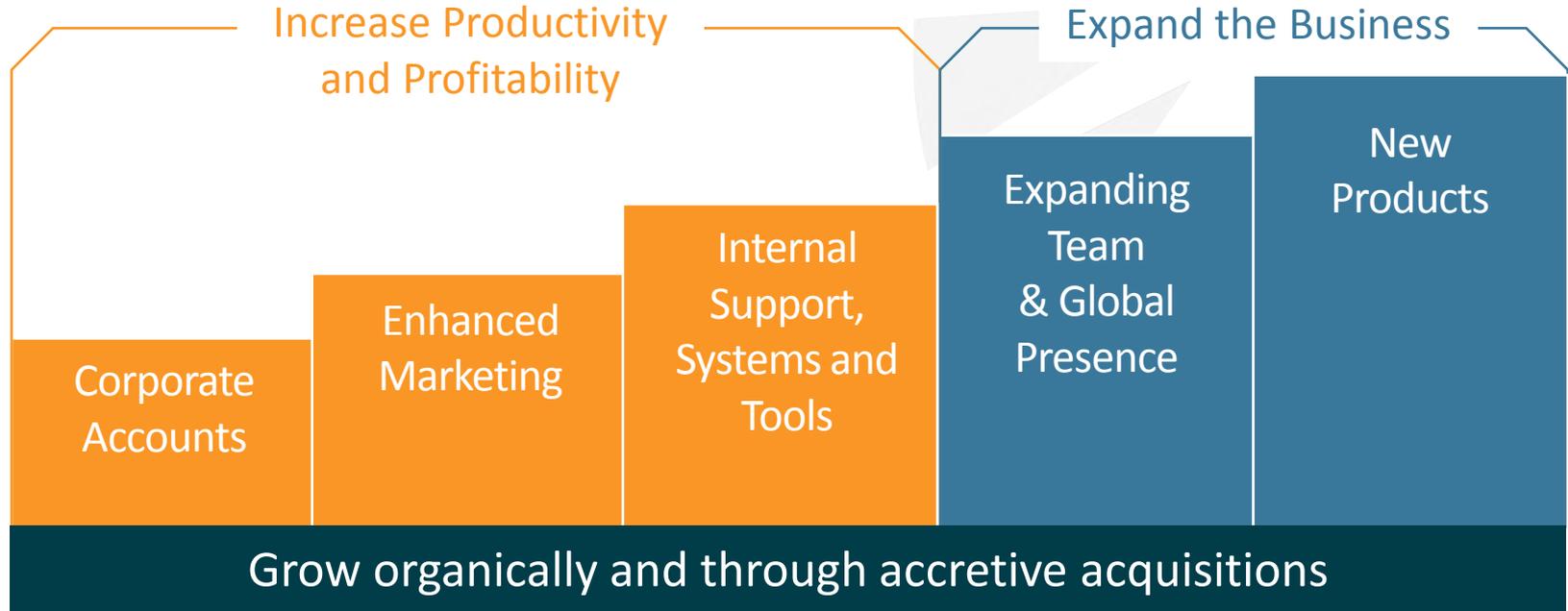
- \$ 105K for three **HEATSPONGES** for a **pet food manufacturing** facility



- \$127.45K for four **HEATSPONGES** to a Canadian **boiler manufacturer** for integration in their boilers

Growth Strategy

Increasing productivity & expanding the business



Corporate Accounts

Leveraging trusted global relationships to create efficient repeatable sales

- **Quantity increasing:**
The number of active Corporate Accounts has **doubled** in the last 12 months
- **Growing pipeline:**
Pipeline of corporate account opportunities has increased by 50% over the last 12 months

Fortune 500 food & beverage leader	Major hospital group #1	Leading performance materials co.	Major hospital group #2
Multinational agribusiness company	Leading travel destination company	Global beer company	Leading food ingredients business
Large pulp & paper customer	Global brewing company	Large pulp & paper customer #2	Fortune 500 life sciences company
Global building materials company	Multinational mining & resources co.	Transnational consumer goods company	Multinational food-products corporation

 *Established*  *Developing*

Enhanced Marketing

Supporting the sales journey and leveraging sales effort

- Added a Sales & Marketing Coordinator (Ottawa) in May 2017
- Hired a Sales & Marketing Coordinator (UK) in April 2018
- New internal and new external newsletters
- Launched German website
- Position as a global leader & expert voice

Goal: Better communications, better content, shared knowledge and a stronger brand internally and externally



Expanding our team & Global Presence

Added

- Latin America sales person (Apr 2016)
- Ontario / CoGen sales person (May 2016)
- CoGen Engineer (Jul 2016)
- Junior Engineer (Nov 2016)
- South Germany sales person (Jan 2017)
- NA Marketing Manager (May 2017)
- EU Sales Director (Jul 2017)
- Senior engineer (Oct 2017)
- Operational Systems Manager (Jan 2018)
- EU marketing manager (Apr 2018)
- Texas sales person (Feb 2018)
- North Germany sales person (Apr 2018)
- Poland sales person (Jul 2018)
- DryRex Engineer (Aug 2018)
- NA to EU Cross training engineer (Sep 2018)

Next

- NA Sales Director
- Northwestern North America sales person
- France or other European sales person

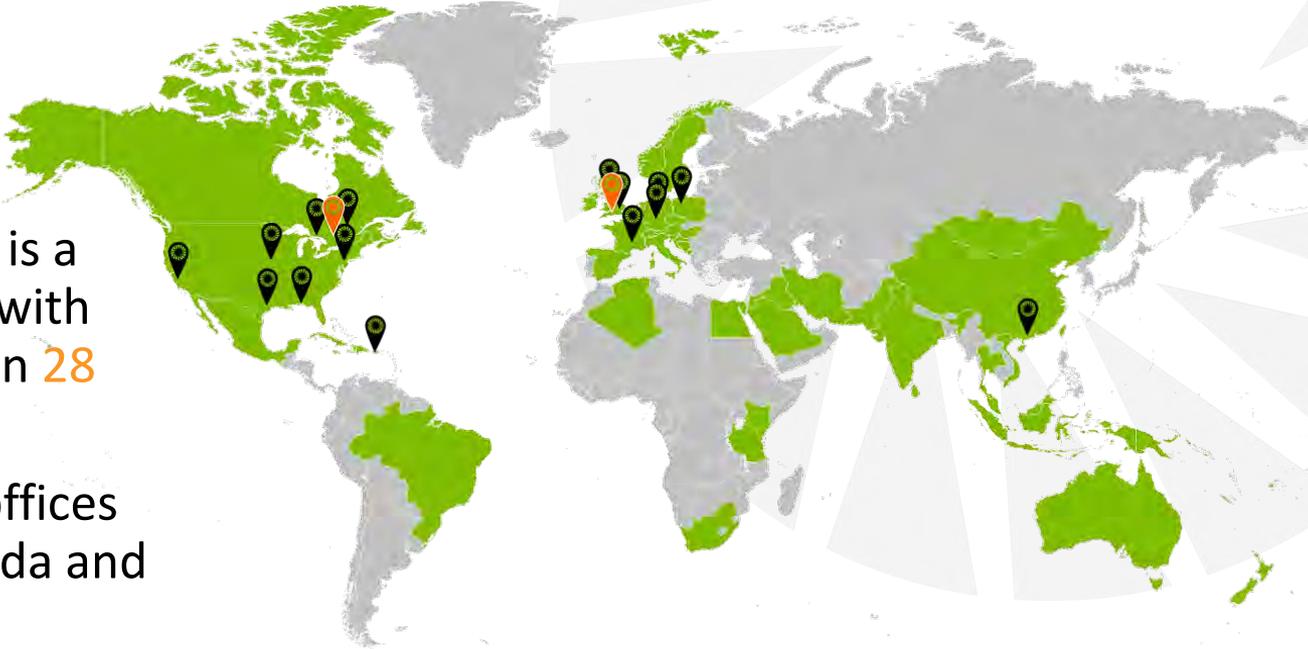
Growing our team and global presence



Thermal Energy is a global provider with representation in **28** countries



We have head offices in Ottawa, Canada and Bristol, UK



New products

Product Line	Product	Status
 CoGeneration <i>Combined Heat and Power</i>	Super-Efficient Cogeneration™ heat recovery system (launched July 2016)	<ul style="list-style-type: none">• \$1.46M order received (Jul/17)• Two paid engineering studies received (2018)
Dry-Rex™ <i>LOW TEMP BIOMASS DRYING</i>	Dry-Rex™ low temperature biomass drying system	<ul style="list-style-type: none">• Dry-Rex lab engineer contracted (Aug/18)• Established biomass testing lab (Nov/18)• Multiple customers interested

New products

Product Line	Product	Status
	HEATSPONGE [®] indirect contact steam boiler heat recovery RAINMAKER indirect hot water boiler heat recovery	<ul style="list-style-type: none">• Developing integrated heat recovery offering strategy and promotional material• Cross-selling TEI and BEI via BEI and TEI sales & distribution networks• Cross training engineers

New products – moving beyond just energy efficiency

Product Line	Product	Status
 Sustainability Products	<p>Developing Flu-Ace for water recovery for major Petrochemical Company</p> <p>Turnkey water recovery project for multinational food and beverage company</p> <p>Integrating TEI products as part of renewable energy system (solar thermal)</p>	<ul style="list-style-type: none">• First order Oct/18• First order Nov/18• First order Nov/18

Investment Summary

Large, global market with strong fundamentals



- Ever-increasing demand for energy efficiency, sustainability and corporate responsibility
- Growing government support

Proprietary products sold to leading companies across sectors



- Proprietary business-centric solutions that pay for themselves
- Established partner with some of the world's leading companies

Poised to continue strong track record of growth



- Well-defined and proven growth strategy
- Established North American and European sales and engineering platforms
- Becoming a unique, one-stop-shop for all of our customers' sustainability needs

Senior Management

William M. Crossland, B. Sc, MBA President & CEO; Director

More than 25 years experience delivering corporate growth, development, finance and M&A transactions to a broad range of industries with an emphasis on Cleantech, Alternative & Renewable Energy and Food & Beverage



Sam Mawby, M.Eng Director of Business Development & Technology

Over 15 years' steam industry experience heading up the technical team and business development functions, spearheading large projects for Fortune 500 and multinationals



Isobel Wales, B.Eng, MA Director of Operations

Engineering and management experience across manufacturing, quality, supply chain and export. Marketing and operations lead providing the link between technical, production and sales teams



Julia Zhang, CPA CA CFO

More than 14 years' of financial management and reporting experience across publicly traded companies, environmental engineering consultancies and multinational businesses



Robert Triebe, M.Sc., P.Eng. B. Sc. COO

Recognized expert in environmental technologies, responsibilities have ranged from R&D to project design and implementation. Expert Reviewer with the Sustainable Development Technology Corporation (SDTC)



Vince , P.E. Founder & President

Founded Boilerroom Equipment Inc in 2005. Over 26 years' of experience in the commercial and industrial boiler industry across sales, engineering, and senior management positions



Board of Directors

John Kelly, Chairman

Chairman & Partner, Enable Business Advisors Inc.; Co-Chair, Canadian Advanced Technology Alliance (CATA); Founder, Why Interactive, Computer Innovations Distribution Inc., Nabu Network Corp., SHL Systemhouse Ltd.; Former President & CEO, Clearford Industries Inc.; Former CEO JetForm Corp.; Former Principal, Reid Eddison; Former Chairman NexInnovations Inc.



David Spagnolo, Director

Senior Vice President, Oil & Gas of Ausenco., a global engineering, procurement, construction management, and operations service provider to the energy and resources sectors



William Ollerhead, Director

Principal, Ollerhead Capital; Founder, CFO & Managing Director, Chunkerhead Ltd.; Board Member, BioExx Specialty Proteins Ltd., United Reef Ltd.



William M. Crossland, President & CEO, Director

More than 25 years experience delivering corporate growth, development, finance and M&A transactions to a broad range of industries with an emphasis on Cleantech, Alternative & Renewable Energy and Food & Beverage



William White, Director

Chief Operating Officer for Woodland Biofuels; Director and Chairman of CHAR Technologies. Former Director and Chairman of Afexa Life Sciences; Director of Helix BioPharma Corp.; President of DuPont Canada. Chair of advisory board for the Schulich Center of Excellence for Responsible Business



Michael Williams Director & Audit Committee Chairman

Portfolio Manager, Independent Accountant Investment Council Inc.; Sales Manager & Senior Account Executive, Honeywell Limited; Manager, Program Development in Eastern Canada, Johnson Controls



Capitalization

TSXV:	TMG
Recent Price:	\$0.075
52 Week Range:	\$0.13 - \$0.065
# of Shares:	159.1 million
Market Cap:	\$11.9 million
Cash:	\$2.3 million
Total Debt:	\$2.9 million

Share data as of January 15, 2019
Balance sheet data as of August 31, 2018

Connect



www.thermalenergy.com



[Thermal-Energy-International on LinkedIn](#)



[GoThermalEnergy on Twitter](#)



[GoThermalEnergy on Facebook](#)